1991 TWELFTH ANNUAL MEETING

BOARD OF DIRECTORS

P B D C

B R I E F I N G B O O K

C N M I

NOVEMBER 3 - 6, 1991

BRIEFING PAPER

Exclusive Economic Zone

Exclusive Economic Zone

Briefing Paper Synopsis

Issues of interest regarding the Exclusive Economic Zone (EEZ) are provided for your reference and review.

The issues are:

- Off-Shore Governor's Forum Proclamation
- Letter to Governor Ada from Governor of CNMI regarding NGA EEZ Policy Change
- Draft Proposal - Enhancing the Function of CSO
- Memorandum from CSO regarding Incorporation of the CSO
- OCRM Draft Schedule for Rulemaking - Phase I
- CSO 1990 Record of Achievement
- CSO Coastal and Ocean Legislation - Legislative Scorecard and Bill Summary
- Ocean, Coastal, and Great Lakes Protection Policy - Suggested Amendment by NGA
- PBDC Memorandum of June 18, 1991 - Odds and Ends from the WGA/CSO Territorial Sea Symposium, along with the following enclosures:
  - Attendance List
  - Agenda
  - **State and Territorial Capability and Responsibility: An Alaskan Perspective**
  - **North Carolina Marine Science Council - Report of the Committee on State-Federal Relation**

    The Ocean Governance Study Group (Working Draft)

- Amendments Proposed by the Committee on Energy and Environment regarding EEZ
- CNMI and the U.S. Struggle for the EEZ - David versus Goliath Pacific prepared by the Governor's Office, CNMI
- May 10, 1991 Updates

In addition to the above, the Bureau has included the following relating to Coastal and Environmental Resources.

- Amended NGA Policy Position on Ocean, Coastal, and Great Lakes Protection Policy
- WGA/CSO Territorial Sea
- Report on Global Change/Sea Level Rise Project
- Appropriate Water Quality Standards for Tropical Islands
- Coastal Ocean Policy Roundtable
- Unique Island Status - A Revisit

F-SHORE GOVERNORS' FORUM

The Heads of Government of:
American Samoa
Guam
Northern Mariana Islands
Puerto Rico
US Virgin Islands

PROCLAMATION

Inalienable Right to the Resources of the Exclusive Economic Zone

BE IT PROCLAIMED by the Governors' Forum, comprised of the Governors of American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, the Commonwealth of Puerto Rico, and the United States Virgin Islands (herein after, Flag Islands) as follows:

TAKING NOTE that the 1982 Convention on the Law of the Sea mae it possible for the United States and other coastal states to establish 200-nautical-mile exclusive economic zones to control the use and conservation of resources within them; and

MARKING that on March 10, 1983, the U.S. exclusive economic zone (EEZ) was established by U.S. Presidential Proclamation No. 5030; and

CONCERNED about the emerging claim of the United States Government to exclusive jurisdiction and federal control over living and no-living resources within the Exclusive Economic Zones of the Flag Islands; and

PARTICULARLY CONCERNED about the emerging federal claim as expressed in proposed federal legislation such as the Territorial Sea Extension Act, the Hard Seabed Minerals Act, and the Fishery Conservation Amendments Act; and

ANXIOUS that a comprehensive federal policy, with dire consequences for Flag Islands' inalienable rights in the EEZ, will soon be proposed and promulgated by federal officials without the participation of the Flag Islands; and

CONFIDENTLY STATING that [illegible] of the current inhabitants of the Flag Islands exercised dominion over the ocean and its resources as an extension of their land; and

KNOWING that for centuries we have traditionally explored, exploited, conserved, managed and controlled the resources of the sea around our islands as a natural resource, a resource that to this day continues to be culturally and economically vital to our peoples; and

RECOGNIZING that while the Flag Islands are unique political entities within the U.S. political family, with different historical and legal basis for their rights to the EEZ, all the Flag Islands have historically and traditionally made use of their offshore ocean resources and are vested with the inherent right to explore, exploit, control and manage their EEZ resources through customs and convention of international law and as derived through the will of their peoples and the laws of nature and God; and

HOLDING TO BE SELF-EVIDENT that the federal Government must derive its powers over the EEZ from the consent of the peoples of the Flag Islands;

AFFIRMING that our peoples have never voluntarily nor knowingly consented to the proposition that the Federal Government should have the permanent or exclusive right to explore, exploit, conserve, manage or control the resources within our EEZs; and

WHILE PLACING GREAT VALUE on our relationship with the United States, the Flag Islands need the flexibility to pursue objectives in their respective EEZs which are unique to their geographical circumstances, consistent with their cultural imperatives, and appropriate to their political setting; and therefore:

(1) **PROCLAIM** jurisdiction and the exclusive inalienable right to explore, exploit, conserve, manage and control the living and non-living resources within their respective exclusive economic zones for the benefit of their inhabitants; and

(2) **CALL ON** the United States of America to recognize and respect traditional rights of the Flag Islands to the resources of the EEZ, defer to locally enacted Flag Island laws regarding there resources, and adhere to international law, customs, and conventions to confirm that the Flag Islands have the inherent right to ownership and control over the resources within their EEZs; and

(3) **URGE** the United States to treat each Flag Island as the unique political entity that it rightly is; and

(4) **IN THE CAUSE OF DEMOCRACY, ASK** that the United States assume world leadership and ring in a new era of flexible

political arrangements for the 21st Century that encompasses the issue of EEZ's of the respective Flag Islands; and

(5) **RESPECTFULLY REQUEST** that the Flag Islands be invited to participate in any discussions of the Federal Government that encompasses the issue of EEZ's of the respective Flag Islands; and

DIRECT that copies of this Proclamation be transmitted to the President of the United States of America; to the Speaker of the U.S. House of Representatives; to the President of the U.S. Senate; to the Chairman of the U.S. House of Representatives Committee on Interior and Insular Affairs; to the Chairman of the U.S. Senate Committee on Energy and Natural Resources; to the Chairman of the U.S. House Committee on Merchant Marine and Fisheries; to the Secretary, U.S. Department of Interior; to the Secretary, U.S. Department of State; to the Secretary, U.S. Department of Commerce; to the Secretary-General of the United Nations; to the Chairman, United Nations Special Committee on Decolonization; and, to the President, United Nations Security Council.

PROCLAIMED in Washington, District of Columbia, this 3rd day of February, 1991.

The Honorable Peter Tali COLEMAN
Governor, American Samoa

The Honorable Joseph F. ADA
Governor, Guam

The Honorable Lorenzo I. DE LEON GUERRERO
Governor, Commonwealth of the Northern Mariana Islands

The Honorable Rafael HERNANDEZ-COLON
Governor, Commonwealth of Puerto Rico

The Honorable Alexander FARRELLY
Governor, United States Virgin Islands

C-91-1803

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The Honorable Joseph F. Ada
Governor of Guam
Territory of Guam
Agana, Guam 96910

Dear Governor Ada:

Re: National Governors' Association (NGA) Exclusive Economic Zone (EEZ) Policy Change

I would like to keep you abreast of our efforts to amend existing NGA policy on the EEZ. At the 1991 Winter Meeting of NGA in Washington, DC, I proposed, on behalf of the Commonwealth of the Northern Mariana Islands (CNMI),and the other offshore governments, to amend current NGA policy. The current EEZ policy speaks to a full partnership between the States and the Federal Government in the management of the EEZ. My proposed amendment changed the current NGA policy to recognize the exclusive jurisdiction of all island territories and commonwealths to manage, conserve and explore the zone, subject to federal foreign affairs and national defense obligations and subject to a trust obligation on the part of our islands toward the citizens of the nation as a whole.

Speaking alone, I presented proposed amendments to the NGA Committee on Energy and Environment at the Winter NGA Meeting. The proposal was tabled when some Governors raised concerns over the broad scope of the amendment. We were encouraged, however, to present the amendment again in Seattle at the Summer NGA Meeting.

In order to position the EEZ amendment for Seattle, I sent a member of my staff to Washington, DC recently. The occasion was the Staff Advisory Council (SAC) meeting of the NGA Committee on Energy and Environment. The SAC group allowed us time to once again present our arguments for amending existing NGA EEZ policy. Except for a representative from Puerto Rico (a non-member of the SAC Energy and Environment Committee), the CNMI was the only flag island present.

The amendment we presented to the SAC Committee on May 2 in Washington, DC was the same one we ended with at the Winter NGA Meeting. It called for recognition of exclusive EEZ asset ownership and jurisdiction for all island territories and commonwealths of the United States.

At the SAC meeting, concern was once again expressed that including an EEZ exception for all (or even using the language "some") of the territories and commonwealths might prove fatal to the amendment in Seattle. The SAC Committee accepted the CNMI's argument for an exception to current NGA policy on the EEZ based on our explanation of the CNMI's traditional rights, federally approved

Covenant, international law protections, and former status under a United Nations Trusteeship. The SAC Committee concluded, however, that the proposed policy amendment should name only the CNMI and not include all or even some of the other island territories and Commonwealths.

We came away from the May 2nd SAC meeting in Washington, DC, therefore, with a proposed amendment to NGA EEZ policy that looks different from that which we ended up with at the Winter NGA Meeting. Only the CNMI is singled out for an exception to the full state/federal partnership treatment. We go to Seattle with a narrower amendment. I regret that the CNMI was unable to pull along all the other flag territories and commonwealths. We could, of course, only speak specifically for ourselves when questioned at the May SAC meeting.

If the CNMI proves successful in amending current NGA policy in Seattle, perhaps we can "open the door" for further amendments to reflect the special claims of the other island governments. In this respect, we will assume the pioneer role on this issue. Your support will be essential if we are to succeed in Seattle.

I'm sincerely sorry that we failed in advancing an amendment that embraced all our island governments. That was our intention when we travelled to Washington, DC in May. But, when we pressed our case, the NGA SAC Committee, on its own motion, amended our proposal to make it specific to only the CNMI. Once again, we ask for your support in the interest of all flag island governments.

Sincerely,

LORENZO I. DE LEON GUERRERO
Governor

CC: CNMI Lt. Governor
CNMI Resident Representative to the United States
Executive Director, Pacific Basin Development Council
Ms. Jan Lipsen

REVISED 12/10/90

DRAFT PROPOSAL
ENHANCING THE FUNCTION OF THE COASTAL STATES ORGANIZATION

The central focus of the Coastal States Organization (CSO) is to advance a national agenda to enhance protection and development of coastal and ocean resources and to further a vision for the coast shared by member states, territories and commonwealths. The principle means of doing so is by working with the Congress to insure the means available to advance this agenda, and working with the Executive Branch to insure the agenda is properly administered. This function plays out in various ways, for example, in relations between the state and Congress, (e.g. reauthorization of the CZMA) and federal agencies (e.g. Corps of Engineers Dredging Regulations), relations between the States on a regional basis (e.g. Great Lakes) or around issues in common (e.g. Outer Continental Shelf and the uses to be made of it), and relations between the state and our broad based constituents (e.g. environmental groups, water quality managers, oil and gas interests). We need to be able to maintain and enhance this framework.

CSO and its membership have always functioned well through the use of committees as well as staff. This proposal to strengthen the Organization does not radically change the way in which we have functioned. In the words of our Delegate from Connecticut "If it isn't broken, don't fix it."

What the proposal does seek to do is outline in a more descriptive fashion three aspects of our organization that we have need to refine. They are:

1) a description of what is expected from each member, the committee and staff;

2) a description of a process to address member issues, policies, and ideas; and

3) an informal "communications" chart depicting the Organization.

I. EXPECTATIONS

A. WHAT EACH MEMBER IS EXPECTED TO DO

* Represent the position of the State, Commonwealth, or Territory on ocean and coastal issues;

* Advance the shared vision by meeting with members of Congress, appropriate congressional committees and their staff and representatives of the Executive branch to become better acquainted with and to discuss concerns affecting the interests of the coastal states;

* Share successes of state/territory techniques for improved management of the coastal zone;

* Study coastal issues and recommend policies to the CSO concerning legislative and government relations and matters affecting the interests of the CSO. The Executive Committee, or a more applicable committee and CSO staff will explore the proposed policies of interest to the General Membership (Governing Board);

* Study and inform the membership concerning national and state legislation or regulations affecting the interests of the CSO. The more members we have looking at various national pieces of legislation or regulations, the better coverage we will maintain;

* Assist with the research and preparation of testimony for presentation before Congressional committees when called upon to do so, relying on CSO staff support and review by the Executive Committee or another appropriate CSO committee. Assist with the preparation of CSO policy positions and written statements to Congressional committees on legislative matters when called upon to do so, relying on CSO staff support and review by the Executive Committee or other committees as appropriate.

B. WHAT THE EXECUTIVE COMMITTEE IS EXPECTED TO DO

* Serve as the interim governing body between the meetings of the CSO, carry out the responsibilities given to it by the General Membership (Governing Board), and act with authority vested by the General Membership (i.e. implement all directives and policies established by the CSO);

* Report its meetings and actions to the General Membership. Make recommendations to the General Membership on all matters pertaining to the advancement of the interests and welfare of the Organization and its members;

* Assemble and periodically assess and update a long-range plan of Organization goals that reflect the shared agenda and activities to be pursued to meet the agenda based on recommendations by the General Membership and committees. For the near term, this includes incorporating applicable recommendations of the Funding Subcommittee and the Organizational Subcommittee;

* Direct and monitor the expenditure of CSO's finances and handle all budgetary matters. This includes the review and approval of the allocation of funds, payment of bills, the preparation and control of financial reports submitted by the Treasurer and Director and oversight and review of the annual audit findings;

* Receive, review and respond to the quarterly financial reports on expenditures and income. Initially approve the recommended annual budget and work plan and submit both for final approval by the General Membership (budget and work plan are prepared for Executive Committee by the Treasurer and Director);

* Review and re-evaluate every two years the dues structure and other income-producing activities for the purpose of financing budgeted activities;

* Arrange for inter-association cooperative efforts on certain legislative matters.

Note: All Executive Committee meetings are open and regional representation will be attained as much as possible.

C. WHAT THE MEMBERSHIP/NOMINATING COMMITTEE IS EXPECTED TO DO

* Develop a plan for maintaining or expanding the membership of CSO using applicable subcommittee recommendations as a basis, and obtain concurrence from the General Membership on the plan;

* Periodically review and if necessary, make recommendations to the Executive Committee on potential changes to the By-Laws or the Articles of Organization pertaining to membership;

* Assess ways to improve the professional development of CSO's members (training, speakers, etc.) and from time to time recommend these to the Executive Committee for action (i.e., a workshop for members on how to work with Congressional Members);

* Pursue and periodically report on activities needed to enhance active participation and representation by the members;

* Serve as nominating committee to propose slate of officers to the General Membership.

D. WHAT THE INFORMATION AND RESEARCH COMMITTEE IS EXPECTED TO DO

* For the near term, oversee the Section 309 Grant that is establishing the CSO's baseline information exchange system; determine through the General Membership the kinds of information members wish to exchange and the form it needs to take (i.e. perhaps send out a survey);

* For the longer term, assist CSO staff in the production of a quarterly publication focusing on special issues, state/regional activities that are substantive for membership use;

* For the longer term, assist the Executive Committee in identifying future emerging issues that the CSO should consider involving itself with to keep it at the "cutting edge";

* For the longer term, study and recommend a plan to the General Membership for establishing a public relations program. It will address such factors as:

  - specific and/or general public relations objectives;
  - means or methods of attaining objectives;
  - central themes to communicate;
  - description and analysis of audiences to reach;
  - media to use; and
  - methods to periodically evaluate program;

* For the long term, review and recommend studies or investigations:

  - to improve the products or services of the Organization;
  - to find new uses for present products;
  - relating to material used in production; and
  - relating to equipment used or methods of production;

* The Public Affairs Network will assist and report to the Information and Research Committee.

E. THE LIAISON COMMITTEE OF THE LEGAL NETWORK AND THE SPECIAL COMMITTEES ON COASTAL HAZARDS AND OCEAN POLICY WILL CONTINUE TO FUNCTION AS NEEDED.

F. WHAT THE COMMITTEE CHAIRPERSONS ARE EXPECTED TO DO

Overall: Direct the members and activities of the committee to ensure that the committee meets its goals and objectives. In doing so, the Chairman is responsible for completion of tasks, which are in consort with the approved work program.

* Assist in developing the committee objectives;

* Inform committee members of objectives and their expected individual contributions and responsibilities;

* Assist the Chairs of CSO in making committee member appointments;

* Prepare meeting agendas and distribute relevant information to all members prior to meeting;

* Preside over committee meetings to ensure adherence to the major issues and purposes;

* Encourage active participation from all members and participate in General Membership meetings along with members of the committee;

* Prepare committee status reports for the Executive Committee and for the General Membership;

* Sit as a member of the Executive Committee;

* Work with the assigned CSO staff person to provide technical, research, and other assistance to the committee as needed.

G. WHAT IS EXPECTED OF THE COMMITTEE MEMBER

* Actively participate in a majority of the meetings of the committee, and as necessary, appoint substitute representation;

* Carry out assignments that arise from the functioning of the committee;

* Review all material provided by staff in a timely fashion prior to committee meetings in order to participate and carry out discussion in General Membership meetings when items raised by the committee are open for discussion by the General Membership.

H. WHAT CSO STAFF IS EXPECTED TO DO

* Plan and carry out meetings;

* Carry out the work plan and expend the budget as approved by the CSO membership (governing board);

* Monitor, analyze, and inform the membership on administrative actions or rulings and court decisions affecting the interests of the CSO;

* Prepare testimony and policy documents with General Membership and committee input for Congressional hearings, briefings, etc.;

* Provide the staff support for the committees so that they will be able to function in a timely and effective manner;

* Canvass the membership on policy issues, testimony and policy preparation, and as often as possible make sure the membership is behind the policy;

* Establish and maintain effective relations with related professional organizations;

* Provide copies of legislation to the membership.

II. HOW CAN A CSO DELEGATE INFLUENCE THE ISSUES, LEGISLATION, AND POLICIES HANDLED BY THE ORGANIZATION?

The strength of CSO has been and continues to be its members. If any member delegate has an idea as to policy, a new issue, etc., and can spend some time working on it, he/she can present that idea in various ways:

1) at a General Membership meeting;
2) by calling or writing to the Chairman of CSO;
3) by involving several other CSO members on it; or
4) by writing or calling the Executive Committee.

Once an idea is presented and there is concurrence, the idea is usually given to an existing or a new committee and the delegate who has proposed the idea will be asked to serve on the committee with other interesed delegates to develop it further. Once the assessment has been completed, the Executive Committee reviews it and forwards it to the General Membership for a position to be taken.

III. COMMUNICATIONS CHART (See Attachment I)

PREFACE TO THE RECOMMENDATIONS

The recommendations listed under each category, first suggested at the Dana Point General Membership meeting a year ago, were shaped by special subcommittees comprised of the Organization's members at the meeting in Wisconsin. Several Executive Committee meetings as well as individual delegate contributions continued the refinement process. The recommendations were suggested as ways to address needs identified by the General Membership:

1) the need for stable funding;
2) the need to assess the Organization's functions;
3) the need to address membership involvement, recognition, members' concerns and needs, and
4) the need to develop information exchange and technical assistance.

THE RECOMMENDATIONS

FUNDING RECOMMENDATIONS

That several options be examined by the Executive Committee including:

* Pursuit of Federal funding (306B of the CZMA, emerging issues, special protection areas, Section 319, revenue sharing);

* Expansion of dues options (to local governments, other organizations, corporations, international members, additional state revenues);

* Use of revenue sources to build up endowment fund for operations of the Organization;

* Provision of special services to CSO members for a fee;

* Pursuit of foundation grants for special investigations.

MEMBERSHIP RECOMMENDATIONS

That the Membership and Nominating Committee carry out these recommendations as part of its function:

* Direct the development of information packets by CSO staff to be sent to new governors and their staff describing the importance of CSO and what it does;

* Oversee the preparation by staff of renewal letters to governors noting who is serving as delegate for the state and recite CSO's substantive accomplishments for that state over the past year(s). (This is to demonstrate to the governor that it is important to maintain a designated delegate of CSO).

* Direct the development of information packets by CSO staff to new delegates and their agency officials.

INFORMATION RECOMMENDATIONS

That the Information and Research Committee carry out these recommendations as part of its function:

* Suggest topics to be covered in the weekly fax to balance legislative reports with substantive issue areas.

(The remaining points raised by the Information Subcommittee have been incorporated under the description for the Information and Research Committee.)

ORGANIZATION RECOMMENDATIONS

That the General Membership support the following:

* Structure CSO around the priorities of the Organization as described below:

  - the monitoring of Federal legislation and budgeting for coastal related activities

  - the stimulating of exchange of information among coastal states through both formal and informal mechanisms

  - the promoting and/or performing of incisive studies on emerging coastal issues.

Note: All of these have been covered in one form or another through the proposal.

* An Executive Committee whose membership, is comprised of the Chair, Vice-Chair, Treasurer, past Chairs, and Special and Standing Committee Chairs (9 total at this time). Regional representation will be attained as much as possible on the Committee. Past CSO Chairs as members of the Executive Committee must be either the Delegate or Alternate.

* An Executive Committee whose central repsonsibilities are administrative with issues, policies and ideas being generated by the General Membership and Committees.

* That the Committee structure consists of standing, special and liaison committees with regional representation on each committee attained as much as possible.

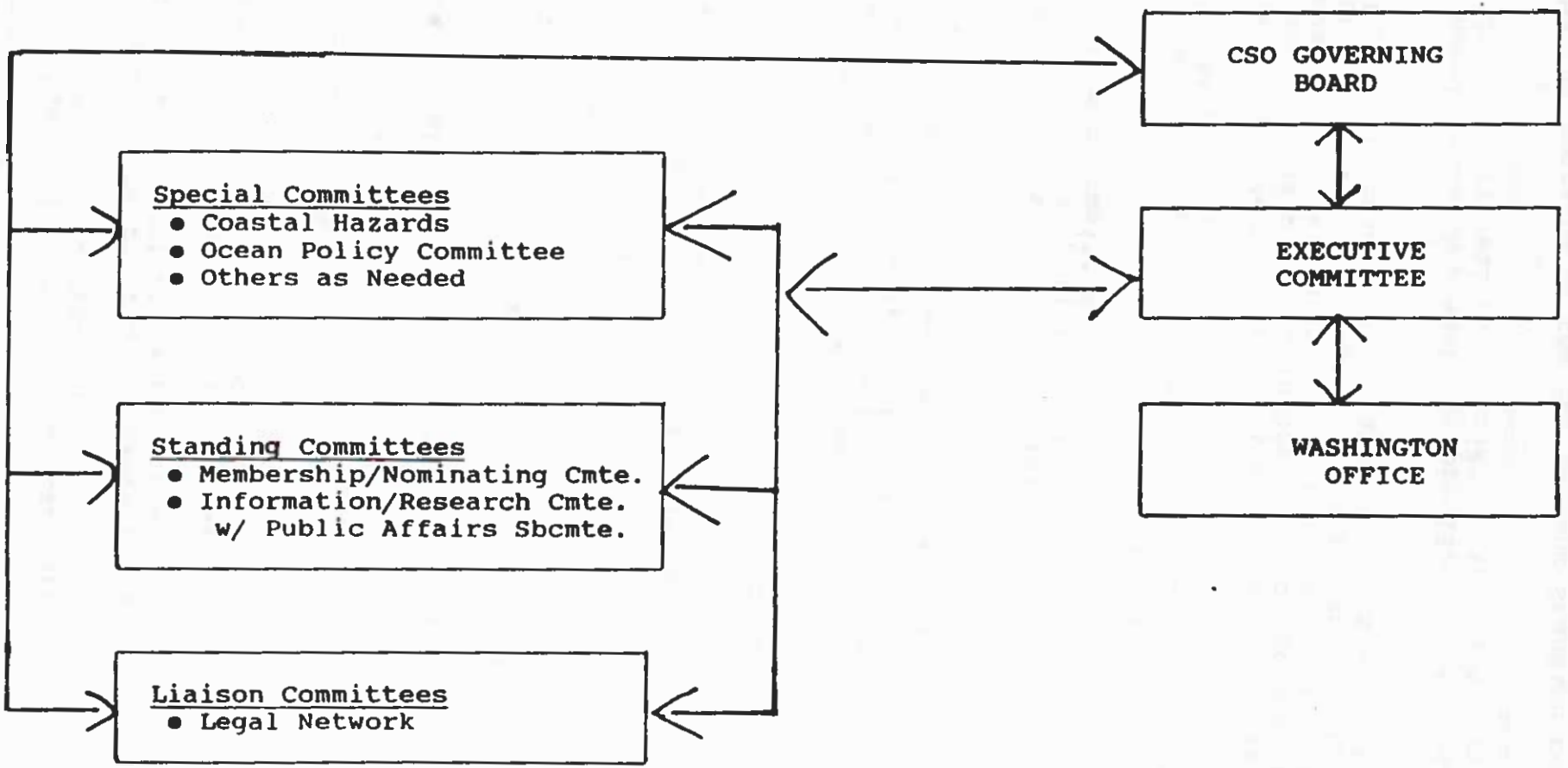
* That the General Membership meetings be held 2 times a year with 1 of the meetings held in Washington, D.C. to promote ease of membership travel and 1 meeting held in a regional area. That the Executive Committee hold 3 meetings all in Washington, D.C. Meetings should be held in conjunction with related meetings as much as possible.

* That General Membership meetings provide time for regional issues to be addressed as well as be oriented around a particular issue area.

* That the Chairpersons of the Special and Standing Committees be elected by the members of that committee and be confirmed by the General Membership.

ATTACHMENT I

CSO COMMUNICATIONS CHART



Coastal States Organization

An alliance of the Coastal States, Commonwealths, and Territories providing an effective voice in the formulation, development, and implementation of national marine and coastal resource programs and policies.

CHAIR
Sarah J. Taylor, Ph.D.
Annapolis, MD
(301) 974-3428

DIRECTOR
E. Gary Magnuson
Washington, D.C.
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M E M O R A N D U M

December 7, 1990

TO: CSO Executive Committee
FROM: David C. Slade
General Counsel

RE: Incorporation of the Coastal States Organization

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At the September 13-14 CSO Executive Committee meeting held in Washington, D.C., the committee discussed in some detail the several options for reorganizing CSO. CSO is currently an unincorporated tax exempt social welfare organization [501(c)(4)], subject to IRS regulation as well as federal taxation. After reviewing the options, the Executive Committee accepted by unanimous consent a motion to recommend to the full membership that: the CSO be incorporated, that other reorganiza- tion options be discussed, and that a reorganization committee be formed. I was directed by Chairman Taylor to prepare an outline of the steps and requirements necessary to incorporate CSO.

==========

CSO is currently a non-incorporated tax-exempt [501(c)(4)] organization. Many such organizations have chosen to incorporate to obtain two key benefits of corporation status:

- Personal liability of officers, directors and employees is greatly shielded; and
- Loans and credit are easier to obtain from commercial firms.

I estimate that it would take one year to prepare the necessary documents, submit the incorporation petition to the selected State or District of Columbia, and obtain incorporated status with the IRS. In the interim, CSO would continue to operate as it currently exists, with certain amendments made to its Articles of Organization and By-Laws as approved at the September 14 meeting of the CSO Executive Committee.

The following is a step-by-step guide outlining what would be required of the Organization to incorporate, together with staff recommendations.

Step 1. Amend current CSO Articles and By-Laws for the interim period prior to reorganizing.

Amendment to the Articles of Organization requires approval by the IRS. Amendments to the By-Laws is done solely by CSO without any IRS approval.

Step 2. Establish an Incorporation Task Force to oversee the incorporation.

This special committee should consist of the CSO Chair, officers, along with a small number of delegates, and staffed by the Director and General Counsel. It is also recommended that a small number of attorneys within the task force's respective State Attorney General offices that handle non-profit associations support the Task Force by providing legal assistance to the General Counsel.

The Incorporation Task Force would be responsible for recommending to the Executive Committee:

1. Where to incorporate; i.e. within a State or the District of Columbia;
2. New Articles of Incorporation for submission to the Internal Revenue Service;
3. New By-Laws of the new CSO, Inc; and
4. Oversee the reorganization and incorporation process.

Step 3. Determine where to incorporate, and prepare incorporation petition for submission to State or D.C.

A review of the pros and cons of incorporating in different jurisdictions should be conducted. Once the jurisdiction is selected, incorporation petition, including new Articles of Incorporation and Operating By-Laws, plus application form and fees, would be prepared by staff working with the Reorganization Task Force and State legal counsel. Task force would submit draft Articles and By-Laws to Executive Committee for review and approval. Upon approval, Executive Committee would submit them to the CSO Governing Board for formal adoption. Upon adoption of Articles and By-Laws by the Governing Board, the incorporation petition could be filed.

Step 4. File incorporation petition with State or D.C. & IRS

It generally takes 6 to 20 weeks for the District of Columbia Office of Corporations to review and respond to a petition. State may take a similar amount of time.

INCORPORATION TIME FRAME

Before Spring Executive Committee Meeting: Staff drafts Articles of Incorporation and By-Laws, and prepares analysis of incorporation requirements of selected jurisdictions (e.g. District of Columbia, Maryland, Virginia).

Incorporation Task Force reviews and comments on draft Articles and By-Laws, and considers benefits/detriments of incorporating in selected jurisdictions.

Spring Executive Committee Meeting: Incorporation Task Force submits to Executive Committee:

- Proposed Articles of Incorporation and By-Laws; and
- Recommendation as to where to incorporate

Before CSO Summer meeting: Staff consults with selected jurisdiction concerning incorporation requirements, and begins preparation of incorporation documents.

CSO Summer Meeting: Executive Committee submits Articles of incorporation and By-laws to Governing Board for approval. Upon approval, documents can be submitted to selected jurisdiction in petition of incorporation status. Petition also submitted to Internal Revenue Service.

- Full audit initiated, as required under new amendment to Article VII, section 2 of the Articles of Organization and By-Laws. This audit would serve to fully enumerate all assets and liabilities of the organization, and serve as the enumeration of all assets and liabilities or the newly incorporated CSO.

Fall Executive Committee Meeting: Review of the status of incorporation petition to the selected jurisdiction and the IRS, as well as of the status of the audit.

DRAFT

SCHEDULE FOR RULEMAKING -- PHASE 1

OCRM is planning a phased rulemaking to allow us to meet statutory deadlines while at the same time developing necessary information and agreements that should precede some parts of the rulemaking. Phase 1 would be primarily focused on the Section 309 enhancement grants, on which regulations are required within one year of enactment, and the new provisions of Section 312 on program evaluation, including interim and final sanctions. Following is our latest schedule for this first phase of rulemaking:

Schedule

Workplan approved by Under Secretary	January, 1991
Informal consultations with states, Federal agencies and other interested parties	December, 1990-March, 1991
Draft issue papers distributed	February 25, 1991
Draft issue papers presented at state CZM program managers' meeting	March 4-6, 1991
Draft NPR begins clearance	April, 1991
NPR published in the Federal Register	June, 1991
NOAA conducts regional public meetings	July, 1991
NPR comment period closes	August, 1991
Draft NFR begins clearance	September, 1991
NFR published in the Federal Register	November, 1991

COASTAL STATES ORGANIZATION

1990 RECORD OF ACHIEVEMENT

In 1990 the Coastal States Organization marked twenty years of service as the governors' representative association for national marine and coastal issues. Continuing a tradition of active member involvement, CSO met many challenges with success during the past year.

REAUTHORIZATION OF THE FEDERAL COASTAL ZONE MANAGEMENT ACT

The Organization marked this important anniversary year appropriately -- by steering the most significant rewrite of the Coastal Zone Management Act (CZMA) through congressional channels to final passage. Three years ago, CSO members developed and began promoting a legislative package to revitalize the CZMA. Through some legislative maneuvering and repeated communication with their coastal state delegations, CSO members succeeded in passing the most comprehensive CZMA reauthorization ever.

PASSAGE OF THE OIL POLLUTION ACT OF 1990

After fifteen years of Congressional deliberation, CSO helped shepherd the nation's most comprehensive federal oil spill legislation, the Oil Pollution Act of 1990, through Congress and into law. CSO successfully led efforts to preserve state oil spill programs and laws, in spite of strong industry opposition and the claim of some members of Congress that federal law should preempt state programs. Like the CZMA reauthorization, promulgation of the regulations for the Oil Pollution Act will be a significant undertaking in 1991.

COMPLETION OF THE NATIONAL PUBLIC TRUST STUDY

Since 1987, CSO has served as national coordinator and project manager for the landmark National Public Trust Study. The study examines how 30 coastal states apply the public trust doctrine to their lands, waters, and resources and offers guidance on how state coastal management programs may better apply the doctrine in the future. The Study will serve as a significant resource for coastal managers nationwide.

ESTABLISHMENT OF THE CSO OCEAN POLICY NETWORK

In 1990, CSO established a unique committee of governor-appointed representatives to study and recommend actions on ocean policy to coastal states and territories. The committee will influence priority ocean issues such as implementation of the Oil Pollution Act and administration of the federal OCS oil and gas leasing program. The Ocean Policy Network is the chief ocean policy advisory body to the governors and the CSO.

(more)

RESPONSE TO FEDERAL CONSISTENCY CHALLENGES

CSO continued to challenge the U.S. Army Corps of Engineers' Operation and Maintenance Dredging Regulations by gathering state forces to prepare a legal complaint against the Corps. However, it appears that CSO-endorsed provisions of the reauthorized CZMA may eliminate the need for further legal action. By responding in unison, CSO and its members governments were able to hold their ground against one of the most politically powerful federal agencies in the U.S. government.

ASSESSMENT OF THE ORGANIZATION

With the support of its 32 active member states and territories, and through the staff of the Washington office, CSO conducted an evaluation of the Organization's mission, effectiveness, and priorities. The planning exercise led to the formation of several new committees and task forces including a membership committee, a funding task force, and an information and research committee to enhance the structure and efficiency of the Organization in the 1990's.

GOVERNMENT RELATIONS

In keeping with its twenty-year history, CSO continued to focus on legislative issues, testifying before Congress six times, participating in extensive deliberations on coastal protection legislation, offering recommendations on reauthorization of the National Flood Insurance Program and playing the lead role in the reauthorization of the CZMA.

Since CSO began, the hallmark of the association has been its active members. Former CSO Chairman, Dr. James A. Timmerman, stated in 1973, "The principal strength of CSO lies in the fact that its membership consists of gubernatorial delegates formally appointed by Governors of the coastal states ... (and in) its ability to pool the talents of many individuals to reach solutions to common problems." ("CSO: The Past and Future," Coastal Zone Management Journal Vol. 1, No.1)

CSO continues to rely upon the strength of its members and, as a result, is without question the foremost nationally recognized association representing state interests in marine and coastal affairs.

Coastal States Organization

COASTAL AND OCEAN LEGISLATION
LEGISLATIVE SCORECARD AND BILL SUMMARY

101st CONGRESS

DECEMBER 5, 1990

The Coastal States Organization, a nonprofit, nonpartisan association, represents the collective views and interests of 35 coastal State and Territorial governors in U.S. ocean and coastal affairs. Established in 1970, CSO encourages cooperation among its member States in the resolution of national ocean and coastal issues which affect the Gulf, oceans and Great Lakes of the U.S. and also serves as a forum for debate, review and assessment of ocean and coastal management practices, problems and progress.

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Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
CZMA REAUTHORIZATION					
H.R.4030 (Jones 2/21/90) Coastal Zone Act Reauthorization Amendments of 1990 Five year reauthorization includes provisions re consistency, water quality, and enhancement grants.	Referred to MMF; CSO testified 3/22/90; MMF ordered rpted w/ amendments 4/18/90; Because of unresolved jurisdictional conflicts over the bill, a report on the bill was not filed; Certain provisions included in amendment in the nature of a substitute to H.R.4450; Passed House 9/26/90.				Modified version included in H.R.5835; (FY91 Budget Bill); Signed into law 11/5/90; P.L. 101-508 sec. 6201
H.R.4450 (Hertel 4/3/90) As introduced, only spoke to reauthorization.	Passed House 9/26/90 with amendments in the nature of a substitute containing provisions of H.R.4030.	101-535			Modified version included in H.R.5835; (FY91 Budget Bill); Signed into law 11/5/90; P.L.101-508
H.R.4438 (Shumway 3/29/90) (Adminstration bill)	Referred to MMF.				No further action.
S.1189 (Kerry 6/26/90) Coastal Zone Improvement Act of 1989.			Referred to Commerce; CSO member governments testified at 8/3/89 and 5/5/90 hrgs. before NOPS, Reauthorization language added 6/20/90.		Certain provisions included in S.2782 below.
S.2782 (Kerry 6/26/90) Coastal Zone Improvement Act of 1990. Similar to H.R.4030 but w/ reduced grant funding levels, no Presidential consistency exemption and no restriction of coastal zone seaward boundary.			Commerce reported w/ amendments 8/30/90.	101-445	Modified version of S.2782 included in the conf. rpt. to H.R.5835; signed into law 11/5/90; P.L. 101-508.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
OTHER AMENDMENTS TO THE CZMA					
H.R.543 (Panetta 1/19/89) To amend the CZMA consistency provisions to encompass federal activities which affect coastal resources, regardless of location.	Referred to MMF.				No further action.
H.R. 1004 (Davis 2/9/89) To provide CZMA grants to coastal states for implementing programs to control or prevent damage caused by coastal erosion and flooding.	Referred to MMF.				No further action.
S.950 (Stevens 5/9/89) To provide for oil spill research and establish a coastal zone restoration and enhancement fund.			Referred to Energy.		No further action.
S.967 (Kerry 5/10/89) To amend the CZMA to designate the Secretary of Commerce as the lead trustee for ocean and coastal resources.			Referred to Commerce.		No further action.
H.R.2647 (Studds 6/14/89) Coastal Defense Initiative Title III amends the CZMA to provide for coastal water quality protection from land based nonpoint sources.	Referred to MMF, PWT and Ways and Means; CSO testified at MMF hrg 9/20/90; MMF rpted w/ amendments 7/16/90; by PWT 10/15/90; PWT rpted w/ amendments by PWT 10/15/90; Discharged from Ways and Means 10/19/90.	101-605 Pts. I &II			Certain provisions included in H.R. 3338 (P.L. 101-593) and H.R.5835 (P.L. 101-508).
H.R.4333 (Hughes 3/21/90) Among other provisions would authorize the use of CZM funds for the purchase beach cleaning equipment and require CZM agencies to work with local governments to reduce the introduction of floatables into coastal waters.	Passed House w/ amendments 10/23/90.	101-844			No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
APPROPRIATIONS					
H.R.5021 (Smith 6/13/90) FY91 Commerce, Justice,State, Judiciary & Related Agencies Includes $34.6m for CZMA 306-306A and $3.473m for CZMA 315.	CSO presented testimony before Commerce Appropriations Subcmte; House agreed to Conf. Rpt. 101-909 10/23/90.		CSO submitted testimony to Commerce Appropriations Subcmte; Senate agreed to Conf. Rpt. 101-909 10/24/90.		Signed into law 11/5/90; P.L. 101-515.
H.R.5158 (Traxler 6/26/90) FY91 VA, HUD & Independent Agencies Includes $50.3m for FWPCA 319.	House agreed to Senate amendments 10/26/90.		Passed Senate w/ amendments 10/25/90.		Signed into law 11/5/90; P.L. 101-507.
AUTHORIZATIONS					
H.R. 4115 (Hertel 2/27/90) To authorize appropriations for National Ocean Service programs for FY91, including 1 year reauthorization of CZMA. Related bill S.2788.	Passed House w/ amendments 10/26/90. Referred to Senate.	101-519 (Pts.I &II)			No further action.
S.2788 (Kerry 6/26/90) To authorize $68.8m in appropriations for National Ocean Service programs for FY91, including on year reauthorization of CZMA. Related bill H.R.4115.			Commerce reported w/ amendments 6/27/90.	101-403	No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
COASTAL & MARINE PROTECTION					
H.R.2647 (Studds 6/14/89) Coastal Defense Initiative Title III amends the CZMA to provide for coastal water quality protection from land based nonpoint sources.	Referred to MMF, PWT and Ways and Means; CSO testified at MMF hrg 9/20/90; MMF rptd w/ amendments 7/16/90; by PWT 10/15/90; Reported w/ amendments by PWT 10/15/90; Discharged from Ways and Means 10/19/90.	101-605 Pts. I &II			Certain provisions included in H.R.3338 (P.L.101-593) and H.R.5835 (P.L.101-508).
S.1178 (Mitchell 6/14/89) Coastal Protection Act of 1990 Multi-titled bill addressing broad range of coastal pollution issues.			EPW reported w/ amendments 6/27/90.	101-339	Great Lakes provisions included in Senate amendments to H.R.4323 (P.L.101-596); Marine Research provisions included in H.R.3338 (P.L.101-593).
S.1179 (Lautenberg 6/14/89) Comprehensive Ocean Assessment and Strategy Act of 1989. A bill to establish a comprehensive marine pollution restoration program to amend the FWPCA, and the MPRSA. Companion bill H.R.2593.			Hrgs. before EPW 7/12/89 & 7/25/89; Field hearing 8/11/89.		Certain provisions included in S.1178.
H.R.2953 (Pallone 7/20/89) See related bill S.1179 below.	Referred to MMF and PWT. Joint hrgs. by Fisheries and Oceanography Sbcmtes 6/20/90.				No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
OTHER COASTAL WATER QUALITY AMENDMENTS					
H.R.403 (Saxton 1/3/89) To amend the FWPCA to include marine and estuarine waters within the requirements for ocean discharge criteria.	Referred to MMF and PWT. Included as an amendment to H.R.2647 during full committee markup 4/18/90.				see H.R.2647 above.
H.R. 3210 (Manton 8/3/89) To establish permit requirements for cso's discharging into estuarine and marine waters and to require correction to minimize discharges.	Referred to MMF and PWT.				Incorporated into H.R.2647 during MMF mark up 4/18/90.
CONTAMINATED SEDIMENTS					
S.1178 (Mitchell 6/14/89) Coastal Protection Act of 1990 To require the establishment of numerical criteria for contaminated sediments, managment plans for contamined spoils disposal sites, and apply state standards to their disposal.			EPW reported w/ amendments 6/27/90.	101.339	Great Lakes provisions included in Senate amendments to H.R.4323 (P.L.101.596).
S.1210 (Moynihan 6/20/89) National Sediment Contamination Survey.			Reported by EPW to Senate w/o written report 11/20/89.		Certain provisions included in S.2594.
S.2594 (Moynihan 5/8/90) Great Lakes and Coastal Sediment Assessment and Restoration Act.			Referred to EPW.		Certain provisions included in S.1178. See below.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
OCEAN DUMPING					
H.R. 1281 (Gejdenson 3/7/89) Illegal Dumping Prevention Act To authorize the seizure and forfeiture of vessels used to violate Title I of the MPRSA.	Referred to MMF.				No further action.
H.R.1560 (Hughes 3/22/89) Anti-Dumping Act of 1989 To amend Title 18 of the U.S.C. to provide penalties for dumping on the high seas.	Referred to Judiciary.				No further action.
H.R.4876 (Lent 5/22/90) Ocean Dumping Ban Extension Act To delay effective date of ban on ocean dumping of sewage sludge.	Referred to MMF.				No further action.
H.R.5895 (Pallone 10/22/90) Ocean Dumping conservatorship Act To authorize EPA to take possession of ocean dumping company w/ intent to cease operations.	Referred to MMF.				No further action.
WOOD BURNING					
H.R.3345 (Pallone 9/26/89) To prohibit wood burning on ocean waters.	Referred to MMF.				Modified provisions included in S.2740, (P.L.101-640).

CLEAN BEACHES

H.R.4333 (Hughes 3/21/90) Beaches Environmental Assessment, Closure and Health Act. Related bill S.2706.	Passed House w/ amendments 10/23/90.	101-844		No further action.
S.2706 (Lautenberg 6/5/90) Beaches Environmental Assessment, Closure and Health Act. Related bill H.R.4333.			Referred to EPW; Hrg. before Superfund Sbcmte. 6/28/90.	No further action.

GREAT LAKES

H.R.4323 (Nowak 3/20/90) Great Lakes Critical Programs Act To implement provisions of the Great Lakes Water Quality Agreement.	House agreed to Senate amendments 10/27/90.	101-704	Passed Senate w/ amendments 10/17/90.	Signed into law 11/16/90, P.L. 101.596.
S.1646 (Levin 9/20/89) To implement provisions of the Great Lakes Water Quality Agreement.			Referred to EPW.	Certain provisions included in conf. rpt. to H.R.1465 (P.L.101.380); and Senate amendments to H.R.4323 (P.L.101.596).

LONG ISLAND SOUND

S.1722 (Lieberman 10/3/89) Long Island Sound Improvement Act. To Establish and EPA programs office within Long Island Sound. Similar to Lowey amendment attached to H.R.4030. Related bill H.R.3722.			EPW reported w/ amendments 10/22/90.	101-550 Certain provisions included in H.R 4323; (P.L. 101-596).
H.R.3722 (Morrison 11/17/89) Long Island Sound Conservancy Act. Related bill S.1722.	Referred to MMF and PWT, Joint hrg. by Fisheries and Oceanography Sbcmtes 4/5/90.			

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
OIL SPILL					
H.R. 1465 (Jones 3/16/89) Oil Pollution Act of 1990 Holds spillers liable for damages up to specified limits; Establishes insurance requirements; Creates federal fund to ensure full compensation; Final version fully preserves state authority and does not implement Int'l protocols.	CSO testified before MM&F on 5/11/89; Passed House 11/9/89; House agreed to conf. rpt. 101-653 8/3/90.	101-242 Pts I-V	Passed Senate with amendments, 11/19/89; Senate agreed to conf. rpt. 101-653 8/2/90.		Signed into law 8/18/90, P.L. 101-380.
H.R.2325 (Davis 5/11/89) (Administration bill).	Referred to PWT, MMF and Ways & Means.				No further action.
H.R.2423 (McDermott 5/18/89) Puget Sound Tanker Safety Act	Referred to MMF and PWT.				No further action.
H.R.3003 (Davis 7/25/89) Great Lakes Oil Spill Prevention Act	Referred to MMF and PWT.				No further action.
H.R.3027 (Anderson 7/27/89) To Establish oil spill liability, compensation, prevention and response. Related bill S.686.	Referred to MMF, PWT, and Sci & Tech; CSO testified before PWT 6/28/89; Reported by PWT 9/13/89; Reported by Sci & Tech 9/22/89.	101-241 Pts.I,II			Certain provisions included in conf. rpt. to H.R.1465.
H.R.3124 (Saxton 8/3/89) Clean Ocean Act To revise the national response plan for oil and hazardous discharges.	Referred to MMF and PWT.				Certain provisions included in H.R1465 11/2/89.
H.R.3052 (Studds 7/28/89) Natural Resources Protection Act To provide for the restoration of natural resources damaged by oil spills.	Referred to Energy, MMF, PWT and Ways & Means.				No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
OIL SPILL continued					
H.J.Res. 258 (Schuette 5/3/89) To direct the President to submit to Congress proposals to prevent, contain and clean-up oil spills. Related bill S.J.Res. 90.	Referred to MMF and PWT.				No further action.
S.686 (Mitchell 4/4/89) Similar to legislation introduced by sponsor in the 100th Congress, the bill would not pre-empt state oil spill funds and laws nor implement the international protocols.			Passed with amendments 8/4/89.	101-94	H.R.1465 passed in lieu of w/ amendments.
S.687 (Baucus 4/4/89) To amend the CWA to expand authority for penalties for discharges of oil and hazardous substances to provide for an assessment of oil spill contingency plans.			Referred to EPW.		No further action.
S.1066 (Chaffee 5/18/89) (Administration bill) Related bill H.R.2325.			Referred to EPW; Finance Cmte hrgs 6/21/89; Hrgs before Environmental Protection Subcmte 7/21/89.		No further action.
S.1223 (Lieberman 6/22/89) Oil Spill Clean-up and Enforcement Act			Env. Pro. Sbcmte hrg. 7/21/89.		Certain provisions included in S.686. See above.
S.J.Res. 90 (Heinz 4/4/89) To direst the President to submit to Congress proposals to prevent, contain and clean-up oil spills. Related bill H.J.Res.258.			Referred to EPW.		No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
NATIONAL OCEAN POLICY COMMISSION					
H.Con.Res. 69 (Schneider 3/8/89) Resolution urging establishment of a comprehensive oceans and Great Lakes policy.	House agreed to resolution 7/23/90. Referred to Senate.	101 492	Referred to Commerce.		No further action.
TERRITORIAL SEA					
H R.1405 (Shumway 3/14/90) Territorial Sea Extension Act of 1989 Legislation to codify the Presidential Proclamation extending the U.S. Territorial Sea out to 12 miles.	Referred to MMF, Jud; For. Aff. CSO testified before Oceanography Subcmte. Hearing 3/21/89.				No further action.
EEZ MINING	CSO testified at oversight hrgs. on EEZ hard mineral mining by House Interior Subcmte on Mining and Natural Resources 5/4/89.				
H.R. 2440 (Jones 5/22/89) Nat. Seabed Hard Minerals Mining Act To establish a new legal regime to govern the mining of hard mineral resources within the U.S. EEZ.	Referred to MMF and Interior; CSO presented testimony before Oceanography Subcmte 10/11/89.				No further action.
H.R. 2120 (Craig 4/26/89) To authorize extension in annual spending authority for Deep Seabed Hard Mineral Resources Act thru FY92.	Reported by MMF and Interior Cmtes; Passed House 10/23/89.	101-175 Pts. I & II	Reported by EHR 11/6/89. Passed Senate 11/14/89.	101 90	Signed into law 11/28/89; Pub L. 101 178. Certain provisions included in H R 1668; Pub L 101 224
S.1700 (Bingaman 9/29/90) To authorize appropriations thru FY94 for activities carried out under the Deep Seabed Hard Minerals Resources Act			Energy mark up 11/1/89		H R 2120 prtd in lieu 11/1/89

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rpt.	Status
OCS LEASING					
H.R. 1883 (Campbell 4/13/89) To amend the OCSLA to allow State disapproval of Federal offshore leasing decisions.	Referred to Interior.				No further action.
H.R.2464 (Boxer 5/24/89) To prohibit oil and gas activities in National Marine Sanctuaries.	Referred to MMF.				No further action.
H.R.5317 (Ireland 7/20/90) To prohibit oil and gas leasing off Florida coast. Related bills S.2328 and S.2810.	Referred to Interior.				No further action.
H.R.3751 (Boxer 11/20/89) To prohibit DOI from issuing oil and gas leases on certain portions of DOI lands.	Referred to Interior and to MMF for a period not exceeding 30 days from the filing of report by Interior Cmte.				No further action.
H.R.3861 (Jones 1/23/90) Outer Banks Protection Act. To prohibit oil and gas leasing offshore N.C. until completion of further studies.	Referred to Interior and MMF				Included as sec. 6003 of conf. rpt on H.R.1465 (P.L.101-380)
H.R.4908 (5/23/90) Offhore Lease Buyback Act of 1990 To amend the OCSLA with respect to cancellation of leases.	Hrg. before Oversight, OCS and Oceanography Subcmtes 7/25/90.				No further action.
S.2328 (Mack 3/22/90) See S.2810 below. Related bill H.R.5317.			Referred to Energy.		Superceded by S.2810.
S.2810 (Mack 6/28/90) To prohibit lease sales on certain portions of OCS off FL. Related bill H.R.5317.			Referred to Energy.		No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
MARINE SANCTUARIES					
H.R.48 (Boxer 1/3/89) California Ocean Sanctuary and Fisheries Amendments of 1989.	Referred to Interior.				No further action.
H.R.3719 (Fascell 11/17/89) Florida Keys Protection Act. See related bill H.R.5909 below.	Passed House w/ amendments 7/23/90; Referred to Senate.	101-593			Superceded by H.R.5909, P.L.101-605.
H.R.5909 (Fascell 10/24/90) Florida Keys Protection Act. To create a Florida Keys National Marine Sanctuary and prohibit large vessel traffic near the coral reefs. Related bill S.2247.	Passed House 10/26/90.		Passed Senate 10/27/90.		Signed 11/16/90, P.L. 101-605.
S.49 (Cranston 1/25/89) California Ocean Sanctuary Act			Referred to EPW.		No further action.
S.2247 (Graham 3/7/90) Florida Keys National Marine Sanctuary and Protection Act See related bill H.R.5909 above.			Commerce hrg 6/14/90.		No further action.

P.L. 101 593.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
WETLANDS					
H.R. 824 (Tauzin 2/2/89) Coastal Wetlands Recovery Act. To identify threatened coastal wetlands and develop action plans to restore and protect such areas.	Referred to MMF.				No further action.
H.R. 1600 (Jones 3/23/89) Nat. Fish and Wildlife Enhancement Act Section 217 authorizes the establishment by the F&WS of a program to restore and enhance seriously eroded, degraded, or converted wetlands.	Referred to MMF and Interior.				No further action.
H.R.1746 (Bennett 4/10/89) Wetlands No Net Loss Act To establish a national policy of no net loss of remaining wetlands and their restoration and creation; Transfer administration of CWA 404 from COE to USFWS.	Referred to MMF, PWI, Interior, and Ways and Means.				No further action.
H.R.2322 (Davis 5/11/89) North American Wetlands Conservation Act Related bill S.804.	Fisheries Sbcmte hrg 7/25/89.				House passed related measure H.R.2587 in lieu.
H.R. 2587 (Conte 6/8/89) Related bill S.804.	Passed House 10/10/90.	101-269			S.804 passed in lieu. P.L.101-233.
H.R.4640 (Anthony 4/26/90) Comprehensive American Wetlands Act To establish a comprehensive system for the identification, valuation and compensation of wetlands.	Referred to Agriculture, MMF PWI and Ways and Means.				No further action.

P.L. 101 593.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
WETLANDS continued					
H.R.5768 (Tauzin 10/1/90) Coastal Wetland Planning, Protection and Restoration Act Related bill H.R.1731.	Referred to MMF and PWT.				Certain provisions included in H.R.5390; Signed 11/16/90; P.L.101 646
H.R.5968 (Hayes 10/27/90) To amend the FWPCA to establish a comprehensive program for conserving and managing wetlands.	Referred to MMF and PWT.				No further action.
S. 804 (Mitchell 4/17/89) North American Wetlands Conservation Act To guarantee funding for the acquisition, management, and restoration of wetlands in furtherance of the North American Waterfowl Management Plan.			EPW reported w/ amendments 6/22/89; Passed Senate 11/15/89; Senate agreed to House amendments 11/19/89.	101 16	Signed into law 12/13/89, Pub.L. 101 233.
S.1731 (Breaux 10/5/89) Coastal Wetland Planning, Protection and Restoration Act To develop a LA coastal wetlands restoration plan and provide matching grants to coastal states for wetlands protection. Related bill H.R.5768.			Passed Senate 8/1/90.	101 375	Certain provisions included in H.R.5390, Signed into law 11/29/90, P.L.101 646.
S.3256 (Jeffords 10/26/90) Wetlands and Greenspace Preservation Assistance Act To amend the IRC to give special valuation to environmentally sensitive areas for estate purposes.			Referred to Finance.		No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
AGRICULTURAL WETLANDS					
H.R.1526 (Dorgan 3/21/89) Wetlands Conservation Amendments Act To establish state committees for the administration of Swampbuster penalties.	Referred to Agriculture.				No further action.
H.R.4133 (Alexander 2/28/90) Agricultural Wetlands Exemption Act To exempt agricultural activities from provisions of FWPCA.	Referred to PWT.				No further action.
H.R.4730 (Lightfoot 5/3/90) To exempt from ineligibility requirements persons who produce commodity crops on 2 acres or less.	Referred to agriculture.				No further action.
S.2392 (Kasten 4/2/90) Farm Stewardship Act of 1990 To broaden the scope of wetland activities covered by Swampbuster.			Referred to Agriculture.		No further action.
S.2503 (Bumpers 4/24/90) To exempt prior converted wetlands from all wetlands regulation.			Referred to EPW.		No further action.
S.2523 (Nickles 4/25/90) Common Sense Agricultural Wetlands Act To establish a de minimis exemption from Swampbuster restrictions; Exempts prior converted wetlands from jurisdiction of EPA and COE.			Referred to EPW.		Certain provisions included in S.2830 (1990 Farm Bill).
S.2830 (Leahy 7/6/90) 1990 Farm Bill. To broaden Swampbuster exemptions and establish wetland reserve and restoration programs.	House agreed to conf. rpt. 101 916 10/23/90.		Senate agreed to conf. rpt. 101 916 10/25/90.		Signed into law 11/28/90; P.L.101-624.

Bill & Back Found	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
NFIP / UPTON JONES					
	CSO testified at oversight hrg. on the NFIP before the Subcmte on Policy, Research & Insurance 5/3/89 and 6/20/90.				
H.R 236 (Upton-Jones 1/3/89) A bill to reauthorize the relocation/ demolition assistance under the NFIP. NFIP continued	Referred to MMF.				H.R.5835 reauthorized thru FY95.
S.258 (Riegle 1/25/89) Related bill H.R. 236.			Referred to Banking.		H.R.5835 reauthorized thru FY95.
H.R. 3281 Contains language to reauthorize the NFIP including Upton-Jones thru FY91.	Passed House 9/19/89.		Passed Senate 9/27/89.		Signed into law 11/3/89 Public Law 101-132. Superceded by H.R.5835. (P.L.101-508) which reauthorized NFIP thru FY95.
H.R.3159 (Carper 8/4/89) A bill to revise the NFIP to further enforcement of the mandatory purchase requirement, mitigation assistance and community management of hazard areas.	Referred to Banking;				Superceded by H.R.3456.
H.R.3456 (Carper 10/12/89) Contains identical language to H.R.3159.	Referred to Banking; Insurance Sbcmte Hrgs. held 6/6/90, 6/20/90, 6/27/90, 7/13/90.				No further action.
H.R 4461 (Bereuter 4/4/90) ~~Nat. Flood Insurance~~ Compliance, Mitigation, and Erosion Management Act.	Referred to Banking, Insurance Sbcmte hrg held 6/6/90, 6/20/90, 6/27/90 and 7/13/90.				No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
COASTAL EROSION					
H.R. 1004 (Davis 2/9/89) Amends the CZMA to provide grants for implementing programs to control prevent damage caused by chronic coastal erosion and flooding.	Referred to MMF.				No further action.
H.R.4461 (Bereuter 4/4/90) Nat. Flood Insurance Compliance, Mitigation, and Erosion Management Act.	Referred to Banking; Hrgs held 6/6/90, 6/20/90, 6/27/90 and 7/13/90.				No further action.
COASTAL BARRIER RESOURCES SYSTEM					
H.R. 2840 (Studds 6/29/89) Coastal Barrier Improvement Act	House agreed to Senate amendments 10/26/90.	101-657 Ptsl & II	Senate passed w/ amendments 10/26/90.		Signed into law 11/16/90, P.L. 101-591.
S.2729 (Chaffee 6/13/90) Coastal Barrier Resources Act Amendments of 1990. Senate companion to H.R. 2840.			EPW reported 10/12/90.	101.529	H.R.2840 passed in lieu.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
WATER RESOURCES					
H.R.5314 (Anderson 7/19/90) Water Resources Development Act See S.2740 below.	Passed House 9/26/90.	101-705			S.2740 passed in lieu (P.L. 101-640).
S.2740 (Burdick 6/14/90) Water Resources Development Act To establish an environmental mission for the COE; Authorize the removal of contaminated sediments from submerged lands adjacent to navigation dredging projects; Establish a no net loss of wetlands goals for COE projects; Study requiring setbacks for shore protection projects; and exclude new floodplain development from cost/benefit analysis.	House agreed to conf. rpt. 101-966 10/27/90.		Senate agreed to conf. rpt. 101-966 10/27/90;		Signed into law 11/28/90; P.L. 101-640.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
ENVIRONMENTAL EDUCATION					
S.1076 (Burdick 5/18/90) A bill to establish an Office of Environmental Education within EPA to porvide grants for environmental education programs and projects. Related bill H.R.3684.			Passed Senate 7/18/90 w/ amendments.	101-284	Superceded by S.3176 (P.L.101-619)
H.R.3684 (Miller 11/16/90) Related bill S.1076.	Referred to Education and Labor; Hrg. before Select Ed. Sbcmte 4/19/90.				
S.3176 (Burdick 10/10/90) National Environmental Education Act	Passed House 10/26/90.		Passed Senate w/ amendments 10/26/90.		Signed into law 11/16/90 P.L.101-619.
DEPARTMENT OF ENVIRONMENT					
S.2006 (Glenn 1/23/90) Dept. of Environment Act. Related bill H.R.3847.			Referred to Government Affairs. Reported by Gov. Aff. 2/28/90.	101-262	No further action.
H.R.3847 (Conyers 1/23/90) Dept. of Environmental Protection Act.	Rptd. by Gov. Opts. 3/22/90; House passed 3/28/90; Referred to Senate 4/2/90.	101-428	Referred to Gov Affs.		No further action.
NOAA REORGANIZATION					
H.R.3833 (Levine 11/21/89) Dept. of Int. Trade and Industry Act See related bill H.R.3833 below.	Referred to 7 House Cmtes.				No further action.
S.1978 (Glenn 11/21/89) Dept. of Int. Trade and Industry Act Among other provisions would transfer NOAA to EPA. Related bill H.R.3833.			Referred to 7 Senate Cmtes. Gov. Ops, hrgs. 6/12/90 and 6/27/90.		No further action.

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
MARINE RESEARCH					
S.587 (Mitchell 3/15/89) To establish regional marine research programs. Related bill H.R.1421.			Referred to EPW; Hearings held 7/12/89 and 7/25/89; Field hrg. held 8/11/89; Included in EPW amendments to S.1178 6/27/90.		Certain provisions included in Senate amendments to H.R.3338; P.L.101-593.
H.R.1421 (Brennan 3/15/89) Marine Research Act. See related bill S.587.	Referred to MMF and Sci & Tech. Cmtes; Certain provisions included in amendments to H.R.2647 at MMF mark-up 4/18/90.				Certain provisions included in Senate amendments to H.R.3338; P.L.101-593.
S.1178 (Mitchell 6/14/89) Great Lakes and Marine Protection Act Title IV would require EPA study of atmospheric deposition, identification of unregulated contaminants, and research on use of micro-organisms to degrade pollutants. Provisions of S.587 added at EPW markup 6/20/90.			EPW reported w/ amendments 6/12/90.	101-339	Marine Research provisions included in Senate amendments to H.R.3338; Signed into law 11/16/90; P.L.101-593.
S.1179 (Lautenberg 6/14/89) Comprehensive Ocean Assessment and Strategy Act of 1989. Sec. 13 would require NOAA and EPA to establish joint program to study atmospheric deposition, floatables, monitoring, health impacts of seafood consumption, economic impacts of marine pollution and algal bloom.			Referred to EPW; Env. Pro. Hrg 7/12/89 & 7/25/89; Field hrg. 8/11/89.		No further action.
H.R. 2647 (Studds 6/14/89) Coastal Defense Initiative of 1989. Title IV would establish a National Coastal Monitoring Program.	CSO testified at joint hrg. before Fisheries and Oceanography Subcmtes 9/20/89; MMF reported w/ amendments adding certain provisions from H.R.1421 7/23/90; PWT reported w/ amendments 10/15/90; discharged from Ways & Means 10/18/90.				Marine research provisions were included in part in Senate amendments to H.R.3338, (P.L.101-593).

Bill & Background	House Committee & Floor	H. Rept.	Senate Committee & Floor	S. Rept.	Status
LAND AND WATER CONSERVATION FUND					
H.R.876 (Udall 2/6/89) American Heritage Trust Act. To establish a permanent dedicated fund with the use of OCS receipts for state and local preservation of open space, historic sites and recreational areas. Related bill S.370.	Reported by Interior w/ amendments 7/17/89.	101-148			No further action.
S.370 (Chaffee 2/7/89) Related bill H.R.876.			Hrg. held before Public Lands Sbcmte 4/25/90.		No further action.
ZEBRA MUSSELS					
H.R.3403 (Nowak 10/4/89) To require vessels to discharge ballast water prior to entering the Great Lakes.	Referred to MMF.				No further action.
H.R.4214 (Nowak 3/7/90) Non Indigenous Aquatic Nuisance Act Related bill S.2244.	MMF hrg. 6/14/90.				Related bill H.R.5390 passed in lieu, P.L.101-646.
H.R.5390 (Hertel 7/27/90) Aquatic Nuisance Prevention and Control Act Related bill S.2244.	House agreed to Senate amendments 10/27/90.		Passed Senate w/ amendments 10/26/90.		Signed into law 11/29/90; P.L.101-646.
S.2244 (Glenn 3/7/90) Related bill H.R.4214.			EPW rpted 10/11/90	101 523	Text of H.R.2244 included as Senate amendments to H.R.5390; P.L.101 646.
S.3060 (Moynihan 9/17/90) Zebra Mussel Control Act			EPW ordered rpted 9/25/90.		No further action.

Coastal Barrier Improvement Act of 1990
House agreed to Senate amendments to H.R.2840;
Signed into law 11/16/90; P.L.101-591.

Amends the Coastal Barrier Resources Act.

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A. Geographic Expansion

Adopts additions, deletions and modifications to System units recommended by the Department of Interior as approved by Congress. Expands the System to the Great Lakes, Florida Keys, Puerto Rico and Virgin Islands.

B. Pacific Barrier Mapping and Study

Requires study and mapping of undeveloped coastal barriers on the U.S. Pacific coast south of Alaska. Within 12 months of enactment, maps of areas recommended for inclusion by the DOI and State Governor are to be submitted to Congress.

C. Map Revisions

Within 180 days of enactment, DOI is provide maps to each State and local government in which a unit is located, the State CZM agency, and appropriate Federal agencies.

D. Recommendations of State and Local Governments

Within 1 year of enactment, a local government or State CZM agency may recommend minor and technical modifications to the maps.

E. Elections to Add to the System

Within 180 days of enactment, DOI is to provide local governments and the Governors maps depicting those undeveloped barriers not included in the System. Within 18 months of enactment, a local government or Governor or any qualified non-profit organization may elect to add to the System any area owned by the local government, State or qualified organization.

-NOTE- [Specific reference to CZM agencies was deleted from this provision in the final version of the bill]

F. Addition of Surplus Property

Prior to the disposal of excess Federal property, the Administrator of General Services shall consult with DOI to obtain a determination as to whether and what portion of the property may constitute an undeveloped barrier.

G. Limitations on Federal Assistance

The limitations on flood insurance and HUD assistance are extended to structures outside the boundaries of unit T-11 that facilitate activities within the unit which are not consistent with the purposes of CBRA.

H. Exceptions to Limitations on Federal Expenditures

The exception for financial assistance for dredge disposal activities is qualified to make clear that such activities must be related to the maintenance and construction of existing Federal navigation channels.

An exception is made from the limitation on financial assistance for road expansion in Michigan and the Florida Keys.

An exception is made for Louisiana unit LA07 from the limitation on Federal assistance for carrying out erosion prevention or stabilization projects.

I. Coastal Barriers Task Force

Establishes an interagency task force of 11 Federal departments and agencies. Within 2 years, the task force shall submit to Congress a report on the following:

- An analysis of the effects of any Federal regulatory activities on development within System units;
- An analysis of the direct and secondary impacts of tax policies on development (including second home and investment properties) for the period from 1975 to 1990;
- An estimate and comparison of the Federal costs with respect to developed barriers from 1975 to 1990, including the costs of shore protection, beach renourishment, evacuation services, disaster assistance, and flood insurance subsidies;
- Recommendations for Federal policies and legislation with respect to developed and undeveloped coastal barriers to promote the protection of coastal barriers and minimize activities of the Federal government that contribute to the destruction and degradation of coastal barriers.

J. Otherwise Protected Areas

No flood insurance is to be available for new structures in areas depicted as "Otherwise Protected" unless the structure is used in a manner consistent with the purpose for which the area is protected.

K. RTC and FDIC Properties

The Resolution Trust Corporation and Federal Deposit Insurance Corporation shall not sell or otherwise transfer any property which may be suitable for inclusion within the CBRS unless notice of the availablity of the property is published. For the 90 days following the publication, upon receipt of a written notice of serious interest to purchase an identified property from any governmental agency, or qualified organization ,the RTC or FDIC may not transfer the property except to the governmental agency or qualified organization.

L. Aquisition

The DOI may purchase any area added to unit T-12. For FY91-FY93, an aggregate of $15m is authorized for acquisitions.

M. Federal Agency Compliance

Within 12 months of enactment, each Federal agency affected by the Act shall promulgate regulations to assure compliance with the provisions of the Act. Each Federal agency shall annually report and certify that the agency is in compliance.

N. Dare County, NC

The Sec. of Transportation shall transfer to Dare County, NC title in certain property of the Coast Guard.

Coastal Zone Act Reauthorization Amendments of 1990
Included in Budget Reconciliation Bill, H.R.5835 sec.6201 et seq.
Signed into law 11/5/90; P.L.101-508.

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A. Findings and Policy Sec.303

Changes in findings emphasize the importance of the proper management of territorial sea and ocean waters, of controlling land use activities which result in nonpoint source pollution, and of anticipating sea level rise.

B. Definitions Sec.304

Amends the definitions of the terms "coastal zone" and "water use," and adds a definition for the term "enforceable policy."

C. Management Program Development Grants Sec.305

Discretionary program developement assistance is authorized for FY91-93. A State may receive up to $200k in Federal assistance for two years.

D. Administrative Grants Sec.306

Includes additional required elements for new programs-

E. Resource Management Improvement Grants Sec.306A

Allows 306A grants to be used for restoring and enhancing shellfish production on publicly owned reef tracts.

F. Consistency Sec.307

Establishes a generally applicable rule of law that any Federal activity (regardless of its location) is subject to the consistency determinations if it will affect any natural resources, and land or water uses in the coastal zone.

NOTE - [The language of the Saxton amendment applying the consistency requirements to the MPRSA is not included; however, the statement of managers maintains that the amendments to sec.307 have the same effect.]

G. Coastal Zone Management Fund Sec.308

The Coastal Energy Impact Program is repealed though existing obligations to repay loans made under the program are not affected. CEIP loan repayments shall be deposited into the Coastal Aone Mnagement Fund and used to fund administrative expenses and specified discretionary activities (demonstration projects, regional and interstate projects formerly carried out

under sec.309, emergency assistance, coastal management awards, program development grants and to assist States in applying the public trust doctrine.

G. Coastal Zone Enhancement Grants Sec.309

The provisions for interstate grants has been repealed.

Establishes grants for improving coastal management programs in identified areas.

Regulations for the awarding of grants are to promulgated within 1 year of enactment.

No less than 10 percent and not more than 20 percent of funds appropriated under sec.306-306A, up to a maximum of $10m, are to be used for implementing the grants.

H. Technical Assistance Sec.310

Requires NOAA to provide technical assistance and management-oriented research to support development and implementation of State coastal management programs.

I. Coastal Management Review Sec.312

Mandates public participation in the evaluation of State programs and requires a written response to all comments received.

Provides authority NOAA to impose interim sanctions if a state is failing to adhere to its program.

J. Coastal Management Awards Sec.313

Establishes Walter B. Jones Excellence in Coastal Management Awards for accomplishments by individuals, local governments, and graduate students.

K. National Estuarine Research Reserve System Sec.314

Increases financial assistance for land and water acquisition and Federal cost share for managing a reserve, constructing facilities, and conducting educational or interpretive activities. Also provides that activites conducted by a Reserve which benefit the entire Reserve System may receive 100 percent Federal funding.

L. Authorizations Sec.318

Authorizes approriations thru FY95.
(306-306A and 309 $42m-$90m; 315 $6m-7.155m).

M. Coastal Water Quality Protection

Federally approved CZM programs to develop a "Coastal Nonpoint Pollution Control Protection Program."

Final guidance for coastal NPS control is to be published by EPA within 18 months of enactment. States programs are to be submitted for approval within 30 months of the publication of final guidance.

State programs are to be coordinated with State and local water quality plans developed under the FWPCA and shall serve as an update and expansion of State nonpoint source management programs developed under FWPCA 319.

If a State fails to submit an approvable program, an escalating proportion of funds provided under CZMA 306 and FWPCA 319 shall be withheld (up to 30%).

NOAA is to provide grants for developing State coastal NPS programs which are not to exceed 50 percent of the total costs to the State.

Annual appropriations of $6m-$12m are authorized thru FY95.

National Envrionmental Education Act
Passed House and Senate 10/26/90.
Signed into law 11/16/90; P.L.101-619.

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A. Office of Environmental Education

An Office of Environmental Education is established with the Environmental Protection Agency to coordinate the Federal government's environmenatl education activities.

B. Environmental Education and Training Program

Establishes a program to train education professionals in the development and delivery of environmental education.

EPA is to make a grant on an annual basis to an institution of higher education to operate the program.

Individuals eligible for participation in the program shall be teachers, faculty, administrators and related support staff associated with local education agencies, colleges, and universities, employees of State education , environmental protection, and natural resource departments, and employees of not-for-profit organizations involved in environmental education activities and issues.

C. Environmenatal Education Grants

EPA may enter into a cooperative agreement or contract, or provide grants to support projects designed to demonstrate, or disseminate practices, methods, or techniques related to environmental education and training.

Grants are not to exceed $250,000. Of funds obligated under this program, 25% shall be for grants of not more than $5,000.

D. Environmental Internships and Fellowships

Internships for postsecondary level students and fellowshiips for in-service tranining are to be provided with Federal agencies. At least 250 internships and 50 fellowships are to be provided.

E. Environmental Education Awards

EPA shall provide for a series of awards recognizing outstanding contributions to environmental education.

F. Environmental Education Task Force

A task force comprised of eight Federal agencies and departments shall develop a report on the extent and quality of environmental education and identify needed skills, education and training needs for current and anticipated environmental problems. The report shall be submitted to Congress within 24 months of enactment.

G. National Environmental Education and Training Foundation

A charitable non-profit Foundation is established to foster a partnership among Federal, State, and local government, business, industry, academic institutions, community based environmental groups and international organizations.

H. Authorization

Appropriations of $12m-$14m are authorized thru FY96.

1991 Farm Bill
Conf. Rpt. 101-916 to S.2830
Signed into law 11/24/90; P.L.101-624.

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A. Sodbuster

Adds to the list of benefits subject to denial under the conservation compliance program.

Provides for graduated sanctions for violators of conservation compliance provisions.

B. Swampbuster

Requires the Secretary of Agriculture to publish maps delineating wetlands for determining ineligibility for benefits limited under the Swampbuster provisions. A site inspection for a wetlands determination shall be made at the request of the owner or operator.

Adds to the exemptions from ineligibility for violations of the Swampbuster provisions.

Permits the drainage of a frequently cropeed weltand without affecting benefit eligibility where the drainage is mitigated by the restoration of a prior converted wetland.

Provides graduated sanctions against violators of swampbuster provisions and allows for the renewed benfit eligibility upon the restoration of converted wetlands.

C. Environmental Conservation Acreage Reserve Program

There is established an Environmental Conservation Acreage Reserve Program under which the Conservation Reserve Program and Wetland Reserve Program shall be implemented. The Secretary is directed to enroll a minimum of 40m acres in the program by the end of FY95.

1. Conservation Reserve Program

Expands eligibility for participation, including marginal pasturelands to be converted to trees in or near riparian areas, and lands which otherwise pose a threat to water quality.

Easements shall be for 10-15 years.

The watershed areas of the Chesapeake Bay, Great Lakes and Lag Island Sound are designated priority areas for conservation easements.

Cost share assistance shall be provided to implement conservation measures on enrolled properties.

2. Wetlands Reserve Program

The Secretary is directed to establish a Wetlands Reserve program in which up to 1 million acres of farmed or converted wetlands may be enrolled.

The development of plans for restoration of the functional values of the wetlands enrolled in the Reserve Program shall be a condition of a contract for easement.

Easements shall be for 30 years, permanent or the maximum period allowed under state law.

Cost share assistance shall be available to the property owner.

D. Agricultural Water Quality Incentives

Water quality protection, including source reduction of agricultural pollutants, is established as a goal of the programs and policies of the USDA.

The Secretary is directed to carry out a voluntary incentive program thru FY95 to assist owners and operators of farms in developing and implementing water quality protection plans.

Great Lakes Critical Programs Act of 1990
Passed House as Senate amendment to H.R.4323.
Signed into law 11/16/90; P.L. 101-596.

Amends sec. 118 of the FWPCA.

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A. Schedules

1. Great Lakes Water Quality Guidance

Requires EPA to publish specific numerical limits on pollutants and provide minimum water quality standards, anti-degradation policies, and implementation procedures in conformance with the Great Lakes Water Quality Agreement. Where a State fails to adopt such standards, policies and procedures by June 30, 1994, EPA shall promulgate them.

2. Remedial Action Plans

By June 30, 1991, States are to draft Remdedial Action Plans (RAPs) for Areas Of Concern (AOC) listed in Annex 2 the Great Lakes Water Quality Agreement. By Jan. 1, 1993, the plans are to be included in States' water quality plans.

[See also, P.L. 101-640, Water Resources Development Act]

3. Lakewide Management Plans

By Jan. 1, 1994, EPA shall publish a final Lakewide Management Plan for Lake Michigan which embodies a systematic and comprehensive ecosystem approach for restoration and protection.

4. Spills of Hazardous Materials

The Great Lakes Program Office shall identify areas within the Great Lakes likely to experience spills of hazardous materials and, in consultation with other States, identify weaknesses in Federal and State programs to prevent and respond to spills.

B. Contaminated Sediments

By Dec. 31, 1990, the Great Lakes Program Office shall assess sites for study and technology demonstration projects for remedying contaminated sediments, establishing a specific numerical standard for protection.

By Dec.31, 1992, demonstration projects are to be completed.

EPA shall publish specific numerical limits for protection from the bioaccumulation of toxins within 2 years of enactment.

C. Confined Disposal Facilities

Within one year of enactment, EPA, in consultation with the COE, shall develop and implement management plans for Great Lakes confined disposal facilities. The plans shall provide for site monitoring and identify the anticipated use and management of the site over the next twenty years including the anticipated need for site management following the termination of dumping.

D. Great Lakes National Program Authorization

For FY1991 $25m is authorized to carry out the provisions listed under FWPCA 118.

Regional Marine Research Programs
Passed House as Senate amendment to H.R.3338.
Signed into law 11/16/90; P.L.101-593

Amends the Marine Protection, Research and Sanctuaries Act.

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A. Marine Research Boards

Establishes Marine Research Boards for nine regions.

B. Membership

Each board shall be comprised of 3 members appointed by NOAA (including a Sea Grant Program Director who shall serve as chairman); 2 members by EPA; and 6 members by the Governors of the regional States. Members shall possess expertise pertinent to the region concerning scientific research, coastal zone management, fisheries, water quality, and State or local government.

C. Function

Each board shall develop and submit a four year marine research plan to NOAA and EPA; provide a forum for coordinating research among institutions and agencies; and prepare a periodic report on marine environmental research issues.

D. Plan Contents

Each plan shall include an overview of the environmental quality of the coastal and marine waters of the region; a comprehensive inventory of all marine research expected to be conducted over the four year term of the research plan; a statement of marine research needs and priorities over the next ten years; an assessment of how the plan will incorporate existing marine, coastal and estuarine research and management; and a general statement of objectives and timetable for achievement.

E. Plan Review and Approval

Plans shall be submitted to NOAA and EPA for joint review and approval.

F. Research Grants

Each Board is to submit applications to NOAA for annual grants to fund research projects. The proposed projects shall be subject to peer review.

G. Authorizations

For FY1992-FY1996, $18m is authorized to carry out the provisions of the Act.

Oil Pollution Act of 1990
Conference Report 101-653.
Signed into law 8/18/90; P L 101-380.

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A. Prevention

Measures aimed at oil spill prevention include:

- Crew manning standards;
- Vessel traffic service systems;
- Alcohol and drug testing;
- Review of driver license and criminal records of applicants of licenses, certificates or vessel documentation;
- Removal of a ship's master if master is under the influence of alcohol or illegal drugs; and
- Double hull requirements.

2. Response

The President is required to take immediate removal steps of an oil spill.

Other measures relating to spill response include:

- Revision of the National Contingency Plan to establish procedures for removing a worst-case discharge;
- Establishment of a "national response unit" to maintain a list of oil spill removal resources, personnel and equipment, and inpect vessels, facilities and equipment;
- Establishment of 10 district response groups including pre-positioned personnel and equipment;
- Preparation of local contingency plans; and
- Preparation of response plans by owners or operators of tankers and facilities.

3. Liability

Full state civil and criminal authority, including imposition of taxes, is preserved.

Under Federal law, owners and operators of vessels and facilities are subject to strict, joint and several liability for oil spill cleanup costs and damages. Damages may include:

- Property or natural resource damage;
- Loss of profits or earning capacity;
- Loss of subsistence use;
- Loss of tax and other revenues by governments; and
- Costs to State and local governments for providing increased public services during or after removal activities.

Liability under Federal law is limited, except when the spill was caused by the gross negligence or willful misconduct of the spiller, or if the spiller violated an applicable federal safety, construction or operating regulation.

Liability limits are as follows:

Tankers - the greater of $1,200 or $10 million for vessels over 3,000 gross tons, and the greater of $1,200 or $2 million for vessels less than 3,000 gross tons;

Other Vessels - the greater of $600 per gross ton or $500k;

Offshore facilities - $75 million for damages plus unlimited liability for cleanup costs;

Onshore facilities - $350 million;

Deepwater ports - $350 million.

Following the completion of a study of the application of liability limits to individual facilities, the president is authorized to lower the liability limits for onshore facilities to as low as $8 million, and for deepwater ports to as low as $50 million.

Liability limits are also to be modified every three years to account for inflation.

D. Compensation

Parties suffering losses from an oil spill must first seek compensation from the "responsible party" (the owner or operator of the vessel or facility) or its guarantor (insurance company).

To the extent that damages exceed the limits of liability of the responsible party, or if the responsible party denies liability, or a claim is not otherwise settled within 90 days, the claiming party can then elect to either take direct legal action against the spiller or file its claim against the Oil Spill Liability Trust Fund. In such a case, the fund is subrogated to all legal rights against the responsible party that the original claimant had. If a claimant elects to take direct legal action, the claimant is barred from submitting a claim to the federal fund while that action is pending.

To assure financial solvency, all owners and operators of vessels and facilities are required to have insurance or other evidence of financial responsbility to cover their potential liability.

E. Enforcement

Expanded enforcement authorities include inspection, entry and recordkeeping requirements for vessels and facilities.

Substantial civil penalties are imposed for:

- Various classes of oil spills;
- Failure to comply with removal orders or contingency plans;
- Dangerous operation of a vessel; and
- Violations of financial security requirements.

In several situations, States are authorized to enforce federal requirements. State civil and criminal penalty authority is also fully preserved by the new law.

F. Research

The new law authorizes $26.5 million annually to be available from the federal fund for a new research and development program coordinated by the "Interagency Coordinating Committee on Oil Pollution Research." This committee is charged with coordinating federal, state, academic, industry and foreign research efforts.

The Coast Guard is required to conduct three port oil pollution minimization projects.

Competitive grants to universities and research institutions for research on oil pollution are authorized.

A Prince William Sound Oil Spill Recovery Institute is also established to conduct oil spill research and demonstration projects.

Water Resources Development Act of 1990
House and Senate agreed to Conf. Rpt. 101-966 to S.2740 10/27/90.
Signed into law 11/28/90, P.L.101-640.

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A. Environmental Protection Mission Sec.306

Environmental Protection is included as one of the primary missions of the Corps in planning, designing, constructing, operating and maintaining water resources projects.

The section does not apply to public interest review procedures for COE permits.

B. Wetlands Sec.307

Establishes an interim goal of no net loss of the Nation's remaining wetlands base, as defined by acreage and function, and a long-term goal to increase wetlands.

Within 1 year, COE is to develop an action plan in consultation with EPA, USFWS and other appropriate Federal agencies to achieve the goals as soon as possible.

COE is authorized to establish and implement a wetlands restoration and enhancement program for determining the feasibility of wetlands restoration, enhancement, and creation.

C. Floodplain Management Sec.308

Any new construction or substantial improvements (other than a structure necessary for a water dependent activity) built within the 100 year floodplain after July 1, 1991 shall not be included in the benefit base for justifying Federal flood damage reduction projects.

In the case of a county of which 50% or more is covered by the 100 year floodplain, the exclusion shall only apply to those new and substantially improved structures in the 10 year floodplain.

D. Shoreline Protection Sec.309

Within 1 year of enactment, COE shall submit to Congress a report on the advisability of not participating in the planning, implementation or maintenance of beach stabilization or renourishment projects unless the State has established a beach front management program that includes-

(1) Restrictions on new development seaward of an erosion setback line of at least 30 times the annual erosion rate;

(2) Restrictions on construction of new structural stabilization projects if damaged by 50% or more;

(3) Provisions for the relocation of structures in erosion prone areas; and

(4) Provsions to assure public access to beaches which have been stabilized or renourished.

E. Environmental Dredging Sec.312

Whenever necessary to meet the requirements of the the FWPCA, COE, in consultation with EPA, may remove, as part of a navigational operation and maintenance project, contaminated sediments outside the boundaries of and adjacent to the navigational channel.

COE may remove contaminated sediments from navigable waters of the U.S. for the purpose of environmental enhancement and water quality improvment if such removal is requested by a non-Federal sponsor who agrees to pay 50% of the costs. Costs of disposal shall be a non-Federal responsibility.

F. Protection of Recreational and Commercial Uses Sec.313

In pallning water resources projects, COE shall consider the impact of the project on existing and future recreational and commercial uses in the area surrounding the project. Whenever a project has an adverse effect on a recreational use, COE shall take actions to restore the use or provide comparable alternatives.

G. Great Lakes Remedial Action Plans Sec.401

COE is authorized to provide technical assistance to States and local governments in the development and implementation of remedial action plans for areas of concern identified under the Great Lakes Water Quality Agreement.

Non-federal interests shall contribute 50 percent of the the costs of such assistance.

COE shall not expend more than $3m per fiscal year in carrying out this section.

[See also, P.L.101-596, Great Lakes Critical Programs Act]

H. Wetlands Enhancement Opportunities Sec.409

By Jan.20, 1992, COE shall sumit to Congress a list identifying opportunities for wetlands enhancement in connection with the construction and maintenance of water resource projects.

Coastal Wetlands Planning, Protection and Restoration Act
House agreed to Senate amendments to H.R.5390.
Signed into law 11/29/90; P.L.101-646.

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Provides funding through the Aquatic Resources Trust Fund (26 U.S.C. 9504) for:

A. Priority Louisiana Coastal Wetlands Projects

A Federal inter-agency task force is to be established to initiate a plan to identify and prepare a list of coastal wetlands restoration projects in Louisiana. Within one year, the list of priority coastal wetlands restoration projects is to be submitted to Congress. The list shall include only those projects which can be substantially completed within 5 years.

Within 3 years of enactment the Task Force is to develop a plan which incorporates a comprehensive approach to restore and prevent the loss of coastal wetlands in Louisiana.

Seventy percent of the funds authorized, up to $70m, is to be used for coastal wetlands restoration projects in Louisiana. The Federal government shall assume 85 percent of the costs of projects if the State develops a Coastal Wetlands Conservation Plan.

B. National Coastal Wetlands Conservation Grants

The USFWS may make matching grants to coastal States to carry out coastal wetlands conservation projects. Priority is to be given to those projects which are consistent with the National Wetlands Priority Conservation Plan developed under sec. 301 of the Emergency Wetlands Resources Act (16 U.S.C. 3921) and in those States that have established dedicated funding for programs to acquire coastal wetlands, natural areas and open spaces. Priority consideration is also given to coastal wetlands conservation projects in maritime forests on coastal barrier islands.

Grants for coastal wetlands conservation projects are subject to terms and conditions which will ensure that any real property interest acquired will be administered for long-term conservation.

Grants may cover up to 50 percent of projects costs, and 75 percent where a State has established a trust fund from which the principal is not spent, for the purpose of acquiring coastal wetlands, other natural areas or open spaces. The State match must be from a non-Federal source and may be in the form of in kind contributions.

USFWS may enter into agreements to make matching payments on an intial portion of a coastal wetlands conservation project and to agree to make payments on the remaining Federal share of the costs of such project from subsegquent moneys if and when they become available. The liability of the Federal government is contingent upon the availability of funds.

Up to $2.5 million is authorized for the USFWS to update and digitize wetlands maps for Texas and conduct an assessment of status, trends, conditions and trends of wetlands in the State.

Fifteen percent of the funds authorized, up to $15m, are to be available for coastal wetlands conservation grants.

C. North American Wetlands Conservation Act

Fifteen percent of the funds authorized, up to $15m, are to be available projects carried out under the North American Wetlands Conservation Act (P.L. 101-233).

Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990
Passed House as Senate amendment to H.R.5390.
Signed into law 11/29/90; P.L.101-646

==========

A. Guidelines and Recommendations

Within 6 months of enactment, the Sec. of Transportation shall issue voluntary guidelines to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through the exchange of ballast water.

Within 24 months of enactment, the Secretary shall issue regulations to that effect.

B. Civil and Criminal Penalties

Established for violators of the regulations.

C. Task Force

A Task Force comprised of USFWS, EPA, USCG, COE and NOAA, with States represented as ex officio members, shall:

- Assess the environmental effects of ballast exchange;
- Develop and implement a program to prevent the introduction and dispersal of aquatic nuisance species;
- Provide technical assistance to State and local governments to minimize environmental, public health and safety risks associated with aquatic nuisance species.
- Provide opportunities for the participation of State and local governments in control programs.

D. State Aquatic Nuisance Species Management Plans

A State may prepare and submit a comprehensive management plan to the Task Force which identifies those areas or activities for which technical and financial assistance is needed to eliminate or reduce the environmental, public health, and safety risks associated with aquatic nuisance species. Each plan shall identify the management practices and measures to reduce infestations of aquatic nuisance species.

A separate State plan may be prepared for public facilities for which technical and financial assistance is needed to reduce zebra mussel infestation.

Matching grants may be made, by the USFWS or COE, to implement approved management plans. The Federal share shall be not exceed 75 percent of the costs. The Federal share for implementing plans for public facilities shall not exceed 50 percent.

For FY1991-1995, there is a total of $7.5m authorized annually between the USFWS and COE.

E. Great Lakes Regional Coordination

Within 30 days of enactment, the Great Lakes Commission shall convene a panel of Federal, State, and local agencies and environmental and commercial interests to make recommendations with respect to aquatic nuisance species.

F. Intentional Introduction Policy Review

Within one year of enactment, the Task Force shall, in consultation with State fish and wildlife agencies, other State and local entities, and potentially affected industries, identify and evaluate combating zebra mussel infestation with the introduction of nonindigenous species.

G. Consultation with Canada

The Secretary is encouraged to consult with Canada to develop an effective international program for preventing the introduction and spread of aquatic nuisance species.

Ocean, Coastal, and Great Lakes Protection Policy

Suggested Amendment: NGA Policy on the Exclusive Economic Zone (D-48.3)

Offered By: Commonwealth of the Northern Marianas Governor Lorenzo I. De Leon Guerrero

Guam Governor Joseph F. Ada

American Samoa Governor Peter Tali Coleman

United States Virgin Islands Governor Alexander Farrelly

Date:

[new language is underlined]

48.3 Exclusive Economic Zone

Paragraph 3

> "Today, by force and effect of the Proclamation, the conservation, exploration, and development of the U.S. EEZ resources are domestic concerns, separate and distinct from international uses such as the high seas freedoms of navigation and overflight. Management of these resources will no longer affect relations with foreign nations. Thus, the conservation, exploration, and development of resources in the U.S. EEZ are now legitimately the joint concern of the Federal government and the states [territories, and commonwealths of the United States]."

Paragraph 5

> "This partnership should be based upon the recognition that the States have inherent and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ stemming from their constitutional sovereignty, and the state and local impacts of exploration and development in the U.S. EEZ. <u>This partnership should also be based upon the recognition that all of the island territories and commonwealths of the United States have inherent jurisdictional rights and responsibilities pertaining to the conservation, exploration, and development of the resources in their respective EEZ's, stemming from traditional rights, local statutes, international laws customs and conventions and/or federally approved covenants which confirm the inherent jurisdictional</u>

rights of such island territories and commonwealths to exclusive ownership and control over resources within their respective EEZ's, subject only to federal responsibilities for national defense and foreign affairs. Further, subject to the recognition of the jurisdictional rights of island territories and commonwealths, the partnership should be based upon the recognition that the Federal Government has rights and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ, stemming from its constitutional authorities and responsibilities and by virtue of the unique nature of some of the U.S. EEZ resources. Finally, the partnership should be based upon the recognition that the states, including the island territories and commonwealths, and the Federal Government have trust responsibilities for citizens of the nation as a whole in the extraterritorial area of the U.S. EEZ."

Pacific Basin Development Council

Suite 325 ◦ 567 South King Street ◦ Honolulu, Hawaii 96813-3070
Telephone (808) 523-9325 Facsimile (808) 533-4376

RECEIVED
JUN 24 1991

vernor Lorenzo I. DeLeon Guerrero
nmonwealth of the
orthern Mariana Islands
sident

vernor Joseph F. Ada
am
e President

vernor John Waihee
waii
retary

vernor Peter Tali Coleman
erican Samoa
asurer

y B Norris
cutive Director

June 18, 1991

MEMORANDUM

To: Mr. Joaquin Villagomez, CNMI/CZM
Mr. Michael Ham, GU/CZM
Mr. Doug Tom, HI/CZM

Info Copy: Dr. Michael P. Hamnett

From: Jerry B. Norris

SUBJECT: ODDS AND ENDS FROM THE WGA/CSO TERRITORIAL SEA SYMPOSIUM

While a formal summary on the aforementioned meeting will no doubt be released shortly (?), I am providing a few odds and ends that I thought you might find of interest. It should also be noted that a draft position paper will be worked over by Bob Knecht and yours truly shortly. Your input will be solicited.

The following are enclosed:

*Attendance List
*Agenda
*State and Territorial Capability and Responsibility: An Alaskan Perspective
*North Carolina Marine Science Council - Report of the Committee on State-Federal Relations
*The Ocean Governance Study Group (Working Draft)

I hope that you find these of interest.

JBN5/ca
TERRITORIALSEA.618
ENCLOSURES

cc: Mr. Tim Bruce, CNMI w/encs

Coastal States Organization

An alliance of the Coastal States, Commonwealths, and Territories providing an effective voice in the formulation, development, and implementation of national marine and coastal resource programs and policies.

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CSO/WGA TERRITORIAL SEA SYMPOSIUM
June 3, 4, 1991

SECOND DAY DISCUSSION GROUPS

ARNOLD COGAN, DISCUSSION FACILITATOR

GROUP ONE
Paul Rusanowski, State of Alaska (Discussion Leader)
Donna Moffitt, State of North Carolina
Jo Clark, WGA
Gus Stacy, State of Louisiana
Joan Yim, State of Hawaii
Arnold Palacios, Commonwealth of Northern Marinas Islands
John Briscoe
Jerry Norris, Pacific Basin Development Council
Jon Jacobson, Univ. of Oregon Ocean and Coastal Law Center

GROUP TWO
Laura Howorth, State of Mississippi (Discussion Leader)
Bob Bailey, State of Oregon
Tom Koester, State of Alaska
~~Ines Monefeldt, Puerto Rico~~
Julia Doerman, WGA
Katherine Maraman, Guam
Gary Magnuson, CSO
Harold Masumoto, State of Hawaii
Jim Lawless, NOAA

GROUP THREE
Lydia Faleafine, American Samoa (Discussion Leader)
Sarah Taylor, State of Maryland
Donna Christie, State of Florida
John Gissberg, State of Alaska
Jim Pearthre, Rep. Bennett
Therese Swanson, State of Washington
Andy Mangan, State of Texas
Casey Jarmen, University of Hawaii
Jeff Kroft, State of Oregon
Don Woodworth, Commonwealth of Northern Marianas Islands

GROUP FOUR
Eldon Hout, State of Oregon (Discussion Leader)
Saralee Tiede, State of Texas
Gary Smith, Nat'l Marine Fisheries Service
David Slade, CSO
Joan Bondareff, House Merchant Marine Committee
Doug Tom, State of Hawaii
David Chambers, State of Lousiana
Bob Knecht, University of Delaware
Lelei Peau, American Samoa

- OVER -

CSO/WGA TERRITORIAL SEA SYMPOSIUM
June 3, 4, 1991

SECOND DAY DISCUSSION GROUPS

ISSUE EXPERTS
(available for all groups, if necessary)

Political Issues
- Bob Knecht
- Harold Masumoto
- Jerry Norris (Pacific Islands)
- Joan Bondareff

Legal Issues
- John Briscoe
- Tom Koester
- David Slade
- Donna Christie

Resource Issues
- Arnold Palacios
- Donna Moffitt

Administrative Issues
- Bob Bailey
- Jim Lawless
- Casey Jarmen

Financial Issues
- Paul Rusanowski
- David Chambers

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Territorial Sea Symposium
Final Agenda

Heathman Hotel
S.W. Broadway at Salmon
Portland, Oregon

Sunday June 2

1:00 pm	CSO Ocean Policy Committee Meeting	Fremont-Morrison Room
5:30 pm	**Reception for Symposium Participants** Sponsored by AT&T	Broadway Room

Monday June 3

8:00 am	Coffee	Fremont-Morrison Room
8:45 am	**Welcome and Opening Remarks:** Symposium Purpose and Expectations CSO Chairman Sarah J. Taylor, Ph.D. and WGA Executive Director James Souby	
9:15 am	**Symposium Overview:** Status of Legislative Initiatives and Options for State and Territory Action Guest Speakers: Robert Knecht, Co-Director University of Delaware Center for the Study of Marine Policy M. Casey Jarman, University of Hawaii Sea Grant	
10:00 am	**Session I** "Legal and Legislative Context" Panelists: Jon Jacobson, Oregon University Jim Pearthre, U.S. Representative Bennett John Briscoe, Esq. Donna R. Christie, Florida State University Moderator: Joan Bondareff, Counsel, House Merchant Marine and Fisheries Committee	
12:30 pm	**Luncheon** Guest Speaker: Oregon State Senator Bill Bradbury "State Leadership and Ocean Resources"	

- more -

2:00 pm — **Session II**
"State and Territory Capability and Responsibility"

Panelists: Donna Christie, Florida
Donna Moffitt, North Carolina
Arnold Palcios, CNMI
Harold Masumoto, Hawaii
Tom Koester, State of Alaska
Moderator: Gary Magnuson, CSO

3:15 pm — Coffee Break

3:30 pm — **Session III**
"Federal Agency Programs and Jurisdictions"

Panelists: Bob Bailey, Oregon
Jim Lawless, NOAA
Gary Smith, NMFS
Moderator: Julia Doermann, WGA

5:00 pm — **Adjournment**

6:00 pm — Dinner and Evening Event

Tuesday June 4

8:00 am — Coffee

8:30 am — **Orientation and Ground Rules for Discussion**
Facilitator: Arnold Cogan

9:30 pm — **Small Group Discussion**
Each of Four Groups to Review and Discuss:
- Issues:
  - Political
  - Resource
  - Administrative
  - Financial
  - Legal
- Strategic Choices for Each Issue

Noon — **Working Buffet Lunch:**
- Each Group Reports Discussion Highlights
- Facilitator Records Group Recommendations, Concerns, etc.

1:15 p.m. — **Small Group Disscussion**
Each Group Discusses:
- Principles to Guide Drafting of Policy Position
- Next Steps

2:15 p.m. — Each Group Reports Discussion Highlights

3:00 pm — **Consensus Discussion with Facilitator**
- Open Discussion of Group Reports
- Draft Agreement on Policy Position and/or Needed Action
- Confirmation of Symposium Recommendations

4:30 — **Adjournment**

STATE AND TERRITORY CAPABILITY AND RESPONSIBILITY: AN ALASKAN PERSPECTIVE

CSO-WGA Territorial Sea Symposium

Portland, Oregon

June 3, 1991

by

G. Thomas Koester 1/

I. ALASKA SUPPORTS EXTENDING STATE SUBMERGED LAND OWNERSHIP AND STATE FISHERIES JURISDICTION TO TWELVE MILES.

Alaska's geography gives it by far the largest stake in any consideration of extending state jurisdiction from three to twelve miles as a consequence of President Reagan's extension of the territorial sea. Alaska is the largest peninsula on the North American continent, stretching 2,400 miles from east to west and 1,400 miles from north to south. It is bounded by two oceans (the Pacific on the south and the Arctic on the north) and two seas (the Bering and Chukchi on the west). Alaska's coastline totals 6,640 miles, more than half of the nation's total of 12,383 miles. 2/ Fully 74 percent of the United States'

1/ Assistant Attorney General, State of Alaska Department of Law. The views expressed herein are those of the author and not necessarily the State of Alaska, but the State of Alaska should have no objection to this dedicated employee's opinions.

2/ National Ocean Survey National Oceanic and Atmospheric Administration, United States Department of Commerce, "The Coastline

(continued...)

continental shelf is off-shore Alaska. 3/ Because of the relative lack of roads, most of Alaska's population lives within ten miles of the coast, 4/ and many Alaskans are directly dependent on the ocean's resources.

Alaska also is a land of extremes, whether one is talking about climate, topography, or politics. But there is one thing Alaskans agree on: state ownership of submerged lands and state fisheries jurisdiction should be extended from three to twelve miles in the wake of the territorial sea extension. Governor Hickel, elected only last year, already is on record as opposing Congressman Jones' "Territorial Sea and Contiguous Zone Extension Act of 1991" unless it is amended to extend state jurisdiction under the Submerged Lands Act and the Magnuson Fisheries Management Conservation Act. 5/ The 1990 Alaska Legislature unanimously passed Legislative Resolve No. 94, which urges the United States Congress to

> (1) recognize and confirm the sovereign jurisdiction of the State of Alaska and the other

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2/ (...continued)
of the United States." By comparison, the Pacific coastline of the 48 contiguous states totals 1,293 miles, the Gulf of Mexico coastline totals 1,631 miles, and the Atlantic coastline totals 2,069 miles.

3/ United States Department of Commerce and State of Alaska Coastal Management Program and Final Environmental Impact Statement 241 (1979).

4/ Id. at 255.

5/ March 28, 1991 letter from Governor Walter J. Hickel to the Honorable Donald E. Young, U.S. House of Representatives.

> coastal states over the territorial sea and air space above the territorial sea, including sovereign jurisdiction over living and nonliving resources found there, from the baseline from which the territorial sea is measured out to 12 nautical miles; and
>
> (2) transfer to, and confirm in, the State of Alaska and the other coastal states title to the submerged land underlying the territorial sea out to 12 nautical miles, and recognize and confirm the sovereign jurisdiction of the State of Alaska and the other coastal states over that submerged land and the living and nonliving resources on or in the sea bed and subsoil there.

A representative of former Governor Cowper testified before a Congressional subcommittee in favor of state jurisdiction and ownership of the submerged lands and living resources of the 12-mile territorial sea. 6/ Even the Alaska Supreme Court has jumped on the bandwagon, holding that the state can regulate fishing activities more than three miles offshore by nonresidents on vessels not registered in Alaska. 7/

6/ Testimony of Suzanne Iudicello, Associate Director for Fisheries and the Environment, Alaska Governor's Office, Hearing on the Presidential Proclamation Extending the United States Territorial Sea before the Subcommittee on Oceanography and Great Lakes, House Merchant Marine and Fisheries Committee, 101st Cong., 1st Sess., March 21, 1989.

7/ F/V American Eagle v. State, 620 P.2d 657 (Alaska 1980), app. dismissed 454 U.S. 1130 (1982); State v. Bondurant, 546 P.2d 530 (Alaska), app. dismissed sub nom. Uri v. State, 429 U.S. 806 (1976). Both American Eagle and Bondurant were decided prior to passage of the Magnuson Fisheries Conservation and Management Act of 1976, P.L. 94-265, 90 Stat. 331, 16 U.S.C. §§ 1801 et seq.. That Act provides for federal fisheries management from three miles offshore to a distance of 200 miles and, to the extent that there is a conflict between state regulation and federal regulation, preempts state regulation. See 16 U.S.C. § 1856. Nonetheless, the Alaska Supreme Court has held that, in the absence of federal regulation, the state still can regulate at least those vessels registered in Alaska. See State v. F/V

(continued...)

This unanimity on a major public policy issue, encompassing all three branches of government and two successive administrations with vastly different political outlooks, 8/ in a state otherwise known for the extremes of its politics as well as its climate and topography, is not surprising in light of Alaska's history. As a relatively new state, 9/ many Alaskans still remember pre-statehood days when virtually all decisions affecting Alaska were made thousands of miles away in Washington, D.C. One of the primary motivations for statehood was a desire by Alaskans to take over management of fish, wildlife, and other natural resources from the federal government. 10/

Even the Congress that granted statehood to Alaska recognized that local decision-making is sound public policy:

7/ (...continued)
Baranof, 677 P.2d 1245 (Alaska), cert. denied 469 U.S. 823 (1984).

8/ Governor Hickel, a former Republican, was elected on the Alaska Independent Party ticket, and is a staunch proponent of natural resource development in Alaska. Former Governor Cowper was a Democrat for whom natural resource development was not an apparent priority.

9/ Alaska, the 49th state, was admitted to the Union on January 3, 1959. Presidential Proclamation 3269 (January 3, 1959), 24 Fed. Reg. 81 (1959).

10/ A delegate to the Alaska Constitutional Convention, Victor Fisher, called the repeated demands by the legislature of the Territory of Alaska to eliminate fish traps "perhaps the greatest unifying issue for statehood." Fisher, Alaska's Constitutional Convention 7 n.4 (1975).

> The grant of statehood means the grant to the people of Alaska of the right to manage their own internal affairs and the right to send representatives to the Congress in Washington. It is therefore a measure in support of the principle of local government of local affairs, embodied in American legal philosophy under the concept of State's rights. Behind the idea of State's rights and local self-government lies the conviction that matters of local concern can be best determined and most efficiently managed by those most directly affected. 11/

Despite statehood, however, many decisions affecting Alaska still are made in Washington, D.C., including decisions relating to development of the outer continental shelf. The same dissatisfaction with absentee decision-making that fueled the statehood movement underlies Alaska's desire to obtain ownership of the submerged lands and jurisdiction over fisheries in the expanded territorial sea. Alaskans are unanimous in this regard.

II. THE STATES ARE CAPABLE OF MANAGING THE RESOURCES OF THE EXPANDED TERRITORIAL SEA.

Wanting something and being able to manage it may be two different things. In the case of the expanded territorial sea, however, Alaska is convinced that the states are better able to manage the submerged lands and living resources than the federal government. For our part, Alaska has consistently demonstrated an ability to manage offshore resources prudently, efficiently, and in the national interest. This is true not only from the coastline to the three-mile seaward limit of Alaska's boundaries, but also in the 200-mile exclusive economic zone

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11/ H.R. Rep. No. 624, 85th Cong., 1st Sess. 9 (1957).

("EEZ"). We have a proven record of balancing protection, conservation, development, and utilization of the living and non-living resources off our shores. Simply put, we are better able than the federal government, in terms of fiscal resources and administrative abilities, to manage these relatively near-shore fisheries, minerals, oil and gas, and other resources in the ocean areas that border our state.

For example, we manage a multi-billion dollar seafood industry which includes the world's largest salmon fisheries and several world-class salmon runs. Our management extends to some fisheries in federal waters, such as the demersal shelf rockfish fishery, king and tanner crab fisheries, and the troll salmon fishery. The State of Alaska spends more than $20 million annually to manage fisheries, which is ten times the amount the federal government spends on fisheries management in the EEZ offshore Alaska. In addition, the state has taken the lead in joint efforts with the United States State Department on reducing foreign interception of salmon and other living marine resources, and has years of experience in negotiating the harvest of anadromous species with other states and foreign nations.

We have had a successful offshore mining program since statehood. The state's program has provided minerals, such as gold and platinum, to industry while providing for environmental protection. State regulations and the Alaska Coastal Management

Program ("ACMP") ensure that offshore mining leases go through strict review by all state resource agencies. In contrast to the federal government, which has never issued a single mining lease off the coast of Alaska, there are currently nine active state offshore leases and more than 200 offshore prospecting permits, giving Alaska far greater experience than the federal government in this area.

With respect to oil and gas resources, we have a successful track record of evaluating oil and gas potential, completing timely permitting, and balancing complex interests such as subsistence whaling and oil development. The federal government currently takes an average of five years to plan an oil and gas lease sale on the outer continental shelf, while Alaska typically completes a similarly rigorous evaluation and analysis in two to three years. Unlike the federal government, the state maintains a consistent and predictable leasing schedule, providing oil companies a better opportunity to plan and budget for exploration and development. In addition, the state's stipulations and mitigating measures for oil and gas exploration and development offer better environmental protection for marine life, the multi-billion dollar fishing industry, and the subsistence lifestyle of many coastal residents. Again, we believe Alaska can more efficiently and competently manage this resource in the three- to twelve-mile zone than can the federal government.

Alaska is not alone in its ability to successfully manage the resources more than three miles offshore. Indeed, Texas and Florida (along the Gulf of Mexico coast) own the submerged lands and manage fishery resources out to nine miles offshore. The Great Lake states own the submerged lands and manage the fisheries resources to the Canadian border, in some instances as much as 80 miles offshore.

These examples, and many others, demonstrate that the states have the proven capability to manage both the submerged lands and the living resources out to 12 miles.

III. THE STATES ALSO HAVE RESPONSIBILITY FOR MANAGING RESOURCES OF THE EXPANDED TERRITORIAL SEA.

Under current federal law, the states also have significant responsibility for offshore resources beyond state boundaries. For example, the 1978 amendments to the Outer Continental Shelf Lands Act declared it to be "the policy of the United States" that coastal states "are entitled to an opportunity to participate . . . in the policy and planning decisions made by the Federal Government" relating to development of the Outer Continental Shelf, and that the rights of the coastal states "to preserve and protect their marine, human, and coastal environments . . . should be considered and recognized." 12/ Similarly, Congress found in the Coastal Zone

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12/ 43 U.S.C. § 1332(4) and (5).

Management Act that "[t]he key to more effective protection and use of the land and water resources of the coastal zone is to encourage the states to exercise their full authority over the lands and waters in the coastal zone." 13/ And in a 1990 amendment to the Coastal Zone Management Act, Congress made clear that state coastal management regulation extends to activities seaward of state boundaries on the federal Outer Continental Shelf. 14/

The point is that the states already have significant responsibility with respect to activities between three and twelve miles offshore. One problem is that, under current law, the states do not have ultimate decision-making authority for those activities, or even authority co-equal to the federal government. A second problem is that the states receive very little benefit from such activities 15/ while shouldering most of the burdens in terms of onshore impacts.

As a consequence, coastal states predictably have in many cases objected to and attempted to thwart federal efforts to authorize and benefit from resource development activity more

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13/ 16 U.S.C. § 1451(i).

14/ 16 U.S.C. § 1456, as amended P.L. 101-508, § 6208, 104 Stat. 1388-307 (1990).

15/ Under § 8(g) of the Outer Continental Shelf Lands Act, 43 U.S.C. § 1337(g), coastal states receive 27 percent of the federal oil and gas leasing revenues from the lands between three and six miles offshore, but nothing from lands further seaward.

than three miles offshore. While not particularly successful in challenging such federal activities in court, 16/ states have been quite successful in Congress. For example, although it is national policy that the seabed beyond state boundaries "be made available for expeditious and orderly development," 17/ Congress, at the urging of coastal states, has repeatedly precluded certain federal offshore oil and gas leasing efforts through site-specific moratoria imposed in appropriation bills. 18/ Congress also recently gave coastal states additional Coastal Zone Management Act authority over activities seaward of state boundaries which may result in additional impediments to development. 19/

The point is that coastal states already have significant responsibility for activities seaward of state boundaries. Because of the absence of tangible benefits to the states from these activities, however, that responsibility understandably is many times exercised only to prevent development with little regard for the national interest in having the development go forward. The recent amendments to the Coastal Zone Management

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16/ See, e.g., Secretary of Interior v. California, 464 U.S. 312 (1984).

17/ 43 U.S.C. § 1332(3).

18/ See, e.g., §§ 110-113, P.L. 100-446, 102 Stat. 1774, 1801 (1988).

19/ 16 U.S.C. § 1456, as amended by P.L. 101-508, § 6208, 104 Stat. 1388-307 (1990).

Act, giving states greater authority over activities beyond their boundaries, may exacerbate that situation.

One possible solution is to couple the grant to the state of additional authority over such activities with additional tangible benefits from such activities. It seems only fair that the coastal states, which bear most if not all of the burdens of offshore development, should also enjoy some of the benefits.

At least two measures currently before Congress would do precisely that. S. 49 by Alaska's Senators Ted Stevens and Frank Murkowski would deposit one-third of all new federal Outer Continental Shelf revenues in a new Ocean and Coastal Resources Enhancement Fund, and four and on-half percent of such revenues in a new Coastal Zone Impact Assistance Fund. Both accounts would be interest-bearing, and moneys in the accounts would be distributed equally in the form of block grants to the states and local governments. States would be required to use the funds first to pay state administrative costs associated with the basing and permitting process for energy facilities, with any remainder used for such environmental and natural resource projects in the coastal zone as the state determines. Alaska Governor Hickel has endorsed the bill, and would urge support from other states when the bill comes up for hearing before the Senate Commerce Committee.

A second measure is S. 341 by Louisiana's Senator J. Bennett Johnston, his proposed "National Energy Security Act of 1991." Title VIII of the bill would provide 37.5 percent of new Outer Continental Shelf revenues to coastal states and communities as impact aid.

This kind of benefit sharing is absolutely essential to any willing and meaningful state participation in federal efforts to develop offshore resources. Without it, many states will predictably -- and understandably -- oppose all such federal initiatives.

IV. CONCLUSION

The states currently have the capability of managing the submerged lands and living resources beyond state boundaries, and also have significant (albeit somewhat limited) responsibility for management of those lands and resources. A significant next step, and one which Alaska fully supports, is Congressional recognition of the current reality through extension of state ownership and control of the submerged lands and living resources of the expanded 12-mile territorial sea. Failing that, some increased form of revenue-sharing from the federal Outer Continental Shelf is essential. Only by recognizing and accommodating the primacy of coastal state interests in activities off

their shores can the current impasse between state and federal interests be resolved.

NORTH CAROLINA MARINE SCIENCE COUNCIL

REPORT OF THE COMMITTEE ON STATE-FEDERAL RELATIONS

April 1991

CONCLUSION

At the September 1990 Marine Science Council meeting, the committee on state-federal relations was instructed to investigate and to provide the council with a report on whether North Carolina should actively support federal legislation that would extend the jurisdiction of all coastal states over submerged lands and waters from three statutory miles seaward of their coastal baselines to twelve nautical miles.[1] The committee's opinion is that seeking such an extension of state jurisdiction would not, at this time, be in the best interests of the state. The committee believes that the October 1990 amendments to the consistency provisions of the federal Coastal Zone Management Act of 1972 provide the state with a tool to protect its citizens' interests in the conservation, management and use of coastal lands, offshore waters and natural resources without the disadvantages of extending state jurisdiction.

REPORT

A. Introduction

The committee's conclusion that North Carolina should not actively support an extension of its offshore jurisdiction from three to twelve miles is predicated upon an examination of what benefits North Carolina would receive as a result of such an extension, and whether those benefits outweigh the burdens that such an extension would impose on the state. A number of coastal states believe that, absent such an extension, they are being deprived of sources of revenue that are rightly theirs, not the federal government's, and that they are unable to adequately protect the legitimate interests of their citizens, coastal

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1 On January 16, 1991, H.R. 536 was introduced in the 102nd Congress. This bill, if enacted, would extend all coastal states' jurisdiction over offshore lands and waters seaward to twelve nautical miles. This would be accomplished by amending the Submerged Lands Act of 1953, which is discussed in this report. [The special circumstances of two states -- Texas and Florida -- already allow them to exercise jurisdiction in excess of three miles over Gulf of Mexico lands and waters.]

communities and coastal economies. In the case of North Carolina, the committee disagrees with this position.

In order to put the committee's conclusion in proper perspective, it is necessary to understand the legal currents that have shaped the relationship of coastal states and the federal government and to identify the precise interests, if any, that the State of North Carolina has in extending its offshore jurisdiction. Toward this end, the report first discusses the traditional three-mile territorial sea and the coastal states' authority over this area. Second, the report examines the impact of the CZMA on the coastal states' power to influence activities of federal agencies and permittees -- both within and beyond the traditional three mile territorial sea. Third, the impact of the 1988 extension of the United States territorial sea upon state claims to additional offshore jurisdiction and upon the states' authority under the CZMA is discussed. Fourth, the effect of the recent 1990 amendments to the CZMA on state authority is explored. Finally, in light of these developments, the question of what state interests, if any, would be advanced by the extension of its offshore jurisdiction is examined.

B. Federal and State Claims to the Traditional Territorial Sea

Early in our nation's history, the United States claimed a three-mile territorial sea. Until recently, three miles was the distance that, as a matter of international law, was generally accepted as the maximum width of a coastal nation's territorial sea and jurisdiction. Although the federal government traditionally acted to protect our national security, commercial and navigation interests in these waters, until the 1940s the federal government had little interest in regulating the exploitation of the natural resources lying in or under these coastal ocean waters. Indeed, until the 1940s, it was generally assumed that these offshore natural resources belonged to, and were under the control of, the adjacent coastal states.

In the 1940s the federal government asserted its claim of ownership and the right to control all natural resources seaward of the low-tide line of any coastal state. However, the only real resource of interest to the federal government at that time was the potential oil and gas reserves of the continental shelf. The federal government had little interest in the conservation and management of coastal fisheries, and was more than willing to leave their management to the individual adjacent coastal states.

Understandably, the coastal states resisted the federal government's claim. But, initially, the federal government prevailed. In a landmark decision, United States v. California, 464 U.S. 312 (1948), the U.S. Supreme Court held that the coastal states did not own or have primary authority over the natural resources lying within three miles of the coastline of the United States. The "Federal Government rather than the state has paramount rights in and power

over that belt, an incident to which is full dominion over the resources of the soil underlying that water area, including oil." (emphasis added). The states, however, did not give up in the face of this adverse decision. They continued to assert their traditional claim to the natural resources of this three-mile belt, especially the oil reserves and their potential revenues, through their congressional delegations.

The states' efforts finally bore fruit in 1953. In that year, Congress passed two related pieces of legislation: The Submerged Lands Act of 1953 and The Outer Continental Shelf Lands Act of 1953 (OCSLA). The first of these in essence turned over to the individual adjacent coastal states ownership of and control over all natural resources within and under the waters comprising the three-mile belt of coastal waters. This returned the coastal states' authority over these resources to what the coastal states thought existed prior to the 1948 United States v. California decision. The second piece of legislation, however, firmly asserted the authority of the federal government to the vast resources lying on or under the outer continental shelf (OCS), that is everything seaward of the three-mile belt that comprises the traditional territorial sea.

At that time, most offshore oil drilling was limited to shallow continental shelf waters subject to state control. Under these circumstances, if oil or gas existed, the coastal state received both the benefits and bore the burdens of offshore oil and gas operations. To the extent conflicts developed between these operations and other water uses, such as commercial fishing operations or tourism, the people of the state, through their state representatives, could make the choices they believed most appropriate for them.[2]

C. The Coastal Zone Management Act of 1972

1. Background

As offshore oil and gas drilling technology improved, it became feasible to drill in the deeper OCS waters that lie beyond three miles from shore -- waters under exclusive federal control. Both coastal states with oil and gas reserves within the three-mile belt and coastal states lacking any such reserves viewed the development of OCS oil and gas reserves with alarm. The coastal states believed that the OCSLA gave them little voice in OCS leasing and development decisions, even though they and their citizens bore the brunt of the economic and environmental burdens of these decisions. The financial burden of providing services for onshore OCS support facilities was placed upon state and local

2 Even within the three-mile belt, the Submerged Lands Act of 1953 expressly left final authority over matters of navigation, commerce, national defense and international affairs in the hands of the federal government. 43 U.S.C. Sec. 1314(a). In addition, the act did not affect the continuing existence of the federal government's navigation servitude in this area.

governments. They did not receive any significant share of the revenues derived from OCS activities, but they and their citizens suffered from the adverse economic and environmental impacts of these onshore and offshore OCS facilities and activities on thriving commercial fishing and tourism industries. Commercial fishers in particular worried about potential interferences with fishing gear and fishing operations. In addition, after the 1969 Santa Barbara Channel oil rig blowout, there was heightened state and local concern about the potentially devastating economic and environmental effects of accidents associated with offshore drilling operations.

During the same period of time that these concerns were growing, Congress recognized the need to encourage states to engage in comprehensive coastal land and water use planning. The Coastal Zone Management Act of 1972 provided two incentives to coastal states to do such planning. The act provided participating coastal states with money for program development, through a system of federal grants, and imposed a requirement that all federal agency and permitted activities within a state's coastal zone must be "consistent" with a participating state's federally approved coastal zone management program. This "consistency" requirement was important because it meant that a state's efforts to protect its constituents' coastal land and water interests through comprehensive planning would not be lightly upset by activities of federal agencies and federal permittees in the coastal zone. Absent "consistency," neither the federal agencies' nor federal permitted activities could go forward. The act even gave coastal states some voice in OCS oil and gas drilling operations because it also imposed a consistency requirement on OCS federal permittees. However, despite the promise of the CZMA, state authorities' hopes of requiring federal agencies and permittees to act in conformity with the interests reflected in the state's approved coastal zone management plan were soon dashed by the limiting language of the CZMA consistency provisions and the even more limiting interpretation given that language by the U.S. Supreme Court.

2. Pre-1990 CZMA consistency provisions

Prior to 1990, the CZMA consistency provisions provided:

> (c)(1) Each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs.
>
> (c)(2) Any federal agency which shall undertake any development project in the coastal zone of a state shall insure that the project is, to the maximum extent practicable, consistent with approved state programs.

> (c)(3)(A)...any applicant for a required Federal license or permit to conduct an activity affecting land or water uses in the coastal zone of that state shall provide...a certification that the proposed activity complies with the state's approved state management program and that such activity shall be conducted in a manner consistent with the program. ...
>
> (B)...any person who submits... any plan for the exploration or development of, or production from, any area which has been leased under the Outer Continental Shelf Lands Act... shall... attach... a certification that each activity... complies with... [the state's] approved management plan and will be carried out in a manner consistent with such program...(emphasis added)

Both subparts (c)(3)(A) and (c)(3)(B) contain provisions allowing the issuance of any required federal permit or granting the necessary federal approval despite the lack of consistency with an approved state management program if, on appeal to the Secretary of Commerce, the Secretary finds that the "activity is consistent with the objectives of...[the CZMA] or otherwise necessary in the interests of national security."

3. State Dissatisfaction With CZMA Consistency Provisions

A coastal state's ability to limit the actions of federal entities, such as the United States Marine Corps, United States Air Force, or National Park Service, was limited in part by the definition of "coastal zone." The statutory definition of "coastal zone" expressly excluded "lands the use of which is by law subject solely to the discretion of or which is held in trust by the Federal Government, its officers or agents." Thus, development activities taking place on military bases, national forests, national seashores or other federal property located physically in the geographic area designated as the state's coastal zone did not have to be conducted in a manner consistent with an approved state coastal zone management program as long as the direct effects were confined to the federal lands. Even if the effects of such activities spilled over into what was defined as a state's coastal zone, such activities needed to be consistent with the state's approved management program only if two conditions were satisfied. The activities must (1) "directly affect" (2) "land or water uses" in the coastal zone itself.

The key phrase "directly affect" arguably covers only those activities that have a direct, identifiable impact. Using this interpretation, only those aspects of a federal project that can be shown to have such an impact are subject to the consistency requirement. Other aspects of the project could not be reviewed, no matter how otherwise inconsistent with the state's comprehensive attempt to manage its coastal zone through a federally approved management plan. Even

more significant was the limitation that the direct effects be on land or water uses. Adverse impacts upon a natural resource within the coastal zone were not covered absent an impact on a protected land or water use. As a result of these limitations on the consistency requirement, coastal states, such as North Carolina, found some of their attempts to compel federal entities to conform with the state management plan frustrated.

Seaward of the three-mile belt, subject to state jurisdiction, the states faced similar frustrations. The U.S. Supreme Court in Secretary of the Interior v. California, 464 U.S. 312 (1984), held that subpart (1) applied only to federal activities conducted or supported on federal lands physically situated in a state's coastal zone but excluded from the zone as formally defined by the CZMA. Thus, subpart (1) did not include proposed federal lease sales of oil and gas tracts located on the outer continental shelf, thereby foreclosing coastal states' efforts to assure that, from the very beginning of the formulation of a federal plan to develop OCS resources, the exploration for and development of OCS resources would be consistent with the state's efforts to protect land and water uses in its coastal zone. Furthermore, federal activity, other than oil and gas leasing, involving the waters of the OCS seemed to be excluded from the consistency requirements of subpart (c)(1) even if such activities might directly affect land or water uses in the coastal zone.

Finally, subpart (c)(3)(B), the only provision that speaks directly to OCS oil and gas activities, limited consistency to those OCS oil and gas exploration, development, and production activities that affected coastal zone land and water uses. The provision did not speak to effects upon natural resources within the coastal zone.

In the 1980s coastal states unsuccessfully attempted to have the CZMA amended to specifically require consistency for those federal entity and permittee activities that were exempt, or arguably exempt, from this consistency requirement. But, in late 1988 the coastal states saw a new opportunity to extend the size of their individual coastal zones and garner for themselves the benefits of natural resources within the enlarged coastal zone.

D. Extension of United States Territorial Sea and State Claims

On December 27, 1988, President Reagan, by presidential proclamation, declared that the United States was formally extending its territorial sea to twelve nautical miles. The coastal states responded to that proclamation with claims that: (1) their offshore jurisdiction was also extended from three to twelve miles and (2) the CZMA coastal zone now extended seaward twelve miles.

In light of the 1948 United States Supreme Court decision in United States v. California, the first contention -- that an expansion of the territorial sea of the

United States necessarily expanded the jurisdiction of the individual coastal states -- did not appear legally defensible. The only rights the individual coastal states had to the submerged lands and waters of the traditional three-mile belt were those given to them by congressional action through the Submerged Lands Act of 1953, an act that set a specific geographical mileage distance for the area subject to state ownership and jurisdiction. Recognizing the weakness of their legal arguments, the congressional representatives of coastal states offered legislation that would extend the authority of the individual coastal states seaward to the outer limits of the new twelve-mile territorial sea of the United States.

The argument that the coastal zone of a state with an approved coastal zone management program now extended to the outer limits of the new territorial sea was legally plausible. The CZMA's definition of coastal zone stated that "the zone... extends seaward to the outer limit of the United States territorial sea." Thus, if the territorial sea expanded, the coastal zone necessarily expanded also. The federal government's response to this argument was that the phrase "territorial sea," as used in the CZMA, meant the territorial sea as it existed at the time the act was passed by Congress, and that sea was a three mile one.

E. The 1990 Amendments to the CZMA

When the CZMA came up for reauthorization, these heated debates and the unaddressed concerns of the coastal states were at the center of congressional consideration of amendments to the CZMA. In the closing hours of the 101st Congress, major amendments to the CZMA were included in the Budget Reconciliation Act. These major amendments expand the scope of the consistency requirement and clarify the CZMA definition of the seaward limit of a state's coastal zone. The amended consistency provisions mandate:

> (c)(1)(A) Each federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner consistent to the maximum extent practicable with the enforceable policies of approved State management programs. A Federal agency activity shall be subject to this paragraph unless it is subject to paragraph (2) or (3).

This amendment achieves a major goal of the coastal states. All federal agency activities, including oil and gas lease sales, are subject to the CZMA consistency requirement if the necessary relationship is shown. That nexus no longer requires a "direct affect," but it is sufficient if the activity simply "affects." In addition, activities that affect natural resources, not just land or water uses of the coastal zone, are covered. This amendment greatly enhances the ability of a coastal state to influence the design and implementation of federal activities that adversely affect the legitimate coastal zone interests of a state and its citizens.

In addition to the amendments to subparts (c)(1)(A), subparts (c)(3)(A) and (B) were amended. Activities affecting natural resources of the coastal zone were also included within their parameters. Thus, the 1990 amendments represent a significant legislative victory for coastal states.

The coastal states were less successful in having the seaward limits of the coastal zone extended to the outer limits of the new territorial sea. The amendments to the definition of "coastal zone" restrict the seaward limits to three geographic miles. However, given the expanded nature of the consistency requirement, the state will be able to require most federal activities that would affect the three to twelve-mile belt of waters to be done in a manner that is consistent with the state's coastal zone management plan. It is unlikely that a federal activity of significance to most states could take place within that belt and not "affect" a land or water use or natural resource of the state's coastal zone.

F. An Evaluation of Whether North Carolina Should Support An Extension of Coastal States' Offshore Jurisdiction To Twelve Miles

North Carolina's position on the proposal to extend state jurisdiction to the outer (twelve-mile) limits of the new United States territorial sea must be evaluated against this background. The core questions are: (1) What would North Carolina gain if its jurisdiction were extended to twelve nautical miles? (2) What burdens would such an extension impose on the state? and (3) Would the benefits outweigh the associated burdens?

Although a number of coastal states are advocating an extension of state territorial waters, the committee's view is that North Carolina's situation differs substantially from the proponents of an extension and, in light of North Carolina's situation, the state would gain little by such an action. In addition, any gains would be significantly offset by the additional fiscal and regulatory burdens associated with the management of this new water area.

A major force behind the proposal to extend coastal state offshore jurisdiction is the prospect of acquiring ownership and control over the natural resources, and their associated revenues, that may be present in the three to twelve-mile belt. For some states this is important; for North Carolina it is not.

The most important natural resources that might be found seaward of the traditional three-mile belt offshore are oil and gas, hard minerals, and fisheries. Coastal states such as California, Alabama, Mississippi, and Florida have such resources located three to twelve miles off their coasts. Currently the revenues derived from oil and gas production in that area go to the federal government, but if the states' jurisdiction were extended, the revenues would pass to the states.[3]

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3 Any rights that the coastal states may have to revenues derived from development and exploitation of offshore resources depend on federal legislation

However, there is no evidence that oil and gas in any commercially significant amount is located under the continental shelf within twelve miles of North Carolina's coastline. What oil and gas may exist, as evidenced by the Mobil Oil project, lies much farther off our coast. Therefore, this particular benefit of an extension is not available to North Carolina.

There is also little evidence of any significant mineral deposits within twelve miles of North Carolina's coastline. There are phosphate deposits farther offshore, but there is no reason to believe that the offshore deposits that may exist will be the subject of any significant mining operations, and little chance that the state would derive any significant revenues from leasing such mining sites.

If such mining, on any limited scale, were ever proposed for areas of the continental shelf lying within twelve miles of North Carolina's coastline, the state could protect its coastal fisheries, tourism, water quality and similar activities through the consistency requirements of the amended CZMA. It is unlikely that any mining activity could take place in the three to twelve-mile belt that would not affect a land or water use or natural resource of the state's CZMA coastal zone. Thus, the state's regulatory concerns can be satisfied without making the three to twelve-mile offshore area part of the state's territorial jurisdiction.

The third, and most significant, natural resource in the three to twelve-mile belt is the coastal fisheries. At present fisheries beyond the current three-mile state belt are managed by the regional fishery councils, established by the Magnuson Fishery Conservation and Management Act of 1976. Although there may be dissatisfaction with some MFCMA regulations and a belief that, despite the intensive MFCMA management efforts, some of our offshore fisheries are in trouble, there is no reason to believe that the state can manage these resources more effectively. Furthermore, the state has neither the financial resources nor the personnel to manage fisheries or regulate fishing operations in the three to twelve-mile belt. Available information suggests that the North Carolina Division of Marine Fisheries' resources are already strained performing the division's present duties. With little additional revenues to be derived from any extension of North Carolina's offshore jurisdiction and the state's current fiscal crisis, the state simply does not have the money to undertake the responsibility for managing and regulating the coastal fisheries of the three to twelve-mile belt. Thus, gaining control of these fisheries is a major factor in any decision to advocate extension of North Carolina's offshore jurisdiction.

The Abandoned Shipwreck Act of 1987 gives coastal states title to most shipwrecks lying within offshore waters. For some states, perhaps the Gulf states, an extension of their jurisdiction might give them control over a larger number of wrecks, with either the power to protect such wrecks as historical sites

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specifically granting them such rights. See footnote 1 for an example of such legislation.

or the prospect of additional revenues from any treasure that might be recovered. But few wrecks exist in the three to twelve-mile belt off the coast of North Carolina. Thus, North Carolina would not derive any significant shipwreck benefits from such an extension.

Extension of the state's jurisdiction would make the new area part of the State of North Carolina, subject to all of North Carolina's criminal and civil laws. Once again, the question must be asked whether North Carolina wishes to take on the burdens associated with the enforcement of state laws in this area. The committee does not see any benefit to the state in doing so.

There are other federal activities that take place beyond the outer limits of the United States territorial sea that legitimately concern the state. These activities, such as ocean dumping and oil and gas exploration and development, may adversely affect offshore fisheries outside the area subject to the state's present jurisdiction, or pose threats to water quality. These activities deeply concern the state because of the potential negative effects on commercial and recreational fisheries, tourism, or the environment. But extension of state jurisdiction to twelve miles will not give the state a stronger voice in the conduct of these activities. Instead, the state's best tool for influencing these activities is through the effective use of the new CZMA consistency requirements.

Thus, the committee concludes that, absent some evidence that an extension of North Carolina's offshore jurisdiction would significantly benefit the state, the state should not actively support such legislation. Instead, North Carolina's efforts should be directed toward identifying those offshore federal activities that conflict with the state's coastal interests, and determine which conflicts are not effectively addressed by the new CZMA consistency provisions. The state could then support additional CZMA consistency provisions or other federal laws to assure adequate state input into such federal activities.

Working Draft

THE OCEAN GOVERNANCE STUDY GROUP

BACKGROUND

At the conclusion of a scholarly conference on the legal and policy implications of the U.S. extended territorial sea held in Honolulu on January 9 to 11, 1991 (organized by Professors Jon Van Dyke and Casey Jarman of the University of Hawaii William S. Richardson School of Law, with funding from the University of Hawaii Sea Grant Program and several other Sea Grant Programs), the group of scholars assembled at the conference decided to form the Ocean Governance Study Group to work on the analysis of alternative methods of ocean management and on the formulation and implementation of a more integrated regime for the management of ocean waters in the U.S. from the shoreline to the outer limit of the 200-mile Exclusive Economic Zone (including relevant international law aspects).

The Ocean Governance Study Group has been formed in response to a major policy void in U.S. ocean policy. While in the past twenty years the U.S. has enacted a large number of laws dealing with various aspects of ocean resources and space, no comprehensive look has been taken to assess and evaluate how well this management regime is working since the Stratton Commission of 1969. While a number of pieces of legislation have called for the convening of a national ocean policy commission to evaluate problems in the current governance scheme (such as the inability to solve multiple use conflicts and inequities in state/federal relations on marine resources) and to formulate new policy directions, none has been enacted into law. In view of this gap, the marine policy community is itself mobilizing to do this assessment and to formulate new directions, with the aid of interested entities in both the public and private sectors.

PURPOSES AND ORGANIZATION

The purposes of the Ocean Governance Study Group are twofold: 1) to promote the scholarly analysis of alternative management options for achieving responsible stewardship of the oceans offshore the United States, and 2) to encourage the adoption in Congress, in the Administration and in the states/territories of a more integrated, rational, and equitable ocean management regime. If appropriate, the more direct functions of getting new policies enacted and implemented would be performed by an allied non-profit organization (to be established).

The work of the Ocean Governance Study Group will initially be carried out through a consortium of three universities:

- o Graduate College of Marine Studies, University of Delaware
- o Boalt School of Law, University of California, Berkeley
- o William S. Richardson School of Law, University of Hawaii

Each of these entities will support the work of the Study Group through the work of its principals (Professors Biliana Cicin-Sain and Robert W. Knecht at the University of Delaware; Professors Harry Scheiber and David Caron at the University of California, Berkeley; Professors Jon Van Dyke and Casey Jarman at the University of Hawaii); and through administrative and research support. The University of Delaware, Center for the Study of Marine Policy will initially provide $5,000 in research and secretarial assistance, travel, and other miscellaneous support.

The University Consortium will be assisted in its work by an Academic Committee composed of well-known scholars in marine policy and by a Policy Committee composed of high level public and private sector representatives. ***Possible Members Might Be:***

Policy Committee

Honorable John Waihee, *Governor of Hawaii*
Senator John B. Breaux, *Louisiana*
Representative Leon E. Panetta, *California*
Representative Gerry E. Studds, *Massachusetts*
Edwin H. Clark, Secretary, *Department of Natural Resources and Environmental Control, Delaware*
Sarah Taylor, *President/Gary Magnuson, Executive Director, Coastal States Organization*
Eldon Hout, *Chair, Ocean Policy Council, Coastal States Organization Manager, Oregon Ocean Resources Management Program*
Jerry Norris, *Executive Director, Pacific Basin Development Council*
Virginia Tippie, *Assistant Administrator, NOAA*
William Matuszeski, *Associate Assistant Administrator, EPA*
Robert Sulnick, *Executive Director/Andrew Palmer, Washington Representative, American Oceans Campaign*
Robert Stewart, *National Ocean Industries Association*

Academic Committee

Jack Archer, *University of Massachusetts*
Richard Burroughs, *University of Rhode Island*
Donna Christie, *Florida State University*
Richard Delaney, *University of Massachusetts*
Robert Friedheim, *University of Southern California*
Marc Hershman, *University of Washington*
Richard Hildreth, *University of Oregon Law School*
Lawrence Juda, *University of Rhode Island*
Lauriston King, *Texas A & M*
Richard McLaughlin, *University of Mississippi Law Center*
Edward Miles, *University of Washington*
Michael Orbach, *East Carolina University*
Allison Rieser, *University of Maine, School of Law*

International Consultants

Alastair Couper, *University of Wales, United Kingdom, and World Maritime University, Sweden*
Richard Kenchington, *Australia, Coastal Zone Inquiry Commission (formerly at the Great Barrier Reef Marine Park Authority)*
Adalberto Vallega, *University of Genoa, Italy, Chair, Marine Committee, International Geographical Union*

WORK PROGRAM AND RESOURCES

The Consortium, with the aid of the Policy Committee and the Academic Committee, will develop a research agenda, both short- and long-term, for the Ocean Governance Study Group, will obtain necessary funds, commission policy analyses and other studies, and organize conferences where the results of these analyses and studies are presented and future directions are charted. Funding will be sought from such

entities as Sea Grant, the new regional marine centers established under the Mitchell bill, the coastal states private foundations, and industry.

The Consortium will organize a series of conferences to discuss the results of the analytical work carried out under the Study Group. The conferences will generally be held in Honolulu, with the University of Hawaii and the State of Hawaii serving as local hosts. It is proposed that the first conference be held in Honolulu in January 1992. As the work of the Ocean Governance Study Group progresses and consensus emerges on new preferred policy directions in ocean policy, some conferences will also be held in the Washington, D.C. area to facilitate participation by national decision makers.

Drafted by Professors Biliana Cicin-Sain and Robert W. Knecht, January 1991, revised April 1991

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SUSPENSION

(Amendments proposed by the Committee on Energy and Environment)

D-48. OCEAN, COASTAL, AND GREAT LAKES PROTECTION POLICY

48.1 **Preface**

48.2 **Recommendations**

48.3 **Exclusive Economic Zone**

In 1983, by presidential proclamation, the United States asserted sovereign rights over the Exclusive Economic Zone (EEZ), which extends 200 nautical miles seaward of the nation's coasts. With this action the United States acquired internationally recognized sovereign rights "for the purpose of exploring, exploiting, conserving, and managing the natural resources, both living and nonliving, of the seabed and subsoil and the superjacent waters," the protection and preservation of the marine environment, and other economic activities.

The Law of the Sea Treaty and the EEZ Proclamation fundamentally altered the legal character of the resources in this 200-mile zone. Prior to the EEZ proclamation, marine resources beyond the three-mile Territorial Sea were considered to be fundamentally international in character, because the management of these resources could affect relations with foreign nations. This characterization was the basis for a series of Supreme Court rulings that the federal government was the proper entity to assert exclusive jurisdiction and control over offshore resources. Thus, until the EEZ Proclamation, the United States' assertions of jurisdiction over resources beyond the Territorial Sea were generally based on two regimes -- a 200-mile fisheries zone in which the U.S. government claimed exclusive management authority over the fishery resources, and the regime of the continental shelf by which the U.S. claimed exclusive rights and control over the resources of the seabed and subsoil of the geographic continental shelf of the United States.

Today, by force and effect of the proclamation, the conservation, exploration, and development of the U.S. EEZ resources are domestic concerns, separate and distinct from international uses such as the high seas freedoms of navigation and overflight. Management of these resources will no longer affect relations with foreign nations. Thus, the conservation, exploration, and development of resources in the U.S. EEZ are now legitimately the joint concern of the federal government and the states, ~~territories, and commonwealths (the states) of the United States~~.

In light of the EEZ Proclamation, the rights and obligations of the federal government and the states in the management of the resources of the U.S. EEZ must now be re-examined. Accordingly, to carry out their new responsibilities, the Governors are committed to assuming a full partnership with the federal government in the management of the U.S. EEZ resources, and to continuing to improve their competence for ocean and coastal management.

This partnership should be based upon the recognition that the states have inherent rights and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ, stemming from their constitutional sovereignty, and the state and local impacts of exploration and development in the U.S. EEZ. *This partnership should also be based upon the recognition that all of the island territories and commonwealths of the United States have inherent jurisdictional rights and responsibilities pertaining to the conservation, exploration, and development of the resources in their respective EEZs, stemming from traditional rights, federally approved covenants, international law, and customs and conventions which confirm the inherent jurisdictional right of such island territories and commonwealths to exclusive ownership and control over resources within their EEZ, subject only to federal responsibilities for national defense and foreign affairs.* Further, *subject to the recognition of the unique rights of*

island territories and commonwealths, the partnership should also be based upon the recognition that the federal government has rights and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ, stemming from its constitutional authorities and responsibilities and by virtue of the unique nature of some of the U.S. EEZ resources. Finally, the partnership should be based upon the recognition that the states, *including the island territories and commonwealths* and the federal government have trust responsibilities for citizens of the nation as a whole in the extraterritorial area of the U.S. EEZ.

The Governors believe that a real and effective partnership is necessary in the management of the EEZ:

- The states should enhance their capabilities for ocean research, public information, education, and resource management.
- Federal agencies should refrain from enacting regulations that are inconsistent with the principles of partnership.
- Congress should enact legislation for the management of hard mineral resources in the EEZ based on the principles of partnership.
- Congress should establish a National Oceans Policy Commission whose membership includes several Governors. The commission should be charged with developing a comprehensive marine policy and reporting to the President and the Congress with comprehensive recommendations including the development of an active and full partnership between the federal government and the states for the management of U.S. EEZ resources.

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
and the
UNITED STATES
STRUGGLE FOR THE EXCLUSIVE ECONOMIC ZONE

DAVID VERSUS GOLIATH IN THE WESTERN PACIFIC

Prepared by the Governor's Office, CNMI[1]

"No issue is more local to us than the control over our ancient sea. For thousands of years, the sea has been our primary resource. It will not be taken from us now. . . . The U.S. claim to sovereign control over our marine resource is more than a difference of opinion. The United States insistence on federal control over our EEZ resources is a threat. It is a threat to our continued political relationship with the United States." Governor Lorenzo I. De Leon Guerrero, Rota, September 19, 1990

"We got the Trust ... Uncle Sam got the Territory." Ataji Balos, Member of Congress of Micronesia in the 1970's.

THE CNMI LAYS CLAIM TO RESOURCES IN ITS EEZ

Over ten years ago, the Commonwealth of the Northern Mariana Islands (CNMI) made claim to the resources within its submerged lands and its Exclusive Economic Zone(EEZ).[2] The CNMI said it would manage, conserve, and exploit these resources by local law, as an exercise of internal self-government. But will it?

The U.S. Federal Government, likewise, claims the same CNMI submerged lands and EEZ. The United States says the resources within this zone and seabed belong to the United States.[3] The

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[1] This paper draws heavily, and in some sections, verbatim, from research and writing supplied to the Commonwealth by MacMeekin & Woodworth, Washington, D.C. attorneys retained by the CNMI government. Mr. Tim Bruce, Special Legal Counsel to CNMI Governor Lorenzo I. De Leon Guerrero, organized and edited these materials, added original writing, and expanded and updated some of the footnote materials. Attribution for the paper should reflect this description of the authorship effort. Approval of the authors is required for publication of this paper in the academic press.

[2] Marine Sovereignty Act of 1980, CNMI Public Law 2-7, 2 CMC §1101 et. seq.

[3] Letter of July 23, 1990 from Walter B. Jones, Chairman, U.S. House Committee on Merchant Marine and Fisheries to CNMI Lt. Governor Benjamin T. Manglona, referencing application of H.R. 2440, the "National Hard Minerals Act of 1989" to the CNMI EEZ. The letter specifically states that:

> ". . .[t]he bill provides equal treatment between the Commonwealth of the Northern Mariana Islands and all other United States territories and possessions, including the Commonwealth of Puerto Rico. This treatment reflects the existing legal relationship between the United States Government and the Commonwealth of the Northern Marianas. Under this relationship and the Commonwealth Agreement [Covenant], the Exclusive Economic Zone and the resources within this zone belong to the United States." (Emphasis supplied).

Also, letter of July 21, 1990, from Edward E. Wolfe, Deputy Assistant Secretary of State for the Bureau of Oceans and Fisheries Affairs to Timothy Glidden, Special Interim Representative of the President of the United States for Covenant Section 902 consultations. The letter specifically states:

Federal Government asserts the right to manage, conserve and exploit these resources by federal law.

Fifteen years after becoming the newest member of the U.S. political family, the tiny CNMI[4] fights a federal colossus over control of the EEZ. The contest looms as a David versus Goliath struggle between a Micronesian island group and a world superpower. The drama unfolds in the tropical Western Pacific. The outcome of the contest holds implications for the continued health of the CNMI's political relationship with the United States. If, as the CNMI fears, the United States rejects a flexible ocean resource policy for the CNMI and other flag areas, the outcome may define the ability of the U.S. to attract other non-aligned peoples into political affiliations.

The CNMI calls upon the United States to recognize the islands' exclusive right to the resources of its submerged lands and 200 mile EEZ.[5] The legal basis for these rights is unique. Though we believe our brothers and sisters in Guam, American Samoa, Puerto Rico, Hawaii and the American Virgin Islands share the goal of controlling and benefiting from their ocean resources, specific legal authorities for the CNMI claim on EEZ resources differ from those asserted by other islands and the several States.

What is the basis of the Commonwealth's jurisdiction? Why are we unique and why should the U.S. tailor and oceans policy to fit the special needs of the CNMI? The answer lies in history. The terms and method of our entry into to the U.S. political family in 1975 was a historical first.

> "Article VIII of the Covenant represents in all respects an affirmative grant of rights to the Commonwealth in regard to real property only, and does not accord to the Commonwealth control over the exclusive economic zone. . . . Unlike the People of the Freely Associated States, the people of the Commonwealth of the Northern Mariana Islands chose U.S. citizenship and other benefits of Commonwealth status when they entered into close political relationship with the United States. In so doing they agreed that the ocean resources in the exclusive economic zone surrounding the islands would be owned by the United States." (Emphasis supplied).

[4] With a total land area of 117 square miles, and present day population equal to that of Juneau, Alaska, the islands are best known for being one of the most hotly contested battle areas of the World War II Pacific. On June 15, 1944 American forces assaulted Saipan. Of the 71,034 U.S. troops landed on Saipan, 3,100 were killed, 13,100 wounded or missing in action. American losses on Saipan were double those suffered on Guadalcanal. Of the 31,629 Japanese on Saipan, approximately 29,500 died as a result of fighting. During the 24 days of combat, roughly nine percent of the total population of local people (Chamorros and Carolinians) was killed in the crossfire. It was from one of the airfields on nearby Tinian Island that the first nuclear weapon was dropped on Hiroshima by the B-29 aircraft *Enola Gay*. A. Spoehr, *Saipan: The Ethnology of a War-Devastated Island* 92 (1954) and W. Stewart, *Business and Investment Guide to the Commonwealth of the Northern Mariana Islands*. (Rev. 2nd Ed.).

[5] A daunting task, since the U.S. even denies CNMI traditional ownership of the resources located from its shores out to three miles. In Deputy Assistant Secretary of State Edward Wolfe's letter, *Id.*, he states:

> "Congress under the terms of the Submerged Lands Act, 43 U.S.C. 130 *et seq.*, conveyed all proprietary interest to the resources located within three miles from the shore to the several coastal states ... Until such time as Congress may be disposed to enact similar legislation on behalf of the Government of the Northern Mariana Islands, it is clear beyond doubt that title thereto rests in the Federal Government."

No entity has joined the U.S. under the same circumstances. We were never a possession of the United States. Our people were never militarily conquered by the United States. We were never sold to the United States. Our decision to join the U.S. political family was voluntary; we had a choice in the matter.

The CNMI's struggle with the United States over the EEZ should not confuse the islands' loyalty to the U.S. political family. The people of the Northern Marianas do not lack American patriotism. Following the war in the Pacific, we were the only group in all of the Pacific that raised its hands and asked to become United States citizens. Having a choice in the matter, all others chose a more distant affiliation with Uncle Sam. Even looked at world-wide, we are the only foreign territory occupied by U.S. military forces in World War II where the United States flag still flies. Most recently, we have sent over 80 of our sons and daughters to fight as U.S. service personnel in the Persian Gulf.

The decision to wage war in the Gulf was made a by a U.S. President for whom we do not vote, and confirmed by a U.S. Congress in which we have no representation. Yet, our people willingly fought in support of United States policy.

CNMI entry into the United States political family began with discussions across a conference table. We bargained with the U.S. for the terms of our political relationship. We attempted to negotiate a workable political relationship with the United States free of colonial overtones. If you will, our association with the United States political family was based on a social contract. We call that contract, approved by the U.S. Congress in 1976, the Covenant to establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America.[6]

In that contract, we acquired the right to internal self-government and local control over our own land and resources. Local control over land, including submerged lands[7] and natural resources, was a paramount concern. As a people we had known colonial domination since Magellan discovered our islands in 1521 and Legaspi claimed them for Spain in 1564. We were forced to yield local control over our islands and their natural resources during almost 211 years of Spanish occupation, during 15 years under the German occupation, and during 30 years of Japanese occupation. Then came the Pacific war and we fell under the command of the the U.S. Navy. This was followed by civilian administration of our islands under the federal Trust Territory of the

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[6]U.S. Public Law 94-241 (90 Stat. 263), the "Covenant".

[7]Marianas Political Status Commission, Position Paper on the Return of Public Lands to the People of the Marianas 1 (December 13, 1973).

Pacific Islands government. Finally in 1986, we completed implementation of our Covenant with the United States and, after centuries of forced denial, self-government and control over natural resources was reclaimed and returned to our people.

The express terms of our admission to the U.S. political family place our claim to local control over marine resources in a framework different from that of the States. We are not political equals with the more powerful, resource rich states. We don't vote for the United States President. We have no representation in the U.S. Congress. We are a political satellite of a large metropolitan power in which we have no political voice. Our claims to ocean resources are not subject to the constitutional doctrines, statutes, and court precedents as are those of the States.

We are island peoples far from the margins of the continental shelf. Our land area is infinitesimal. We are virtually without land based resources.[8] Agri-corp farm lands, commercial forests, and mineral wealth are practically non-existent. Small islands, as they always have, must seek their resources in the sea. Our claims to marine resources were established thousands of years ago by the customs and traditions of our seafaring ancestors.

Further, unlike the citizens of the States, the people of the Northern Marianas were recently wards of the United States. In the aftermath of World War II, we were made the subject of a United Nations Trusteeship. The United States, as administering authority of this United Nations trust, was obligated to preserve our marine resources. It was not appointed or authorized to appropriate those assets. When we joined with the United States, we didn't intend to exchange foreign domination for federal domination. We thirsted for local control over internal affairs. We entered the United States political family under different circumstances than did the States of the Union. We entered with one-of-a-kind self-government guarantees.

Because of our unique history and political circumstances, we ask the Federal Government to refrain from pre-empting our local marine resource statutes. We ask the United States to defer to locally enacted CNMI laws regarding submerged land and EEZ resources. We ask the United States to adhere to international law, customs and conventions. The United States should confirm and recognize our inherent right to control over the resources of our submerged lands[9] and EEZ.[10]

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[8] The exclusive economic zone surrounding the Northern Mariana Islands covers 99.9 percent of the CNMI's total area of approximately 264,000. W. Stewart, *Business and Investment Guide to the Commonwealth of the Northern Mariana Islands* (Rev. 2nd. Ed.) page 137.

[9] "Submerged lands" is a term of art referring to lands underlying the "territorial sea." The territorial sea is defined as the belt of water immediately adjacent to the coast that extends to a maximum of twelve miles. Restatement (Third) of the Foreign Relations Law of the United States, Sec. 511(a) (1986). Within the territorial sea the coastal

Of course, we yield to the Federal Government on questions of national defense and foreign affairs in our EEZ.[11] And we recognize that we have trust responsibilities to administer these resources for the benefit of the nation as a whole. But after that, the submerged lands EEZ resources belong to us.

To date, the United States has refused to recognize our claims in the submerged lands and EEZ. Instead, the Federal Government has asserted national claims to the marine lands and resources offshore our coasts.

Because of our unique political affiliation with the U.S., federal power over our submerged lands and EEZ resources must be limited to concerns for national defense and foreign affairs.[12] We now attempt to stem the tide of federal pre-emption over our marine resources.[13] We face a very determined Federal Government, a government steeled for the fray with its vast and infinite resources.

THE EEZ - WHAT'S OUT THERE?

The oceans surrounding the CNMI are a unique portion of the earth's surface. The approximate 264,000 square miles of EEZ area, equal in size to the State of Texas, is one of substantial ocean resources. They cover profound depths[14] and a volatile geology. They contain a variety of natural organic and inorganic resources that are of great potential value to the people of the CNMI.[15] On

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state is fully sovereign, with the same rights as it exercises over its land area. Convention of the Territorial Sea, Part 1, Art. 1, 15 U.S.T. at 1608; Restatement Third, *supra*, Sec. 512, reporter's Note 1. Though a twelve-mile territorial sea has been permitted under international law since at least 1958, the United States claimed only a three-mile zone until December 28, 1988, when President Ronald Reagan extended the territorial sea to twelve miles by Presidential Proclamation 5928.

[10] The "exclusive economic zone" is an area "contiguous" to the territorial sea and extending two hundred miles from the coastal baselines. Within this area the coastal state may not assert full sovereignty, but may exercise limited "sovereign rights" for exploring, exploiting, conserving and managing the natural resources of the waters above the sea-bed, and of the sea-bed and its subsoil.

[11] Covenant, Art. I, Section 104

[12] Article 1, Section 104 of the Covenant

[13] See, Presidential Proclamation 5928 (the Twelve-Mile Territorial Sea); Presidential Proclamation 5030 (the 200 mile EEZ, March 10, 1983); H.R. 1405, 101st Cong., 1st Sess.(1989) (the Territorial Sea Act); H.R. 2440, 101st Cong., 1st Sess. (1989) (the National Seabed Hard Minerals Act); Magnuson Fishery Conservation and Management Act, 16 U.S.C., Sec. 1801, *et. seq.* ; Public Law 100-298, 100th Congress (1988)("Abandoned Shipwreck Act of 1987")

[14] World's deepest ocean depth - Marianas Trench 36,198 feet, unseen natural wonder.

[15] Polovina, Moffit, Ralston, Shiota, & Williams, Fisheries Resource Assessment of the Mariana Archipelago, 1982-85, 47 Marine Fisheries Review 20 (1985); A. Clark, P. Humphry, C. Johnson, & D. Pak, Cobalt-Rich Manganese Crust Potential; Exclusive Economic Zones; U.S. Trust and Affiliated Territories in the Pacific (Department of the Interior, 1985); Japanese statistics reveal that they harvested an average of 10,000 metric tons of

the inorganic side, there is reason to believe that cobalt-rich manganese crusts are likely to be the first mineral deposits commercially mined from the seas.[16]

Organically, elements of the United States tuna fishing fleets have established themselves on Tinian. A tuna transshipment facility is found at Tinian Harbor. Estimates indicate that some 30 percent of the Tuna transshiped moves to Japan and Thailand. In 1989, 58,551 short tons of tuna were transshipped.[17]

At present, very few of these organic and inorganic ocean resources are developed to the economic advantage of the people of the CNMI. But if the Northern Marianas is to "develop the economic resources needed to meet the financial responsibilities of local government,"[18] it must have primary jurisdiction to control and benefit from the resources of the surrounding sea.

Political leaders in the CNMI look to EEZ resources as security for the economic future of their people. It is a farsighted goal pursued in an atmosphere dominated by a robust tourist economy. But this is a fragile economy subject to the whims of jet fuel prices and the available leisure income of Japanese tourists. If tourism fails, the people of the CNMI must, as they have for centuries, look to the sea for sustenance. Will federal or local policy control our ocean resources?

THE CNMI'S BASIC POSITION ON THE EEZ

Custom and Tradition.

CNMI claims to the resources of the EEZ are rooted in the traditional and customary concepts of marine ownership in Micronesia. Micronesia, including the Northern Marianas, is part of a Pacific President Bush described as "... not a great ocean of small islands and tiny populations - but rather an Aquatic Continent ..."[19]

The people of the CNMI have a long history of ownership and use of these submerged lands and marine resources in their portion of the Aquatic Continent. Our ancestors share the Pacific tradition of high seas navigation. We sailed far from land to harvest the bounty of submerged fishing grounds.

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tuna annually from within the 200-mile economic zone off the CNMI coast - Report to the Trusteeship Council - June 1982 - November 1983, page 84.

[16] *Supra* Note 8 at page 137.

[17] *CNMI, Economic Development Strategy*, Prepared by the Office of Planning and Budget, Executive Office of the Governor (Fiscal Year 1990-1991).

[18] Article VII, Section 701 of the Covenant.

[19] Text of Remarks by the President at the Conclusion of the United States - Pacific Island Nations Summit, East-West Center, Honolulu, Hawaii, October 27, 1990.

"Micronesians feel toward their sea the way inhabitants of continental nations feel toward their land. Micronesians own the sea. They own it because they live in it. They own it because until this century they have been the only people to use it for purposes other than transit. They own it because they have sailed it for thousands of years. They own it because they learned how to tame it and and cope with its awesome power before anyone else did. They own it because they are totally dependent upon it for survival - both the subsistence form of survival of days past and the more materialistic form of the uncertain future. They own it because over the centuries they have devised a system for defining and allocating rights in the sea and for passing those rights on from one generation to the next."[20]

The most distant submerged reefs considered owned by Micronesians are found in the Northern Mariana Islands. Two hundred miles to the west of the Marianas is a submerged chain of mountains. The submerged peaks do not break the surface. Among these submerged peaks and reefs are many considered by traditional concepts to be the property of the people of the Marianas.[21]

Even now, modern day sons of our ancient mariners navigate tiny, traditional sailing canoes through the ocean vastness, guided only by currents, birds, and the stars. Marine resource conservation is an ancient skill bred in the bone and mothered by the survival instinct.[22]

Claims Based on Modern Statutes.

The CNMI, building on its traditional and customary claims, enacted its Submerged Lands Act in 1979 and its Marine Sovereignty Act in 1980.[23] These local laws established the CNMI's jurisdiction over submerged lands and the EEZ, "as well as to their airspace, seabed, and subsoil and the resources contained therein." Enactment was an exercise of self-government under Section 103 of the Covenant.[24]

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[20] M. Nakayama and F. Ramp, *Micronesian Navigation, Island Empires and Traditional Concepts of Ownership of the Sea* (January 14, 1974, prepared for the Fifth Congress of Micronesia).

[21] *Id. at page 90.* For example, about 175 miles west of Pagan are two reefs together called "Fanupweiletal" traditionally owned by the inhabitants of Anatahan. About 150 miles west of Anatahan is Pathfinder Reef which, together with the reef to the north and the one to the east, is called "Ochensoufanachik" and owned by the Soufanchik clan. There are many reefs closer to land in the Marianas such as "Ochopengek" east of Saipan and "Maenmetin" north of Saipan.

[22] *Id.*

[23] The Submerged Lands Act, Commonwealth Public Law 1-23, 1 CMC secs. 1201 *et seq.*; the Marine Sovereignty Act, Public Law 2-7, 2 CMC secs. 1101 *et. seq.*

[24] 2 CMC sec. 1114.

Local law makers recognized the federal role. The sovereignty of the U.S. in the areas of foreign affairs and defense is expressly preserved: "[t]he Legislature recognizes the special relationship between the CNMI and the United States. Pursuant to the relationship, nothing . . . shall be taken to impose any impediment to any lawful action taken by the Government of the United States for the defense and security of the Commonwealth or of the United States."[25]

When these local laws were enacted, the Northern Mariana Islands were a ward of the United States under a United Nations trusteeship. The Trusteeship Agreement[26] obligated the U.S. to protect natural resources of the sea, along with all other CNMI resources, for the use and benefit of the islands' people. At the time the Covenant was negotiated and approved[27], the United States made no claim to national jurisdiction or control over the oceans and marine resources in the waters surrounding the CNMI.

Since then, however, the United States has made up for lost time. It has claimed jurisdiction under the Magnuson Act[28] over a 200-mile fisheries conservation zone around the CNMI, has claimed a federal EEZ in our waters,[29] has proclaimed a federal Territorial Sea out to twelve miles from our shores,[30]and has introduced legislation to assert federal authority over minerals on our seabed floor.[31] These federal claims conflict with laws enacted by the Government of the CNMI during the trusteeship period. Further, federal claims do not conform to international law.

The Commonwealth has taken the position in the Covenant Section 902 Consultations with the United States[32] that, pursuant to local and international standards, it has the authority to "conserve, manage and control the marine resources in the waters and seabed surrounding the Commonwealth of the Northern Mariana Islands to the full extent permitted a coastal peoples under international law".[33]

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[25] 2 CMC sec. 1136.

[26] Article 6(2) of the Trusteeship Agreement for the Former Japanese Mandated Islands, pursuant to Article 75 of the Charter of the United Nations.

[27] March 24, 1976.

[28] Manguson Fishery Conservation and Management Act of 1976, 16 U.S.C. 1811.

[29] U.S. Presidential Proclamation 5030 (March 10, 1983)

[30] U.S. Presidential Proclamation 5928

[31] H.R. 2440, The National Seabed Hard Minerals Act.

[32] Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America, U.S. Public Law 94-241 (90 Stat. 263). Article IX, Section 902: "The Government of the United States and the Government of the Northern Mariana Islands will consult regularly on all matters affecting the relationship between them."

[33] Commonwealth of the Northern Mariana Islands Position - Paper on Ocean Rights and Resources (March 27, 1987), *reprinted* in Compilation of Documents from the Third Round of the Covenant Section 902 Consultations 249 (MacMeekin, Cutler & Woodworth 1987). The CNMI has done more than *talk* about its rights, it has also *acted* to assert local control over its submerged lands. The CNMI entered into a Marine Survey and Salvage

International law establishes a strong norm of national behavior where the ocean rights of less than fully sovereign states are concerned.[34] All metropolitan nations which withhold full political rights in the national government from the people of an island dependency such as the CNMI, recognize the right of the island government to retain jurisdiction over the resources of the surrounding sea on behalf of its inhabitants.

The International Standard.

How best to allocate ownership and jurisdiction over the natural resources of the EEZ (and other new zones of extended ocean jurisdiction) between a national government and the government of an associated island dependency is not a question unique to the United States. The issue has been faced by virtually every metropolitan government, whether its relations are with a commonwealth, territory, freely associated state, or even when the island government is considered to be a department of the national government. Illustrative examples from the Pacific are the New Zealand dependencies, of which there are three, the Cook Islands, Niue, and Tokelau.

The constitutions of the Cook Islands and Niue establish political relationships between those island governments and New Zealand that resemble in some important respects the relationship between the CNMI and the United States. Similar to the CNMI Covenant with the U.S., the constitutions of the Cook Islands and Niue provide that the islands shall be "self-governing". The new Zealand national government is given responsibility for "external affairs and defense," powers which correspond to the United States' authority for "matters relating to foreign affairs and defense" under Section 104 of the Covenant.

New Zealand has enacted legislation establishing an EEZ. That legislation by its terms does not apply to the Cook Islands, Niue, or Tokelau.[35] Shortly after the New Zealand law was enacted,

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Agreement in October of 1986 with Sea Salvage Limited. This agreement led to the successful recovery of artifacts and treasure from the Spanish Galleon *Nuestra Senora dela Concepcion*, offshore Saipan's Agingan Beach. In 1991, the Commonwealth began new negotiations with a second salvor for treasure exploration in the EEZ. Further, the CNMI's Department of Commerce and Labor, acting pursuant to local law Title 1, CMC, Sec. 2453(d), has issued a license to a U.S. owned commercial fishing firm to operate in the CNMI EEZ.

[34] Even with formal U.N. Security termination of the Trusteeship Agreement in December of 1990, the self-government afforded the Commonwealth by the Covenant will not meet United Nations standards. The controlling international law on the achievement of self-government by non-self-governing territory is generally considered to be embodied in principles contained in the Annex to General Assembly Resolution 1541 (XV) of December 15, 1960 (15 U.N. GAOR, Supp..... (No. 16) at 29, U.N. Doc. A/4684). The CNMI by this standard doesn't to reach a full measure of self-government on termination of the trusteeship. It is not a sovereign independent state; it is not freely associated with the United States; and, it is not integrated with the United States because it does not have representation and participation at all levels in the executive, legislative and judicial organs of government.

[35] Territorial Sea and Economic Zone Act, No. 28 (26 September, 1977), reprinted 7 M. Nordquist, S. Lay, & K. Simmonds, (eds), New Direction in the Law of the Sea, Vol. 440 (Oceana, 1990).

the Cook Islands Legislative Assembly enacted its own Territorial Sea and Exclusive Economic Zone Act, modeled after the New Zealand law.[36] These enactments make clear that the Cook Islands and Niue, although delegating defense and foreign affairs powers to New Zealand, retain full jurisdiction and authority over their marginal seas.

The U.S. has recognized the sovereignty of the Cook Islands Government under its EEZ law by signing, on July 11, 1980, a treaty with the Cook Islands establishing a maritime boundary with that government.[37]

The Tokelau Islands enjoy relatively less political autonomy in their political relations with New Zealand than do the Cook Islands or Niue. Tokelau is regarded as a non-self governing territory. The Tokelau Islands are without a constitution and are still governed by the authority of a law of New Zealand. This law is in some ways analogous to the organic acts by which the United States governs some of its island territories[38]. Notwithstanding the dependent nature of the Tokelau Islands, New Zealand has enacted legislation recognizing the sovereignty of the people of Tokelau in the marginal sea.[39]

The U.S. has recognized the shared sovereignty between the people of Tokelau and the Government of New Zealand by signing a treaty delimiting the maritime boundaries between the Tokelau Islands and the U.S.[40].

The two treaties have been cited as examples of the effective application of two principles emanating from the United Nations Convention on the Law of the Sea regarding the rights of dependent coastal governments.[41] The Treaty with the Cook Islands is described as a "case of the practical application of the principle embodied in Article 305 of the United Nations Convention on the Law of the Sea . . .namely, the competence of self-governing associated States in matters concerning the law of the sea and their treaty-making capacity."

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[36]Territorial Sea and Exclusive Economic Zone Act of 1977, No. 16 (14 November, 1977).
[37]Treaty Between the United States of American and the Cook Islands on Friendship and Delimitation of the Maritime Boundary Between the United States of America and the Cook Islands, reprinted in Limits in the Seas, No. 100 (U.S. Department. of State, December, 1983) at 1.
[38]Tokelau Islands Act of 1948, 2 Statutes of New Zealand (1966).
[39]Tokelau Territorial Sea and Exclusive Economic Zone Act of 1977, No. 125 (December 23, 1977) reprinted, 7 New Direction in the Law of the Sea.
[40]Treaty Between the United States of America and New Zealand on the Delimitation of the Maritime Boundary Between Tokelau and the United States, reprinted in, Limits in the Seas, No. 100.
[41]See generally S. Jagota, Maritime Boundary 93 *et seq.* (Nijhoff, 1985).

The treaty with New Zealand regarding the Tokelau Islands, meanwhile, is seen as the first application of the principle embodied in Resolution III which became part of the "Final Act of the Conference which was signed by more than 150 delegations in Montego Bay, Jamaica, on December 10, 1982". As the commentator describes the resolution, it:

> declares that the UN Convention on the Law of the Sea shall be implemented for the benefit of the people of the territory concerned with a view to promoting their well-being and development.

Although the precise status of these island states *vis-a-vis* New Zealand may be distinguished from the relationship between the CNMI and the U.S. under the Covenant, technical differences in the details of a status relationship do not account for differences in international practice regarding the control of ocean resources by such coastal island states. Why shouldn't the U.S. do for the CNMI what New Zealand has done for its island dependencies: allow island peoples to retain jurisdiction over the resources of the EEZ.

In 1978, a comprehensive survey was made by Professor Thomas Franck of the relationships between metropolitan governments and their overseas territories and associated states. The study focused on the jurisdiction of the resources of the EEZ. Professor Franck analyzed the laws and practices of six nations, including the United States, New Zealand, Great Britain, France, Denmark, and the Netherlands. He examined the extent of large powers' control over the natural resources of the EEZ of their dependent island states and territories. The survey identified a general rule of international legal practice on the subject:

> With only one major, and two trivial exceptions, the general rule is that metropolitan powers with integrated overseas territories or associated states either have given the population of the overseas territory full and equal representation in the national parliament and government or have given the local government of the overseas territory jurisdiction over the mineral resources of the exclusive economic zone.[42]

The survey went on to point out that:

> The sole significant exception to this rule would appear to be the United States, which, in the case of Puerto Rico, has neither accorded that commonwealth full popular participation

[42]Franck, T., Control of Sea Resources by Semi-Autonomous States 5 (Carnegie Endowment for International Peace, 1978) (emphasis in original).

in the national (congressional) lawmaking process nor delegated to it the jurisdiction over fisheries and mineral resources in the 200-mile zone around the island.[43]

Events since the publication of the Franck survey by the Carnegie Endowment in 1978 reaffirm the general rule of international practice established by the survey. A very recent example of the continuing observation of this international norm is found in the announcement by the British Government of the creation of an EEZ around the Falkland Islands. On October 29, 1986, the Government of Great Britain declared the establishment of a Falkland Islands Interim Fisheries Conservation Zone in the marginal sea surrounding the Falkland Islands. Such was the statement on South Atlantic Fisheries made by the British Secretary of State for Foreign and Commonwealth Affairs, Sir Geoffrey Howe, in the House of Commons, October 29, 1986.[44]

The Declaration was intended to provide notice of the establishment of the zone to the international community, but the legislation to implement the Declaration and to provide the necessary administrative regime was enacted by the Falkland Islands Government. The Falkland Islands Government retains full administrative control of the zone, and proceeds of the licensing of fishing vessels operating in the zone will accrue to the local government.[45]

Thus, an international norm or standard of practice has been identified which is supported by both the United Nations Convention on the Law of the Sea and by the customary practice of nations. As regards the CNMI, the United States is out of step with this norm. Metropolitan nations which afford a full measure of political rights in the national government and parliament to the citizens of their affiliated, semi-autonomous states may, and frequently do, assume jurisdiction over the EEZ of the dependency. Metropolitan nations which withhold representation in the national government from the citizens of an affiliated, semi-autonomous state should not, and almost never do assume jurisdiction over the resources of the EEZ of such a state.

The CNMI has no representation in the national government. The Commonwealth either has political rights in the national government or rights in the ocean - it should not be deprived of both.

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[43] *Id.*

[44] London Press Service, Verbatim Service VS/056/86 (copy provided by C. Woodley, British Embassy, Washington, D.C.).

[45] Reported from a conversation with Mr. Woodley, British Embassy, Washington D.C., February 4, 1987

FEDERAL CLAIMS TO THE CNMI EEZ

The United States advances a variety of arguments as to why it, not the CNMI controls the resources of the submerged lands and EEZ. The NMI rejects these arguments. The first U.S. position attempts to put the Northern Mariana Islands at odds with its brothers and sisters in the States of the Union. We do not compete with the States. We are not at odds.

CNMI Not On Equal Footing With the States.

The United States is quick point out that no State, Commonwealth, or Territory of the U.S. owns the EEZ off its shores. If the States cannot claim local sovereignty over the resources in their EEZ, why then should the CNMI be treated more favorably? The CNMI distinguishes its claim to ownership of EEZ resources from that of the States, because: (1) of the CNMI's unique Trusteeship relationship with the United States; (2) because of the unique resource control and self-government guarantees provided to it when it joined with the U.S. political family; and (3) because the CNMI lacks the political power of any State of the Union.

The distinctions between the CNMI and the States on the EEZ require individual discussion. The discussion begins with a review of the law of submerged lands in the United States.

Prior to World War II, the coastal States of the Union were recognized as owning the submerged lands beneath the navigable waters within their State boundaries, at least to a distance of three nautical miles.[46]

Then came United States v. California[47] the first "tide-lands" case. The Supreme Court held that "national interests" such as commerce, defense and foreign affairs predominated in the marginal sea and, as a result, the Federal Government had "paramount rights in and power over" the submerged lands seaward of the low water mark. The Court emphasized that its ruling was based upon the need to maintain an "equal footing" between California and the other States of the Union.

The doctrine of equal footing does not apply to the CNMI. United States v. California, and the "tidelands" cases that followed[48] are based on a common historical premise that the original thirteen colonial states of the U.S. did not have ownership (dominium) or political sovereignty (imperium) over the submerged lands offshore their coasts. Each opinion emphasized that the Federal Government first claimed the three-mile territorial sea, after ratification of the U.S.

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[46]Pollard's Lessee v. Hagan, 44 U.S. 212(1845).
[47]332 U.S. 19 (1947)
[48]U.S. v. Louisiana, 339 U.S. 699 (1950); U.S. v. Texas, 339 U.S. 707 (1950).

Constitution, and that the colonies had not made this claim. Consequently, because of the equal footing doctrine, the tidelands cases hold that neither California, Louisiana, Texas nor any other state could retain ownership of the submerged lands after admission to the Union.

Obviously, the Northern Mariana Islands have not been admitted to the Union as a State, and the Commonwealth is not the political equal of any State of the Union. Consequently, the equal footing doctrine does not apply to the CNMI and these tidelands cases do not control the CNMI's claim of ownership of the resources of its submerged lands.

Though the tidelands cases apply only to submerged lands offshore the several States, the Federal Government argues that the logic of those cases also bars CNMI control over the resources of the EEZ.[49] If the tidelands cases do not apply to the submerged lands adjacent to the CNMI, they *ipso facto* do not apply to the CNMI's EEZ.

Further, the equal footing doctrine is not, strictly speaking, a constitutional doctrine. The doctrine stems rather from the various federal statutes admitting States to the Union. California, for example, was admitted to the Union "on an equal footing with the original states in all respects whatsoever".[50] To the extent that equal footing is a constitutional doctrine, it stems from Article 4, Section 3, Clause 1 of the U.S. Constitution: "new states may be admitted by the Congress into this Union." It has been held that the equal footing doctrine mandates "a union of political equals."[51]

The Covenant does not make Article IV, Section 3, Clause 1 of the U.S. Constitution applicable to the Commonwealth and contains no provision requiring that the Commonwealth be on an equal footing with the States of the Union. Consequently, the doctrine does not apply to the CNMI and the tidelands cases do not control the CNMI's claim of resource ownership of its submerged lands and EEZ.

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[49] See, Edward E. Wolfe letter, *supra*, note 3

[50] 9 Stat. 452.

[51] Case v. Toftus, 39F. 730, 732 (C.C.D. Or. 1989).

Unlike the Citizens of the States the People of the NMI Were United Nations Trustees - Resources Protected by the Trusteeship.

Further, the CNMI distinguishes its claim to the EEZ from those of the States because of the U.N. Trusteeship. The United States held the Northern Mariana Islands as a United Nations Trust.[52] Article 73 of the United Nations Charter states that:

> Members of the United Nations which have assumed responsibilities for the administration of territories whose peoples have not yet attained a full measure of self-government recognize the principle that the interests of the inhabitants of those territories are paramount, and accept as a sacred trust the obligation to promote to the utmost, . . . the well-being of the inhabitants of those territories . . .[53]

Article 6(2) of the Trusteeship Agreement required the United States to protect the inhabitants of the CNMI "against the loss of their lands and natural resources".[54] The United States could not, consistent with its trust responsibilities, secure the agreement of the people of the CNMI to a Covenant that would deprive that people of its submerged lands and natural resources in the EEZ. Surely, the U.S. did not hand our people a passport with one hand and steal away our EEZ with another.

The parties to the Covenant negotiations agreed that title to the tidelands, submerged lands, marine lands, and filled lands would be transferred from the Government of the Trust Territory of the Pacific Islands to the Government of the Commonwealth of the Northern Mariana Islands in trust for the people of the Marianas.[55] Department of the Interior Secretarial Order 2969 authorized the Marianas District Legislature to create a legal entity to hold the submerged and other public lands in the district. Submerged lands were specifically included.[56] Secretarial Order 2989 (April 1, 1976), issued one week after U.S. Public Law 94-241 approving the Covenant came into effect, separated the Government of the Northern Marianas from the administration of the rest of the Trust Territory, and vested title to all submerged lands in the Northern Mariana Islands in the Resident Commissioner.

As successor to "all rights and obligations" of the Government of the Northern Mariana Islands pursuant to Section 13 of the Schedule on Transitional Matters of the Commonwealth Constitution,

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[52]On December 22, 1990, the United Nations Security Council terminated the Trusteeship Agreement for the former Japanese mandated islands, as to the CNMI. United Nations Security Council Resolution 683 (2972d meeting, 22 December 1990).

[53]59 Stat. 1031, 1948, T.S. No. 993 (1945).

[54] See , *People of Saipan v. United States Department of the Interior*, 502 F.2d 90, 97 (9th Cir. 1974).

[55]*Supra*, note 7.

[56]"Public lands" were defined to include "lands defined as public lands by Section . . .2, Title 67, of the Trust Territory Code, "that is, lands below the "ordinary high water mark".

the CNMI were then vested with the Resident Commissioner's title to submerged lands on January 9, 1978.

If neither Secretarial Order 2969 nor Order 2989 accomplished the transfer of submerged lands in the Northern Mariana Islands, then the job was done by Section 801 of the Covenant. Section 801 of the Covenant provides that:

> All right, title and interest of the Government of the Trust Territory of the Pacific Islands in and to real property in the Northern Mariana Islands on the date of the signing of this Covenant or thereafter acquired in any manner whatsoever will, no later than upon the termination of the Trusteeship Agreement, be transferred to the Government of the Northern Mariana Islands.

Under the law of the Trust Territory, lands below the ordinary high water mark were termed real property.[57]

Though United States v. California and the tidelands cases removed submerged lands jurisdiction from the states, for the coastal States of the Union, ownership of the submerged lands was restored by Congress in 1953 through the Submerged Lands Act.[58] Guam, the Virgin Islands and American Samoa received title under the Territorial Submerged Lands Act;[59] and Puerto Rico got its submerged land ownership by similar federal statute.[60] Such legislation is not necessary for the CNMI, however, because the submerged lands were vested in the Northern Mariana Islands by virtue of Secretarial Orders 2969 and 2989, and by Section 801 of the Covenant.

The Commonwealth distinguishes its claim to local sovereignty over EEZ resources from that of the States because of the unique Trusteeship relationship with the U.S. and because the CNMI is not the political equal of any State in the Union. It has far less political power and natural resources than the States and need not be expected to be on an equal footing with the States.

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[57] Ngiraibiochel v. TTPI, 1 Trust Territory Reports 485 (High Court Trial Division Palau, 1958). Additionally, U.S. Covenant negotiator, Ambassador Haydn Williams made it clear that the Federal Policy on Micronesian lands covered all public lands, including submerged lands: "Public land include all lands acquired by the Spanish, German, and Japanese administrations for governmental or other purposes, as well as such lands as the Trust Territory Government may itself have acquired for public purposes. Tidelands and marine lands are considered part of the public domain as well..." *Transfer of Title of Public Lands from the Trust Territory of the Pacific Islands Administration to the Districts: United States Policy and Necessary Implementing Courses of Action*, H. Haydn Williams, President's Personal Representative for Micronesian Status Negotiations (November 1, 1990), at 1. Congress has also recognized that lands described in Covenant Section 801 mean "submerged lands." Such recognition is found in Section 3(f)(4) of Pubic Law 100-298 (100th Congress 1988) the "Abandoned Shipwreck Act of 1987."

[58] 67 Stat. 29, 43 U.S.C. Secs. 1301 *et seq.*

[59] P.L. 93-435, 88 Stat. 1210, 48 U.S.C. Secs. 1705, *et seq.*

[60] P.L. 96-205, 94 Stat. 91, 48 U.S.C. Secs. 749, *et seq.*

The People of the Northern Marianas Did Not Give Away Their Marine Resources in Exchange for U.S. Passports.

The United States argues that the people of the Northern Marianas gave up claim to their submerged lands and EEZ resources in exchange for the rights of U.S. citizenship. The CNMI position is different. The Northern Marianas did not bargain away its EEZ resources when it fell under the sovereignty of the United States.

Section 101 of the Covenant says that the CNMI, after termination of the Trusteeship Agreement, will become a Commonwealth under the sovereignty of the United States.[61] The United States' position on CNMI EEZ control is that, as an incident of the transfer of sovereignty, the Commonwealth has relinquished to the U.S. any claim the Commonwealth may have had to the water and seabed surrounding it.[62] The United States says submerged lands held by the Government of the Trust Territory in trust for the people of the Northern Mariana Islands became the property of the U.S. as an incident of federal sovereignty.

The Commonwealth recognizes that Section 101 of the Covenant grants international political sovereignty over the Northern Marianas to the United States. But the political sovereignty of the United States is sovereignty in the international sense: the Commonwealth is not part of Japan, France or the United Kingdom, nor is it independent; it is under the political sovereignty of the United States. While Section 101 of the Covenant defines the place of the CNMI in the community of nations, it does not otherwise define the relationship between the Commonwealth and the Federal Government.[63]

Political sovereignty must be distinguished from proprietary ownership. The assertion of sovereignty over the Northern Mariana Islands in the international community does not grant any federal title to property in the Northern Mariana Islands. Section 101 does not grant to the Federal Government the right to own and control the submerged lands of the Commonwealth. Whatever rights the U.S. has within the CNMI must be found in the Covenant. Further, a grant of right as important as the right to proprietary ownership of the submerged lands should be express, not

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[61] Article I, Sec. 101 of Covenant, U.S. Public Law 94-242 (90 Stat. 263).

[62] Position Paper by the Special Representative of the President for Covenant Section 902 Consultations on Ocean Rights and Resources (Sept. 18, 1990), *reprinted* in Compilation of Documents from the Ninth Round of the Covenant Section 902 Consultations 59 (MacMeekin & Woodworth 1990).

[63] Thus, even though the Federal Government retains political sovereignty vis-a vis the States of the Union, since enactment of the Submerged Lands Act, it has no right to own or control the resources of the submerged lands adjacent to the coastal states.

implied from general language, particularly in an agreement between the Administering Authority of a United Nations trust and a beneficiary people under that trust.[64]

The people of the CNMI certainly did not bargain away their right to the resources of the EEZ during the Covenant negotiations. At the time the Covenant was approved, the United States did not claim an EEZ, nor was the issue addressed in the Covenant negotiations. United States sovereignty did not include EEZ jurisdiction, in the CNMI or elsewhere, at the time of approval of the Covenant. Indeed, the negotiating history of the Covenant makes clear that both parties to the Covenant intended for the CNMI to regain control of its submerged lands and marine resources which had been held in trust for the people of the CNMI by the United States since World War II.

Presidential Proclamation on the Federal EEZ[65] Did Not Sweep Away NMI Claims. Presidential Proclamation 5030 on the EEZ was made pursuant to the foreign affairs authority of the President. As such, it has primarily external affect. The Proclamation establishes that the resources of the EEZ of the United States are not available for foreign exploitation. It does not automatically establish a domestic regime for the conservation and management of such resources. This is why the Congress is considering such legislation as the National Seabed Hard Minerals Act, H.R. 2440, to implement the federal EEZ proclamation.

The CNMI established its EEZ in 1980 as a exercise of self-government under the Covenant. This occurred during the trusteeship and so was protected by Article 6(2) of the Trusteeship Agreement. Presidential Proclamation 5030 recognized that federal rights in the EEZ surrounding the CNMI were limited to the extent they are "consistent with the Covenant and the Trusteeship Agreement". Further, the proclamation by its own terms establishes only such federal sovereignty as it "permitted by international law".

The Trusteeship Agreement obligated the U.S. to protect the inhabitants of the CNMI against loss of the marine resources of the EEZ. Similarly, the United Nations Conference on the Law of the Sea mandated that the exercise of rights in the EEZ in a territory "whose people have not attained full independence or other self-governing status recognized by the United Nations shall be

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[64]In interpreting the Covenant, "all possible ambiguities should be resolved in favor of and to the benefit of the people and government of the Northern Mariana Islands." 122 Cong. Rec. 7272 (statement of Representative Burton, floor manager and a principal sponsor of the federal law approving the Covenant).

[65]U.S. Presidential Proclamation No. 5030 (March 10, 1983). The U.S. EEZ was made applicable in a limited way to the waters of the Northern Mariana Islands by virtue of parenthetical language.

implemented for the benefit of the people of the territory".[66] This principle is almost universally observed in the customary practice of nations.

Presidential Proclamation on the Territorial Sea Did Not Sweep Away CNMI Resource Jurisdiction.

In presidential Proclamation 5928, President Reagan, acting "in accordance with international law," proclaimed "the extension of the territorial sea of the United States of America, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Mariana Islands, and any other territory or possession over which the United States exercises sovereignty." The wording of the proclamation makes clear that the listed insular areas retain ownership of their territorial seas. Admittedly, it implies that the assertion of sovereignty and jurisdiction by the United States is on behalf of the insular areas. But from the CNMI view, as to its islands the proclamation is redundant. The territorial sea claimed internationally by Proclamation 5928 now just coincides with the twelve-mile territorial sea earlier established by the Commonwealth.

In 1980, the CNMI enacted its Marine Sovereignty Act defining its territorial sea at twelve miles. This action was taken during the third year of the Commonwealth's constitutional existence. The law was passed as the CNMI's right of self-government pursuant to Section 103 of the Covenant. As such, it was a legitimate expression of self-determination by the elected representatives of the people of the Northern Mariana Islands. The law was enacted during the trusteeship and so was protected by Article 6 of the Trusteeship Agreement. It was enacted at a time before the Northern Mariana Islands came under the sovereignty of the United States and so did not conflict with the U.S. limitation of its own territorial sea to three miles.

The constitutional authority for Proclamation 5928 is the foreign affairs power of the President.[67] The Proclamation extends the territorial sea of the United States to twelve miles under international law. It does not have direct domestic effect, however, without congressional action. This is true by the terms of the Proclamation,[68] and also because of the foreign affairs nature of the Proclamation. For example, in discussing the territorial sea boundaries of the States under the Submerged Lands Act, the Supreme Court has stressed the difference between the boundary as

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[66]United Nations, Law of the Sea: Official Text of the United Nations Convention on the Law of the Sea with Annexes and Index, Resolution III, at 183 (1983).

[67]Douglas W. Kmiec, Office of Legal Counsel, U.S. Department of Justice, "Memorandum Regarding Legal Issues Raised by the Proposed Presidential Proclamation to Extend the Territorial Sea" 6 (October 4, 1988).

[68]Proclamation 5928 states that nothing in its terms, "extends or otherwise alters existing Federal or State law or any jurisdiction, rights, legal interests, or obligations derived therefrom."

against foreign nations under international law and as between the State and the Federal Government for domestic purposes:

> The power to admit new States resides in Congress. The President, on the other hand, is the constitutional representative of the United States in its dealings with foreign nations. From the former springs the power to establish State boundaries; from the latter comes the power to determine how far this country will claim territorial rights in the marginal sea as against other nations.[69]

The Supreme Court decisions of U.S. v. Louisiana, and U.S. v. Florida, 363 U.S. 121, established that the States of Texas and Florida had boundaries of three marine leagues (nine nautical miles), considerably seaward of the three-mile limit of the U.S. territorial sea. In reaching this conclusion, the court rejected the federal assertion that State boundaries beyond three miles were unlawful because of the three-mile limit declared by the executive branch for international purposes.[70]

Indeed, the courts have recognized that the States may enforce their laws beyond the three-mile limit of the U.S. territorial sea. State laws which prohibit the possession of marine resources within the State even if the resources were harvested outside the territorial boundaries of the State have been upheld.[71] Similarly, a Florida law prohibiting resident fishermen from using certain kinds of fishing gear in the sponge fishery in waters adjacent to, but outside, the state's territorial sea has been upheld.[72]

Federal Ocean Resource Laws Do Not Create Federal Control Over CNMI Submerged Lands and EEZ.

The paramount rights of the Federal Government to ocean resources have thus been grounded on the equal footing doctrine (in the "tidelands" cases), the Outer Continental Shelf Lands Act [73], the Submerged Lands Act, and the Magnuson Act..[74] As discussed above, the equal footing doctrine does not apply to the Commonwealth, since it has not been admitted to the Union as a State.

The United States has jurisdiction of the outer continental shelf offshore the fifty States pursuant to the Outer Continental Shelf Lands Act. This Act, however, does not apply to submerged lands

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[69] U.S. v. Louisiana, 353 U.S. 1, 35 (1960).
[70] *Id.* at 11-12, 30-36
[71] Silz v. Hesterberg, 211 U.S. 31 (1908); Bayside Fish Flour Co. v. Gentry, 297 U.S. 422 (1936).
[72] Skiriotes v. Florida, 313 U.S. 69 (1941).
[73] 43 U.S.C. Secs 1331 *et seq.*
[74] 16 U.S.C. Sec. 1802 (21), (definitions).

seaward of the boundaries of the territories, possessions and commonwealths of the United States. It applies only to submerged lands seaward of the States of the United States.[75]

The federal Submerged Lands Act, likewise does not apply to the Commonwealth. By this act Congress restored the ownership in submerged lands to the coastal states after the "tidelands" cases took it away. Such legislation is not necessary for the Commonwealth of the Northern Mariana Islands. The parties to the Covenant negotiations agreed that the submerged lands in the Northern Mariana Islands would be returned to its people. Submerged lands were vested in the NMI by virtue of Secretarial orders 2969 and 2989, and by Section 801 of the Covenant. The interest of the United States in NMI submerged lands has always been an administrative, fiduciary interest, not a sovereign interest.[76]

The Magnuson Fishery Conservation and Management Act (FCMA) purports to place fisheries jurisdiction in the 200-mile fisheries conservation zone in the water surrounding the Northern Mariana Islands with the federal government. It deprives the Commonwealth of the right to conserve and manage its fisheries resources as a coastal people in the manner contemplated in the United Nations Convention on the Law of the Sea. In addition, it diverts the revenues generated by the fishing industry to the federal government, depriving the Commonwealth of the beneficial interest in these fishery resources.

The Magnuson Act, in the CNMI view, has never been and is not now applicable to the CNMI. As it was originally enacted the Magnuson Act did not name the Northern Mariana Islands in the definition of "United States." Regardless, the federal Executive Branch interpreted the law to apply to the Northern Marianas and enforced its provisions in a dramatic fashion. The United Sates used the law to prevent fishing by a group of Northern Mariana Islands citizens in their own traditional fishing grounds.[77] The action gained local notoriety as the "Olwol Incident." This federal interference galvanized local law makers. It became a *casus belli*. The event spurred the CNMI Legislature to enact its own Marine Sovereignty Act. The federal government sensed the

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[75] *Supra*, Note 58, Secs. 1301(a) ,(g); 1331(a). See also, Solicitor, U.S. Department of the Interior, "DOI's Authority to Lease Polymetallic Sulfides in the Gorda Ridge Area," Memorandum MMS.ER.0057 (May 30, 1985)(the Gorda Ridge Opinion). In the Gorda Ridge Opinion, at 51, n. 141: "Since the portion of the EEZ contiguous to U.S. commonwealths, territories and possessions is not off the coast of a state, this portion of the EEZ is not within the definition of the OCS under 43 U.S.C. 1331(a) ... Thus, such submerged lands do not presently fall within the leasing authority of the Department of Interior under the OCSLA."

[76] United Nations Trusteeship Agreement for the Former Japanese Mandated Islands, Article 6(2); People of Saipan v. United States Department of Interior, 502 F.2d 90, 95 (9th Cir. 1974).

[77] In 1979, the United States acted to enforce the provisions of the Magnuson Act and federal vessel documentation laws to prevent Marianas Fisheries, Inc. from fishing with the *M/V Olwol* for tuna in traditional fishing grounds within NMI waters.

intensity of the local reaction. Eventually the fishermen obtained relief in the form of a Presidential Proclamation[78]. But the battle over marine resources was joined.

The United States struck the next blow. On January 12, 1983, the Congress amended the Magnuson Act [79], granting the Northern Marianas voting membership on the Western Pacific Regional Fishery Management Council (WESTPAC) and otherwise making the Act clearly applicable to the NMI. The Commonwealth has not accepted the wisdom of this action and has steadfastly protested against application of the law.

The NMI Governor has declined to designate persons to serve on WESTPAC due to a concern that official WESTPAC participation may be deemed to be acceptance of Magnuson Act jurisdiction. Rather, the CNMI sends a non-voting observer. The Northern Mariana Islands Commission on Federal Laws recommended to the Congress that the Northern Mariana Islands be exempted from the Magnuson Act.[80] At least at one time it was also the opinion of the U S. Department of the Interior that the Magnuson Fishery Conservation and Management Act was not applicable to the CNMI.[81]

Federal pressure on the Commonwealth's EEZ has been constant. Recent amendments to the Magnuson Act [82] essentially nationalize CNMI fish resources in the name of the federal government. The amendments assert exclusive federal fisheries management authority over the fishery. Under these amendments, the U.S. Secretary of Commerce could regulate our tuna fishery, issue permits, and establish fees. All fees generated from tuna fishing in the Northern Mariana Islands would go to the United States Treasury. The CNMI demurs and vows that: "For thousands of years the sea has been our primary resource. It will not be taken from us now."

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[78] No. 4726, which suspended the application of vessel documentation laws of the U.S. in the NMI.
[79] Public Law 97-453
[80] See, *Welcoming America's Newest Commonwealth, the Second Interim Report of the Northern Mariana Islands Commission on Federal Laws* (1985), at page 114.
[81] Telex of June 22, 1979 from Office of Territorial Affairs Director Ruth G. Van Cleve to CNMI Governor Camacho and Senate President Lorenzo I. De Leon Guerrero. "This is to inform you that it is the opinion of the Assistant Solicitor, Territories, Department of the Interior, that the FCMA of 1976 is not applicable to NMI"
[82] Fishery Conservation Amendments of 1990, Public Law 101-627

CONCLUSION

The Commonwealth's claim to submerged lands ownership and control of ocean resources in its territorial sea and exclusive economic zone can be summarized as follows:

1. It should be recognized that the people of the Commonwealth are vested with ownership of, beneficial interest in, and primary jurisdiction over the resources of the submerged lands of the territorial sea and the exclusive economic zone adjacent to the Northern Marianas.
2. Exercise of the Commonwealth's rights in the submerged lands and the EEZ should conform to the national security and defense interests of the United States, and be subject to federal oversight in those areas.
3. Administration of the territorial sea and the EEZ should be done in cooperative partnership between the CNMI and the United States.
4. While recognizing a trust obligation to the Nation as a whole, the people of the CNMI feel the ocean resources of the territorial sea and EEZ should be administered with the consent and for the economic benefit of the people of the Commonwealth.

The Commonwealth's claims to ownership and control of the submerged lands and ocean resources surrounding the Northern Marinas Islands are not subject to the constitutional doctrines, statutes, and court precedents as are those of the States of the Union. The Commonwealth is *sui generis* , and the merit of its claims must be determined without reference to those doctrines, statutes, and precedents. The Commonwealth distinguishes its claim to resources in the submerged lands and the EEZ from those of the States of the Union by emphasizing the trust relationship between the Northern Mariana Islands and the United States at the time the Covenant was negotiated and the submerged lands were conveyed to the NMI.

CNMI's reach for the local self-government and local control over marine resources at times rocks the CNMI/U.S. political relationship. We ask for a federal EEZ policy that recognizes our unique political status. We entered the U.S. political family under conditions never before encountered in the Nation's history.

No other member of the U.S. political family has affiliated under the unique terms negotiated by the CNMI. We have never been conquered, ceded, given away to, or purchased by the United States. Our political association with the United States is based on a one-of-a-kind social "contract," a unique political agreement.

The Covenant promises us internal self-government. To us, our Covenant is both a detailed agreement for political affiliation and a sacred declaration of internal independence. Our contractual

demand for internal self-government grew out of a natural hunger for local autonomy and resource control After all, we suffered foreign domination for over three centuries. This created a sharp appetite for control of our local affairs and resource policy.

The United States seeks to feed us a single-menu ocean resource policy. We grind our teeth on this diet of federal-flavored policies. Federal domination replaces foreign domination. It strikes us as a betrayal of the unique political relationship we believed we had achieved in the Covenant.

While a "one-size-fits-all "policy on issues like the submerged lands and EEZ might simplify federal administrative responsibilities, it does nothing to recognize the individual aspirations and inherent rights of the CNMI. It also does nothing to create the flexible political arrangements that would allow the American flag islands to develop viable economies based on their ocean resources. It certainly disappoints those who envisioned the United States as the leader in formulating and implementing new political arrangements for the 21st Century .

Dated 27 March 1991.

CZMA Appropriations Update: The House Commerce Appropriations Subcommittee is expected to receive its funding allocations within days and quickly move to draft its fiscal year 1992 funding recommendations. The Congressional letter of support for CZMA grant funding will be sent to Subcommittee Chairman Neal Smith on Monday. About sixty House Members have signed the letter, co-authored by Representatives Studds and Panetta. Some coastal state Congressional delegations are not represented on the letter.

- CZMA Rulemaking Update: Adhering to its May deadline for publication, the EPA Office of Water has signed an order for Federal Register publication of guidance measures for state coastal nonpoint source pollution control programs. EPA plans to distribute the document to the states within two weeks. Please inform the CSO office if you need additional copies. Publication of NOAA's approval guidance is not expected for another two months.

- At the request of the Administration, the House Oceanography Subcommittee will hold a hearing on the Coastal America initiative next Tuesday, May 14. At the urging of the Subcommitte, CSO will present testimony at the hearing. Director Magnuson will testify for CSO and take issue with the Administration's budgetary policy to fund the new Coastal America initiative while simultaneously proposing to reprogram and cut CZMA grant funding.

- The Staff Advisory Committee to the NGA Energy and Environment Committee has adopted a policy position proposed by the Commonwealth of the Northern Mariana Islands (CNMI) regarding the Exclusive Economic Zone (EEZ). The policy, which pertains solely to the CNMI, asserts that CNMI has "inherent jurisdictional rights to exclusive ownership and control over resources within its EEZ." The proposed policy position will be before the governors on the Energy and Environment Committee during the NGA Summer Meeting, August 18-20, in Seattle, WA.

- In conjunction with the Territorial Sea Symposium, the CSO Ocean Policy Committee will meet on Sunday, June 2 from 1-4:30 p.m. to address important issues including the Interior draft proposed 5-year OCS oil and gas leasing program and the Senate Energy Committee OCS revenue sharing proposal. As many as 16 ocean states and territories may be represented at the meetings. OPC meeting materials will be mailed next week. The deadline for reservations at the Heathman is May 17. To reserve a room, call the hotel at 503/241-4100.

- In response to CSO's Request for Proposals to conduct a communications audit of the national coastal program, five proposals have been submitted and are currently under review by the 309 Steering Committee. The Steering Committee expects to make its decision by the end of May enabling the audit to begin in early June.

- As mentioned in the April 26 Weekly Report, the next CSO Executive Committee Meeting is scheduled for June 20-21, 1991 in Washington, D.C. Rooms have been reserved at the Phoenix Park Hotel located a block from the CSO office for the rate of $83 per night. Rooms must be reserved by May 30. All Delegates planning to attend are asked to reserve their rooms by the end of this month by calling 202/638-6900.

NATIONAL GOVERNORS ASSOCIATION POLICY POSITION
(adopted during the Annual 1991 Summer NGA Meeting in Seattle, Washington)

D-48. OCEAN, COASTAL, AND GREAT LAKES PROTECTION POLICY

48.1 Preface

48.2 Recommendations

48.3 Exclusive Economic Zone

In 1983, by presidential proclamation, the United States asserted sovereign rights over the Exclusive Economic Zone (EEZ), which extends 200 nautical miles seaward of the nation's coasts. With this action the United States acquired internationally recognized sovereign rights "for the purpose of exploring, exploiting, conserving, and managing the natural resources, both living and nonliving, of the seabed and subsoil and the superjacent waters," the protection and preservation of the marine environment, and other economic activities.

The Law of the Sea Treaty and the EEZ Proclamation fundamentally altered the legal character of the resources in this 200-mile zone. Prior to the EEZ proclamation, marine resources beyond the three-mile Territorial Sea were considered to be fundamentally international in character, because the management of these resources could affect relations with foreign nations. this characterization was the basis for a series of Supreme Court rulings that the federal government was the proper entity to assert exclusive jurisdiction and control over offshore resources. Thus, until the EEZ Proclamation, the United States' assertions of jurisdiction over resources beyond the Territorial Sea were generally based on two regimes -- a 200-mile fisheries zone in which the U.S. government claimed exclusive management authority over the fishery resources, and the regime of the continental shelf by which the U.S. claimed exclusive rights and control over the resources of the seabed and subsoil of the geographic continental shelf of the United States.

Today, by force and effect of the proclamation, the conservation, exploration, and development of the U.S. EEZ resources are domestic concerns, separate and distinct from international uses such as the high seas freedoms of navigation and overflight. Management of these resources will no longer affect relations with foreign nations. Thus, the conservation, exploration, and development of resources in the U.S. EEZ are

In light of the EEZ Proclamation, the rights and obligations of the federal government and the states in the management of the resources of the U.S. EEZ must now be re-examined. Accordingly, to carry out their new responsibilities, the Governors are committed to assuming a full partnership with the federal government in the management of the U.S. EEZ resources, and to continuing to improve their competence for ocean and coastal management.

This partnership should be based upon the recognition that the states have inherent rights and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ, stemming from their constitutional sovereignty, and the states and local impacts of exploration and development in the U.S. EEZ. This partnership should also be based upon the recognition that the Commonwealth of the Northern Mariana Islands (CNMI), Guam, and American Samoa have inherent jurisdictional rights and responsibilities pertaining to the conservation, exploration, and development of the resources in their EEZ's, stemming from traditional rights, federally approved covenants, international law, and customs and conventions that confirm the inherent jurisdictional right of the CNMI, Guam, and American Samoa to exclusive ownership and control over resources within their EEZ's, subject only to federal responsibilities for national defense and foreign affairs. Further, subject to the recognition of the unique rights of the CNMI, Guam, and American Samoa the partnership should also be based upon the recognition that the federal government has rights and responsibilities pertaining to the conservation, exploration, and development of the resources in the U.S. EEZ, stemming from its constitutional authorities and responsibilities and by virtue of the unique nature of some of the U.S. EEZ resources. Finally, the partnership should be based upon the recognition that the states, including the island territories and commonwealths, and the federal government have trust responsibilities for citizens of the nation as a whole in the extraterritorial area of the U,S. EEZ.

The Governors believe that a real and effective partnership is necessary in the management of the EEZ:

- The states should enhance their capabilities for ocean research, public information, education, and resource management.
- Federal agencies should refrain from enacting regulations that are inconsistent with the principles of partnership.

- Congress should enact legislation for the management of hard mineral resources in the EEZ based on the principles of partnership.
- Congress should establish a National Oceans Policy Commission whose membership includes several Governors. The commission should be charged with developing a comprehensive marine policy and reporting to the President and the Congress with comprehensive recommendations including the development of an active and full partnership between the federal government and the states for the management of U.S. EEZ resources.

Miki / Millie

millie

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FACSIMILE TRANSMITTAL FORM

te 17 Oct 1991 Fax No. (671) 477-1812
Pages 1 (including this page)

: Mr. Michael Ham, GU/CZM

om: JBN

bject: Please provide a copy of this memo to Mr. Peter Leon Guerrero, GTY!

October 17, 1991



ACTION MEMORANDUM #54-91

To: Mr. Joaquin Villagomez, CNMI/CZM
Mr. Michael Ham, GU/CZM
Mr. Lelei Peau, AS/CZM
Mr. Doug Tom, HI/CZM

From: Jerry B. Norris

SUBJECT: FINAL DRAFT - WGA/CSO TERRITORIAL SEA

Enclosed is the FINAL DRAFT of the aforementioned position based on the workshop held in Portland in June.

Please provide any comments to me no later than October 25 by fax. Many thanks.

JBN1A/ca
TERRITORIALSEA.017
ENCLOSURE

cc: Mr. Tim Bruce, CNMI
Mr. Peter Leon Guerrero, GU/BOP
Mr. Richard Poirier, HI/OSP
Mr. William "Dyke" Coleman, AS

Coastal States Organization

An alliance of the Coastal States, Commonwealths, and Territories providing an effective voice in the formulation, development, and implementation of national marine and coastal resource programs and policies.

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M E M O R A N D U M
October 11, 1991

TO: Territorial Sea Workshop Participants
FROM: David C. Slade, General Counsel, CSO

RE: Final Draft Summary of Workshop

Please find enclosed the final draft of the Territorial Sea Workshop held last June 2-4 in Portland, Oregon. Mr. Bob Bailey has generously given of his time to prepare this final draft. We would appreciate any comments you may have on this draft, so that we can finalize it, and prepare for potential testimony this fall on the territorial sea bill introduced by Congressman Bennett of Florida, and another potential bill to be introduced by Congressman Jones of North Carolina.

Please feel free to call either myself at the CSO Washington Office, or Bob Bailey at 503-229-6068 at the Oregon Coastal Ocean Program Office.

I thought the Portland Workshop was a great success. I enjoyed working with all of you on the Workshop, and look forward to working with you in the future work on the U.S. Territorial Sea initiatives.

CSO/WGA TERRITORIAL SEA SYMPOSIUM
June 3-4, 1991
Portland, Oregon

S Y M P O S I U M S U M M A R Y

The Bottom Line:

Extend the U.S. Territorial Sea

Coastal states and territories should promote Congressional action to amend the Submerged Lands Act to extend the U.S. Territorial Sea from three to twelve miles and provide for full state ownership of the twelve mile area.

States and territories should support expanded territorial sea claims around Pacific island states and territories to the extent of the Exclusive Economic Zone.

Issues Raised

1. The existing situation is legally ambiguous and politically unstable. The Presidential Proclamation, intended as limited international relations policy, nonetheless affects domestic policy. Only Congress can change the seaward boundaries of the United States and has not done so since 1953.

2. Extension of the U.S. Territorial Sea is not a high profile issue with either Congress or the Administration. Coastal states and territories, will need to consciously orchestrate efforts to initiate and sustain political momentum necessary to achieve passage.

3. Coastal states and territories must enlist the support of non-ocean states. Non-ocean states must be assured that coastal states will offer superior protection for the public's ocean resources, that "national" resources will not be squandered by parochial interests, and that federal agency programs are inadequate as an ocean governance framework. Appeals to western inland states should include a strong dose of "state's rights" related to natural resource management.

4. Congressional debate will likely hinge on resource protection and management issues rather than a simple boundary change. States must frame this issue in terms of previous Congressional action, through the Coastal Zone Management Act of 1972, which delegated to states the responsiblity and authority to prepare and carry out coordinated, comprehensive

coastal management programs which meet federal objectives and involve federal agencies. In 1990, Congress specifically recognized ocean planning and management as a national objective in state coastal management programs. States and territories must reestablish those principles to justify management of an expanded territorial sea.

5. States must emphasize "shared management" of ocean resources and uses in partnership with federal agencies within the territorial sea. States must take the high road and articulate a "stewardship" ethic. However, states should not rely strictly on a theme limited to "environmental protection" but rather appropriate ocean governance.

6. Not all states have the same ability or willingness to undertake ocean resources management. Some have already enacted programs for broad policy or resource management reasons, some may gain financial benefits from certain resources while others perceive no immediate or obvious benefits. The CZMA provides states with flexibility to develop ocean programs appropriate to local needs and conditions while meeting national objectives. Federal financial assistance is available to states for ocean planning and management.

7. States and territories must be prepared to address two major resource allocation/management issues



   a. OCS oil, gas, and minerals. The Administration, the petroleum industry, and perhaps some non-ocean states can be expected to strenuously object to a boundary extension. States will need to recognize existing OCS leases and activities, provide a transition to state management of future development and address "revenue sharing" among local, state and federal governments. States may want to emphasize continuing Congressional "micro-management" of individual lease sales as a symptom of an unworkable and dysfunctional OCS leasing program.

   b. Ocean fisheries management councils. Concerns about ocean fisheries management will likely be very complex and may require some sidestepping to resolve. In reality, extending the territorial sea may have minimal impact on existing fisheries conservation zones because states are already required to act consistent with management council plans for these zones.

8. The concept of revenue sharing between coastal states and federal government should be embraced as an important component of Federalism applied to the territorial sea. This would complement the fundamental element of Federalism that is the division of labor between the states and the federal government.

9. Any state/territory political strategy to extend the territorial sea boundary must recognize that Pacific island states and territories have fundamentally different cultural, historical, and political relationships with the federal government and with ocean resources than mainland states. This strategy should support territorial claims to jurisdiction over the 200 mile Exclusive Economic Zone subject to national security and defense interests of the federal government.

Next Steps

1. Coastal States Organization, Western Governors Association and others (Nat'l Governors Assoc., Western Legislative Conference, etc) should develop policy positions supporting extension and outlining policy positions.

2. Existing HR 536 (Bennett Bill) should be used as a vehicle for state/territory legislation. Companion legislation should be developed in the Senate (Sens. Mitchell, Kerry, Breaux, Hatfield?)

3. Preparation should be made by CSO/WGA to push this issue in 1992 Presidential election cycle.

4. A separate "non-federal" ocean governance study group should be appointed by CSO/WGA to address specific issues raised and develop policy options for Congressional campaign.

DRAFT



BRIEFING PAPER
Global Change/Sea Level Rise
Pacific Basin Development Council (PBDC)

ISSUE

The United Nations Conference on Environment and Development (UNCED) will be holding an "Earth Summit" in June of 1992. This conference could produce a set of international agreements, action programs and declarations that will be the most far reaching environmental initiatives ever taken on a global scale. Major areas of discussion are briefly described below:

1) Integrated coastal zone management (ICZM), and ocean management -- millions more people are living along the coasts all over the world, as a result, human activity including development, waste disposal, transportation, seafood consumption, and recreation have all put a strain on the oceans of the world. We must, without delay, begin to develop better projects to safeguard this fragile resource. ICZM is a concept which uses a pragmatic approach, various users of the coastal area need to cooperate and find a balance of uses (recreation, tourism, local fishermen, large fishing companies, research & science), ensuring success of policies and cutting down on enforcement needs.

2) Improved conservation and management of living resources -- Data on living marine resources (fish, coral etc.) should be gathered, preferably by regional area research programs funded by a pool of funds. The "precautionary approach"-- defined as the prohibition of a proposed activity affecting the oceans or coast if there is good reason to suspect harmful effects on marine ecosystems, even in the absence of scientific proof. Also, instead of reacting to issues, a pro-actionary stand should be taken. Why should it take the slaughter of dolphins and "wall of death" scenario to prompt the world to ban driftnet fishing, the effects of modern technology on our ocean resources should be studied before they are allowed to be practiced. Fishing in general should be better monitored. Regional conservation and management areas should be set aside.

3) A strengthened effort regarding land-based sources of marine pollution (LBS) -- Funded by industrial donor states, studies should be done, there should be a commitment to waste minimization and use of "clean" technology, and all states should work towards the environmental non-destructive use of resources.

4) Strengthened regional cooperation -- ocean issues know no geographical boundaries: pollution, migratory species, ocean vessels -- these things do not know boundaries. For this reason and for the reason that this expensive undertaking of research, study, regulation and enforcement needs pooled resources, there needs to be regional cooperation to safeguard the environment. Each nation has the responsibility to develop marine resources on the high seas in a manner acceptable to the international community. All rights to fish come with an obligation to carry out the responsibility of safeguarding that same resource. International agreements such as the Law of the Sea should be ratified, collection of data should be standardized and regional watchdogs established.

5) Capacity building including human resource development -- this is a concept that each nation must build up their capacity to study and safeguard their coastal and ocean resources (EEZ's). Through research, scientific study, data gathering, Geographic Information Systems (GIS), etc., each area must be able to make educated decisions regarding their ocean resources.

6) Effects of climate change on ocean/coastal management -- there is the possibility that because of a growing "greenhouse effect", temperatures all around the world could rise several degrees centigrade, and as a result, ocean levels could rise several centimeters, if not meters. Cyclonic storm formations may also become more prevalent. Nations must understand what effects they will feel, and prepare plans for dealing with these changes.

Ocean and coastal resources affect so many facets of our lives. Our economy, our sources of food, transportation, shipping, the world ecology, our cultural heritage, our social lives... all are linked in some way to the oceans which are the most productive and diverse ecosystem on earth. Over two-thirds (2/3) of the surface of the earth is covered with water. The ocean is a source of food, energy, minerals, raw materials, tourism and recreation, and transportation. It brings jobs, money, sustenance and nurtures our culture. Increasing human impact and hi-technology are straining the ocean. There are no established rules or user-rights systems on the national or international level. These must be established just as the principal of the EEZ and states rights need to be affirmed. The ocean and the environment are also significant public policy issues, the 90s have become the decade of the environment, and these issues must be addressed. But while we conserve and protect the ocean for our children, we must also strike a balance gearing up to support ocean transportation, tourism, port development, industry and human settlement.

EXISTING INTERNATIONAL AGREEMENTS

1) Bergen Declaration -- precautionary principle applies to a balanced, regulatory approach and sustainable patterns of production and consumption.

2) Tlatelolco Platform -- social equity, economic crisis, funding mechanisms are problems for small heavily affected nations. there is a need to inventory resources, set aside "special areas" for conservation; exchange data among nations; establish regional marine technology centers, and; ban the discharge of toxic waste into the ocean.

3) Ministerial Declaration of Enivornmentally Sound and Sustainable Development in Asia -- integrated approach, precautionary approach, transfer technology, regional strategy, environmental education and information, and technical assistance.

4) UNCLOS - United Nations Convention on the Law of the Sea: optimal utilization of living resources in the EEZ and states rights.

Pacific Basin Development Council

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B. Norris
ative Director

October 15, 1991

BRIEFING MEMORANDUM #53-91

To: Members, PBDC Regional Ocean/Coastal Zone Management and Exclusive Economic Zone Management Program (ROCEMP)

Mr. Eloy Inos, CNMI
Mr. Frank Rosario, CNMI
*Mr. Tim Bruce, CNMI
*Mr. Joaquin Villagomez, CNMI/CZM
Ms. Lourdes Pangelinan, GU
*Mr. Peter Leon Guerrero, GU/BOP
*Mr. Michael Ham, GU/CZM
*Mr. Muliufi F. Hannemann, HI/OIR
Mr. Charles Freedman, HI
*Mr. Doug Tom, HI/CZM
Mr. Fred Radawagen, AS/DC
*Mr. Lelei Peau, AS/CZM
*Mr. William "Dyke" Coleman, AS

From: Jerry B. Norris

SUBJECT: REPORT ON GLOBAL CHANGE/SEA LEVEL RISE PROJECT

Enclosed please find Bob Knecht's first report on global change/sea level rise project. You will recall that the Governors authorized a contract for Bob to cover this and several other projects.

I have provided each of you with the summary report as well as Bob's Status Report #1. Status Report #2 will be mailed in early November.

Bob has enclosed several documents which number over 200 pages. I have enclosed a xerox copy of the cover page of each document which is included in the materials to everyone. Two full sets of materials (as reflected by the xerox cover pages) have been sent to the individuals with an "*" before their names. By copy of this letter I am asking them to be the point of storage for all of the information.

If other members of ROCEMP need copies of the materials, please contact the "point of storage" or this office for additional sets.

Hope you find this information of interest.

JBN2/ca
KNECHT.014
ENCLOSURES

cc: Dr. Michael P. Hamnett, PBDC w/encs
Mr. Stacy Yamada, PBDC w/encs

First Report - Global Change/SeaLevel Rise Project

Submitted to PBDC

by

Robert W. Knecht

This report consists of three parts: the first part is a report on the outcome of the third meeting of the UNCED Preparatory Committee (PrepCom) held in Geneva from mid-August to early September; the second part is a brief description of the nature of discussions held during the Geneva meeting with representatives of a number of South Pacific nations (including a representative of SPREP) on the topic of UNCED, coastal management and sea level rise; and the third part outlines the activities planned for the coming months as a part of this project.

1. Report on Preparatory Committee Meeting for UNCED held in Geneva, Switzerland, August 12 - September 4, 1991

General - PrepCom #3, which concluded on September 4th in Geneva after a three and one-half week session, was, in a sense, a "transition" meeting. Up to this point in the process of preparing for the June, 1992 conference in Rio (the UNCED conference itself), the UNCED Secretariat had been largely in control (preparing issue papers, setting agendas, recommending courses of action). But at PrepCom #3 it became clear that governments were anxious to take control of the process. This was especially true of developed nations such as the United States. Yet, most governments appeared to have neither the appropriate instructions nor the political will to begin serious negotiations on the difficult issues facing UNCED. Consequently, while some progress was made in establishing positions on issues, most of the hard negotiating was put over until the final preparatory meeting in New York in March.

Handling of Ocean and Coastal Issues at PrepCom #3 - Using, in part, ocean and coastal issue papers prepared between sessions by the cooperating intergovernmental organizations (see appendix for a list of the papers), the Secretariat prepared a "background document" -"PC 69"- entitled the "protection of oceans, all kinds of seas including enclosed and semi-enclosed seas, coastal areas and and the protection, rational use and development of their living resources" (attached). While the 76-page background paper was generally well received, an accompaning document ("PC 42/Add.6"), which contained ocean and coastal options for Agenda 21 and was also prepared by the Secretariat, proved much more

controversal (attached). Dividing up the task, interested delegations (including the U.S., several Latin American nations, Sweden, Denmark, New Zealand, and Malasyia) rewrote the options document combining related items thereby reducing the number of topics from nine to six. Unfortunately, the new document, which emerged as document "WG.II/L.18", also became contentious because several delegations had added text in the rewriting process which contained positions known to be controversal, most notably with regard to two issues - the Antarctic and commercial whaling.

The six ocean topics that are contained in L.18 (attached) involve the following: integrated management of coastal areas and exclusive economic zones; marine pollution prevention and control (land-based and sea-based); sustainable utilization of living marine resources (high seas and national jurisdictions); strengthening international and regional cooperation; addressing critical uncertainties for ocean management and climate change; and human resource development.

In the final plenary session on September 4, it was decided that the L.18 document (relabelled the "Chairman's working paper of 23 August 1991"), other documents and proposals submitted to the Chairman during the 3rd session and any additional comments submitted by governments before October 15, 1991 would be combined by the Secretariat in a "compilation document" which would be submitted to PrepCom #4 in March and presumably would become a basis for negotiations at that meeting. [Note that this document (L.18) is very difficult to use in its present form because of the presence of so much "bracketed" text, that is text that represents proposals that have been put forward but not necessarily agreed to.] In addition, the Secretary-General (the Secretariat) was asked to submit to PrepCom #4 revised options for Agenda 21 taking account of UN General Assembly Resolution 44/228 (establishing policies for UNCED), the debate and decisions at PrepCom #3 on matters such as the format of Agenda 21, and the results of an upcoming meeting of experts on land-based sources of marine pollution to be held in December 1991 under the auspices of UNEP.

Thus, while forward progress has been slow and much depends on the success of the negotiations during PrepCom #4 in March, it seems reasonably likely that the following ocean/coastal items will find their way on to the June 1992 UNCED agenda:

--integrated coastal and ocean management;
--improved conservation and management of living marine resources;
--a strengthened effort regarding land-based sources of marine pollution;
--strengthened regional cooperation;
--capacity building including human resource development;
--effects of climate change on ocean/coastal management.

2. Informal Meeting With Representatives of South Pacific Island Nations and the SPREP liason to UNCED.

During the PrepCom meeting, an opportunity presented itself to meet with delegates from a group of South Pacific island nations. Attending the PrepCom from the region were representatives of the Cook Islands, Fiji, Kiribati, Marshall Islands, Solomon Islands, Tokelau, Tonga, Vanuatu, Western Samoa, and SPREP. A discussion involving five of these took place on September 2 (Fiji, Vanuatu, Solomon Islands, Tonga, and SPREP). Topics discussed included our earlier work on ocean governance in the South Pacific, the current status of FFA negotiations concerning fisheries access to the region, the status of CCOP and minerals activities generally in the region, and the sea level rise/czm issue. I brought them up to date on the on-going IPCC-related case studies of vulnerability to sea level rise and discussed the need to embark on similar studies to test the feasibility of a common (international) approach to czm. Finally, I described our present project and its support from PBDC (and NOAA) and offered to send them copies of our reports on the ocean and coastal implications of the UNCED process .

3. Current and Future Project Activities.

The first "status report" on UNCED preparations and the implications for ocean and coastal issues was issued in late July 1991 (copy attached) and distributed to primary sponsors (NOAA, PBDC, University of Delaware, and the Delaware Sea Grant Program) and several other interested groups. The second report will be issued on November 1st and will cover developments that have occurred since late July including the outcome of UNCED PrepCom #3 (Geneva) and INC meeting #3 (Nairobi). Since it is likely to be the critical meeting in the preparatory process, attendence at most of the 4th (and final) UNCED PrepCom session in New York (early March to early April) is planned.

Concerning the sea level rise/czm work, in August Prof. Jon Van Dyke (Univ. of Hawaii Law School) was asked to undertake a small study of options for the design and content of an international "instrument" (agreement) that would, in effect, lay the groundwork for a new international CZM program aimed, in part, at reducing future vulnerability to the threat of accelerating sea level rise. Discussions are now underway with the National Ocean Service (NOS) of NOAA concerning the possibility of conducting several small regional workshops focused especially on the feasibility (political and cultural acceptability; appropriateness; administrative, institutional, and legal workability, etc) of a common framework for coastal management as a part of such a program.

RWK/October 4, 1991

APPENDIX

Issue papers prepared by cooperating intergovernmental organizations at the request of the UNCED Secretariat between the PrepCom #2 and PrepCom #3 sessions included the following:

"Development of Coastal Areas and Enclosed Seas," prepared by the Food and Agriculture Organization of the United Nations (Research Paper No.4, July 1991)

"Living Marine Resources," prepared by the Food and Agriculture Organization of the United Nations (Research Paper No.5, July 1991)

"Marine Pollution Control Strategies," prepared by the International Maritime Organization (Research Paper No.6, July 1991)

"Land-based Sources of Marine Pollution," prepared by the Intergovernmental Meeting of Experts on Land-based Sources of Marine Pollution (Halifax, Canada) (Research Paper No.7, July 1991)

"Impacts of Climate Change," prepared by the Intergovernmental Oceanographic Commission (UNESCO) (Research Paper No.8, July 1991)

"Mechanisms for Capacity Building," prepared by the United Nations Environment Programme (Research Paper No.9, July 1991)

"International Institutions and Legal Instruments," prepared by the Office for Ocean Affairs and the Law of the Sea of the United Nations Secretariat (Research Paper No.10, July 1991)

"Some Reflections on Scientific Research on Marine Issues," prepared by the Group of Experts on the Scientific Aspects of Marine Pollution (Research Paper No.11, July 1991)

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THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT

STATUS REPORT NO. 1
AUGUST 1991

BY

ROBERT V. KNECHT

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UNCED AND THE OCEANS

STATUS REPORT #1
AUGUST 1991

by

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PURPOSE OF THE REPORT

In June of 1992, most of the nations of the world will convene in Rio de Janeiro for what is informally being called the "Earth Summit" or more formally, the United Nations Conference on Environment and Development (UNCED). Held on the 20th anniversary of the first United Nations Conference on the Human Environment (Stockholm, 1972), the conference could produce a set of international agreements, action programs, and declarations even more significant than those coming out of the Stockholm meeting. The Stockholm conference is credited with the creation of the UN Environment Programme (UNEP) and stimulating international agreement on the London Dumping Convention, the Convention on International Trade in Endangered Species (CITES), the MARPOL Convention (vessel-source pollution), and an eventual moratorium on commercial whaling, among other things.

Given the complexities of the current preparatory process for UNCED and the difficulty of following developments, researchers at the Center for the Study of Marine Policy, a part of the Graduate College of Marine Studies of the University of Delaware, will be preparing "status reports" on the UNCED preparatory process at approximately 3 monthly intervals during the next 12 months.* While the primary aim of these reports is to follow UNCED developments as they relate to

* Funding support for this activity is being provided by the Graduate College of Marine Studies, University of Delaware; the University of Delaware Sea Grant Program; the National Oceanic and Atmospheric Administration, Office of the Deputy Assistant Administrator, National Ocean Service; and the Pacific Basin Development Council (Honolulu).

ocean and coastal issues, we will cover important developments of general interest as well.

Our objective in preparing these reports is to assist interested members of the oceans and coastal community in following UNCED activities and in anticipating ocean and coastal-related initiatives that may emerge from the June 1992 meeting. Also, early information on emerging ocean developments may allow interested parties to better focus their efforts as they participate in the UNCED preparatory process at the national level, as a member of an interested non-governmental organization (NGO), or in other ways.

As the first status report in the series, this report necessarily contains a somewhat more detailed description of the various parts of the UNCED preparatory process. It also contains a broader discussion of the ocean issues that may be candidates for UNCED action than will be the case in reports to follow. Subsequent status reports will build upon the baseline information in this first report and, hence, will focus on new developments that have occurred since the last status report.

Brief Background of UNCED

Two major driving forces seem to be providing much of the impetus for the conference. The first force is associated with growing concern that the world's industrial societies are about to (or already have) triggered changes in the earth's climate which could, in time, have profound effects on human environments, lifestyles, and economic activities. Specifically, attention is focusing on the buildup of the so-called "greenhouse" gases in the earth's atmosphere such as carbon dioxide and methane which could, according to many scientists, have the effect of increasing the temperature of the earth's surface by as much as two to three degrees centigrade. Such an increase in temperature would likely cause important changes in weather patterns and, hence, affect agricultural production and other human activities. Also, such an increase in temperature would likely cause thermal expansion of the upper levels of the ocean and increase melting of the glaciers thus, according to recent estimates by the

Intergovernmental Panel on Climate Change, increasing global sea levels by as much as 60 centimeters over the next hundred years or so.

The second driving force comes indirectly from the widely acclaimed work done several years ago by the World Commission on Environment and Development (WCED) led by the prime minister of Norway, Gro Harlem Bruntland and reported in Our Common Future (published by Oxford University Press in 1987). The Commission concluded that environmental protection and economic development were closely inter-related and that "sustainable development" is only possible through effective environmental management involving both developed and developing nations. Principles articulated in the Bruntland report are structuring important parts of the debate that has taken place so far in preparations for UNCED.

As might be expected in a conference of this type, the list of candidate topics for possible action in Brazil in June of 1992 has grown rapidly. From the outset, it seemed likely that a new international framework convention on greenhouse gases would likely emerge, that an international convention on bio-diversity is also likely, and that some sort of international agreement on the protection of tropical and temperate forests is probable. In addition to several possible new international conventions, also coming out of UNCED in June of 1992 will be an Earth Charter and Agenda 21.

According to Maurice Strong, Secretary-General of UNCED, writing in a recent issue of Environment (Vol. 33, No.5), the Earth Charter will be "a declaration of basic principles of conduct by nations and people regarding the environment and economic development to ensure the future viability and integrity of the earth" and Agenda 21 will be a document "establishing the agreed work program of the international community for the period beyond 1992 regarding issues to be addressed by the conference and would include priorities, targets, cost estimates, modalities, and assignments of responsibility".

At this point (July 1991), it seems likely that some declarations of principles and/or new action programs will emerge in several ocean issue areas. While ocean issues per se do not head the agenda of issues being considered for

action at UNCED, they seem to be advancing in relative importance as the preparatory process unfolds. Attention is being focused on land-based sources of marine pollution, integrated coastal zone management, sea level rise, and living marine resources. However, as will be seen from the description of the "UNCED process" below, the preparatory activities now underway involve multiple interests (governmental and non-governmental) and are taking place in several different fora. Consequently, even though the Brazil conference is less than a year away, at this point it is difficult to predict the outcome of UNCED with any degree of accuracy.

THE UNCED PREPARATORY PROCESS

The work in preparing for UNCED 1992 is being carried forward on three levels: international, national, and non-governmental.

International Level

At the international level, three groups are directly involved and many others are involved in less direct ways. The three principal groups are:

(1) the UNCED Preparatory Committee created by the UN General Assembly for the explicit purpose of preparing for UNCED 1992;

(2) the Intergovernmental Negotiating Committee (INC) also created by the UN General Assembly for the express purpose of negotiating a framework convention on climate change;

(3) the Intergovernmental Panel on Climate Change (IPCC) made up largely of scientists, both government and academic;

National Level

National governments, of course, are very much involved. Indeed, national governments as sovereign nations, are the key participants in the making of international agreements and conventions.

Non-Governmental Organizations (NGOs)

Non-governmental organizations have emerged in the last decade or so as important players on the international environmental scene. More than 200

such organizations were represented at the last meeting of the Preparatory Committee in Geneva in March.

The roles of each of these groups in the UNCED preparatory process is briefly discussed below. The present status of the work of the various groups is contained in the next section of this report (see Current Status of Preparations).

1. The UNCED Preparatory Committee

As mentioned above, the UNCED "Prep Comm" was created by resolution of the UN General Assembly in 1989. It has a mandate that includes virtually all of the preparatory work for UNCED 1992 with the exception of the negotiation of the framework convention on climate change and the biodiversity agreement which are being handled in separate fora (see below). The UNCED Prep Comm, composed of member nations of the United Nations, is supported by a secretariat of 40 to 50 staff members with its principal offices located in Geneva, Switzerland. The secretariat is headed by Maurice Strong (Canada) as Secretary-General of UNCED who held the corresponding post twenty years ago on the Prep Comm for the Stockholm conference. The Chairman (presiding officer) of the UNCED Prep Comm is Ambassador Tommy Koh of Singapore who presided over the final years of the Law of the Sea negotiations (1980-1982).

The UNCED Prep Comm has slated a total of four meetings in which to do its work. The first two of these have already been held (Prep Comm #1, Nairobi, August 1990 and Prep Comm #2, Geneva, Apr/May 1992). The Prep Comm has organized itself into three working groups as follows:

Working Group I dealing with such topics as climate issues, land resources including forests, biological diversity, and biotechnology;

Working Group II dealing with oceans, enclosed and semi-enclosed seas, coastal areas, living marine resources, marine pollution, freshwater resources, and the management of wastes including toxics;

Working Group III dealing with legal, institutional and related matters.

Between meetings of the Prep Comm, the UNCED Secretariat prepares such reports and studies as may have been requested by the Prep Comm and gathers information needed for the upcoming meeting. In carrying out these responsibilities, the secretariat necessarily relies to a considerable extent on assistance from the staffs of cooperating UN organizations and others such as the United Nations Environmental Program (UNEP), the UN Office of Ocean Affairs and Law of the Sea, the Intergovernmental Maritime Organization (IMO), the Food and Agricultural Organization (FAO), the Intergovernmental Oceanographic Commission (IOC), and the International Union for the Conservation of Nature (IUCN).

The achievements of the latest meeting of the Prep Comm (#2) will be discussed in the next section of the report.

2. The Intergovernmental Negotiating Committee (INC)

Created by the UN General Assembly specifically to negotiate a framework convention on climate change, the INC includes all member nations of the UN. A small ad-hoc secretariat of about 15 people is also located in Geneva. The Executive Secretary is Michael Zammit Cutajar of Malta. Chairman of the Committee is Jean Ripert of France. At its first meeting (Chantilly, Virginia, February 1991), the INC reiterated its determination to complete a framework convention on climate change (primarily the greenhouse gases/global warming problem) and have it ready for signature or approval by the time of UNCED 1992.

To undertake its work, the INC has divided itself into two working groups.

> Working Group I deals with targets, goals, timetables, and commitments (for the stabilization and eventual reduction of greenhouse gases in the atmosphere);
>
> Working Group II deals with legal and institutional issues including the actual language of a convention.

The INC has just completed the second of five planned negotiating sessions. Results of that meeting are discussed in the next section. However, based on the debate that has so far taken place, it seems clear that reaching agreement on the difficult questions that surround the climate change issue will not be an easy task. The most contentious issue, apparently, is the extent to which the framework convention should contain actual targets for stabililization (or reduction) as compared to simply containing general obligations and principles.

3. The Intergovernmental Panel on Climate Change (IPCC)

The IPCC was created by the World Meteorological Organization (WMO) and the UNEP in 1988 to assess the scientific information that is related to the various components of the climate change issue and to provide the information needed to enable the environmental and socio-economic consequences of climate change to be evaluated. It was also charged with the formulation of realistic response strategies for the management of the climate change. To do its work, three working groups were established:

> Working Group I to assess available scientific information on climate change;
>
> Working Group II to assess the environmental and socio-economic impacts of climate change;
>
> Working Group III to formulate response strategies for dealing with climate change.

The IPCC completed its first assessment report in June of 1990 and made the results available in a series of reports including "policy-makers summaries" of the conclusions reached by the three working groups.

Of direct interest to the ocean and coastal field, is the work of one of the sub-groups of Working Group III - the Coastal Zone Management Subgroup. In a report entitled Strategies for Adaption to Sea Level Rise, published in November 1990 by the IPCC, the subgroup reported the results of a global survey of adaptive options for responding to a possible acceleration of sea level rise and laid out a comprehensive program for reducing vulnerability through a series of actions including the preparation of coastal management plans. A group of nations interested in this possibility is beginning a series of case studies to further refine and test the concept. Further developments regarding this effort will be covered in future status reports. It is possible, for example, that an action program implementing this concept could be considered at UNCED 1992.

4. Role of National Governments

As in all international deliberations of this type, participating national governments play a central role, both in shaping the products that emerge and in finally approving new conventions, declarations, and action programs. National governments prepare national reports and, individually or in regional, issue-related, or ideological groupings, prepare papers and proposals which are discussed and debated at meetings of the Prep Comm and the INC. National delegations react to issue papers and proposals drafted by other nations, the secretariat, UN-related organizations assisting the Secretariat, or by NGOs. At the end of the day when all is said and done, it will be the national governments attending the meeting who will determine what will and will not emerge from UNCED 1992.

5. Role of Non-governmental organization (NGOs)

Beginning with the Stockholm conference, NGOs have come to have a special place in international deliberations involving the environment. Through the preparation and distribution of issue papers, draft proposals, and continuous corridor discussions, NGOs seek to influence both their national delegations and the work taking place at the international level as well. On request, NGOs can attend and participate in most of the meetings of the Prep Com, the INC, and the IPCC. Initially, it was primarily environmental groups who took advantage of the opportunity to attend international negotiations of this type. Now, however, a full range of non-governmental organizations is involved. Accredited to the UNCED Prep Comm, for example, in addition to environmental organizations, are groups representing business, industry, churches, scientists, indigenous peoples, women, judges, farmers, students, labor and many others.

While NGOs per se have no formally assigned role in the UNCED process, strong efforts have been made to facilitate their participation. In fact, several important roles are played by such groups including the dissemination of

UNCED information to wide and diverse audiences on a global scale, providing expert advice to the negotiators on many of the more technical issues, and providing national delegations (and the secretariats) with the perspectives of the particular interests and concerns that they represent .

It appears from actions taken at the last UNCED Prep Comm meeting, that the term "NGO" may be replaced by the term "independent sector" which may be a more positive characterization of the interests that make up the group.

Current Status of Preparations

This portion of the status report will be used to cover developments in the preparatory process that have occurred since the last report. Given that this is the first such report, emphasis will be placed on the results of the most recent meetings of the principal groups - the UNCED Prep Comm and the INC and, to the extent appropriate, the IPCC as well*.

1. UNCED Prep Comm #2 - March 18 to April 5, Geneva

Accomplishments of General Interest - There was a general feeling that some progress was beginning to be made in coming to grips with the multitude of issues on the agenda and that the business of winnowing down the list and establishment of priorities was beginning. Working Group III (legal and institutional) was formally established which was also taken as a positive sign of progress. In addition, an agreement was reached on the participation of NGOs in the deliberations (formally accredited groups can make statements provided that they meet the twin tests of "competence and relevance" and that the intervention has been approved in advance by the presiding official).

Working Group I (WG-I) concentrated mostly on the question of forests, debating whether or not it was ready to begin discussions of the content of a new international agreement. It was decided to ask the secretariat to provide more information on all types of forests, including tropical and temperate, for the next meeting of Prep Comm. WG-I also discussed climate change and requested that the secretariat monitor the INC negotiations closely and that it further investigate the relationships between climate change and other issues such as forests, biodiversity, oceans, and agriculture and report back at the next meeting. The secretariat was also asked to follow closely the negotiations on a biodiversity convention being conducted under the auspices of UNEP and to report back the Working Group.

* Additional information on any of the points discussed below is available from the author (R. Knecht) at (302) 451-8086 or FAX (302) 292-3668.

Actions Taken with Regard to Ocean and Coastal Issues - Working Group II (WG-II) is responsible for ocean, coastal and regional seas-related issues. The process of agreeing on certain higher priority issue areas was begun at this session. The U.S., for example, tabled a paper aggregating the larger list of candidate topics into four subject areas - marine living resources, marine pollution, coastal zone management, and data and information requirements, including monitoring. After some discussion, the secretariat was asked to complete papers on the following topics for discussion and consideration at the next Prep Comm meeting (#3): Capacity-building, coastal zone management, marine pollution control strategies, living marine resources, climate change (as it involves the oceans and coasts), global ocean observing system, ocean dumping, land-based sources of marine pollution, and an appraisal of existing international legal instruments. A tenth paper will also be prepared which extracts candidate action programs from each of the above nine issue areas for consideration as a part of the Agenda 21 action plan.

Implications for UNCED 1992 - The next meeting of the Prep Comm (Geneva from August 12 to Sept 4) should be very important in terms of the ocean and coastal issue areas. Much will depend upon how well the papers being prepared by the secretariat are received by national delegations and influencial NGOs. By the conclusion of Prep Comm #3, we should have a reasonably good idea of what might emerge from UNCED 1992.

2. The Intergovernmental Negotiating Committee - Meeting #2, Geneva, June 17 to 28, 1991

Accomplishments of General Interest - Although concern had been expressed in many quarters about the slow start of the climate negotiations in the INC, some progress was made at meeting #2 in Geneva. The leadership of the two working groups was finally decided and the groups began the substantive work. Most of the discussion centered on the principles to be included in a framework convention on climate change. A wide range of principles were tabled by various delegations for consideration. The debate in WG-I on "commitments" also revealed a broad range of views from nations willing to commit to early and significant reductions to those, such as the U.S., who continue to take the position that such actions are premature.

A good bit of debate during the final stages of the meeting focused on the question of "funding", first for the negotiations themselves and later for assistance to developing nations as a part of the agreed arrangements in a climate convention. The Executive Secretary of the INC appealed for additional financial support to permit his office to provide adequate support to the negotiations. On the larger issue, most delegations supported the idea that developed nations should provide most of the funding needed to "implement" a climate agreement. Reaching a consensus on funding and on the related question of technology transfer will be one of the tougher issues facing this negotiation.

Schedule of Future Status Reports

The table below shows when future status reports in this series will be issued. The schedule has been set to take account of the timing of various meetings and conferences that make up the UNCED preparatory process and, of course, UNCED 1992 itself. (Note that certain negotiating meetings, such as those involving the biodiversity agreement, are not yet shown.)

Status Report No.2 - November 1, 1991 - Will include results coming from Prep Com meeting # 3, INC meeting # 3, and meetings of the IPCC subgroup on sea level rise/coastal management as appropriate.

Status Report No. 3 - February 1, 1992 - Will report on results from INC meeting # 4, and sea level rise related activities by the IPCC coastal zone management sub-group.

Status Report No. 4 - May 1, 1992 - Will report results from Prep Com meeting # 4, INC meeting # 5, the IPCC "Update" Conference, and a workshop on sea level rise and CZM to be convened by the coastal zone management sub-group (IPCC) in March 1992 in Venezuela.

Status Report No. 5 - July 15, 1992 - Will report the principal ocean-related results coming out of the June UNCED meeting itself. As discussed above, this could include actions related to land-based sources of marine pollution, integrated coastal zone management, sea level rise, and living marine resources.

If the schedule of important meetings changes, or if additional meetings of key groups are held, some modification in the schedule of situation reports might be made.

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Note. This report series aims to be of value to those concerned with ocean and coastal issues and their broader international context. Please contact the author at the Center for the Study of Marine Policy at the University of Delaware with any suggestions for improvements.

CAPE 92

Consortium for Action to Protect the Earth

Working together for U.S. leadership at the United Nations Conference on Environment and Development, Brazil, 1992

WORKING PAPER ON OCEANS

As the 1990 U.N. report, The State of the Marine Environment, issued by UNEP in 1990, prepared by the Joint Group of Experts on Scientific Aspects of Marine Pollution (GESAMP), illustrates, the degradation of coastal waters continues. There is ever more evidence of failing marine ecosystems. The deep sea is also beginning to accumulate toxins, and the impact on life there is as yet unknown.

The largest quantities of pollution are coming from land-based sources -- about 80% -- discharging into waterways and the atmosphere. The world lacks a strategy for effectively checking this inflow.

Pollution and overfishing adversely affect the diversity of species and functions in living marine ecosystems and the ability of those ecosystems to sustain living marine resources that benefit humankind. The role of the oceans in regulating important geochemical cycles of the earth may be impaired by pollution and the degradation of marine ecosystems. The challenge to the U.S. and the global community is to commit themselves to initiatives that will effectively reverse the decline of coastal marine ecosystems and prevent a similar decline in open ocean systems.

Recommendations

The U.S. Government should be committed to the following goals and timetables for a global strategy on the protection of the oceans to be agreed upon at the United Nations Conference on Environment and Development (UNCED):

A. Land Based Sources of Pollution (LBS): The problems of LBS pollution should be addressed by a new global convention that builds on the Montreal Guidelines on LBS. That convention should be ready by June 1993, and should incorporate mechanisms to assist developing countries through financial and technology transfer as integral components. Whether such assistance is part of a broadly based fund, such as the Global Environment Facility (GEF) that identifies marine pollution as one area of focus, a global fund or regional funds directed to LBS efforts, increased multilateral and bilateral assistance from industrialized donor states, or some combination of these, it will require significant commitments of resources.

The convention must include a commitment to waste minimization and to "clean" technologies that incorporate non-

hazardous raw materials and products along with sustainable and environmentally non-destructive use of resources. Waste prevention audits should be included as one means of promoting clean production technologies. The convention should also specify requirements for identifying sources and assessing total loadings of pollutants in marine environments. In addition, there should be a requirement to assess the effectiveness of the convention's provisions through environmental monitoring requirements, and there should be specific mechanisms for international cooperation in fulfilling those requirements. The monitoring programs should take into consideration effects on biodiversity.

U.S. Leadership: U.S. leadership is imperative. Instead of being an obstacle to the negotiation of global agreements, as has been its behavior of late, the U.S. should be an instigator and initiate the necessary steps leading to the convening of a ministerial-level meeting for the negotiation of a global convention on land-based sources of marine pollution.

B. Regional and national action plans: Regional and national plans of action to restrict land-based sources of pollution should be developed in relation to the global convention and should be adopted by 1994. Regional agreements already established and others yet to be negotiated should function as essential components of the global convention and should not become ancillary to it.

U.S. Leadership: The U.S. should continue its leadership role in the Cartegena Convention, and initiate the negotiation of an LBS protocol for the Caribbean region.

C. Global mechanism to coordinate pollution prevention: UNCED participants should follow the recommendation of the London Dumping Convention resolution by developing a strengthened global mechanism to coordinate the protection of the marine environment form all sources of pollution. This mechanism should enhance coordination of existing international agreements and international institutions concerned with marine pollution, and improve mechanisms for meeting and exchanging information. It should include mechanisms for transfer of technical and financial resources as well as mechanisms for coordinating the regulation of the multitude of pollution sources. Toward this end, a high-level intergovernmental global oceans forum should be established under the auspices of the UN General Assembly.

U.S. Leadership: The U.S. should use its leadership role in the UN to initiate the creation of such a high-level forum.

D. Coastal zone and watershed management: Coastal nations should make an urgent commitment to develop effective integrated coastal zone management programs at both national and regional

levels. Such programs should include watersheds feeding coastal areas, and should integrate land and sea resource values and uses. Integrated coastal zone management plans should be linked with the regional and national LBS action plans.

In addition to strict multiple use planning in coastal regions, there should be national and regional commitments to provide special protected status to sensitive marine ecosystems (special areas) and marine species for the conservation of biological diversity. Protected areas should prohibit or strictly regulate uses that conflict with the goal of preserving the integrity of sensitive ecosystems.

National and regional coastal zone management programs could employ economic incentives, and international guidance on these possibilities should be provided. The commitment to coastal zone management should include effective international standards for the financing by multilateral lending institutions of development projects affecting coastal environments.

Because wetlands and coral reefs worldwide are threatened ecosystems, there should be a global policy of protecting these ecosystems and an international commitment to enabling that protection through special management programs and effective mechanisms for the necessary transfer of funds and appropriate technology. The Ramsar Convention is one existing tool for implementing a policy of wetland protection, which should be expanded to incorporate a global policy of preventing further loss of wetlands.

U.S. Leadership: The U.S. should begin to provide leadership by example in establishing a strong and effectively integrated national coastal zone management program. Our National Marine Sanctuaries should be expanded as a key element of this program, and they should be provided much more protection than presently exists.

E. <u>Fisheries and mammal protection:</u> The U.N. resolution placing a moratorium on the use of large-scale driftnets in international waters after June 1992 should be supported and UNCED should ensure that the moratorium becomes a permanent ban. Fishing nations should be encouraged to take decisive steps nationally and regionally toward establishing effective fisheries management programs. The way should be opened to address the need for better management of international fisheries, including the possibility of establishing new institutional arrangements to research, monitor and protect world fish stocks, and to provide assistance to developing countries individually or regionally for the management and conservation of stocks taken in their Exclusive Economic Zones (EEZs). There also should be an international mechanism for the development and transfer of technologies that reduce the incidental catch of endangered and

unused species and the use of wasteful fishing techniques. UNCED should recommend the use of economic incentives, including import restrictions, on fisheries resources harvested at unsustainable levels.

UNCED should reaffirm the spirit of the historic resolution on whaling passed in Stockholm in 1972, by calling to extend indefinitely the moratorium on commercial whaling. Further, to protect species not covered by the whaling moratorium, UNCED should make endeavor to develop and implement a comprehensive plan for the worldwide protection of all cetacean species, which encompasses all threats from human activities.

U.S. Leadership: The U.S. should begin by implementing stricter national regulations on high-impact fishing technology such as driftnets, and by developing more holistic fishery regulations that cover strict controls on by-catches. Internationally, the U.S. should demonstrate its support for better management of international fisheries.

F. Polar Regions: UNCED should support and facilitate the permanent designation of Antarctica as a world wilderness. UNCED should support the recently concluded Protocol to the Antarctic Treaty, which bans mineral resource activities and establishes comprehensive measures for protecting Antarctica to assure no degradation of its land, air and water environments, its biological diversity, and its utility as a unique laboratory for research that depends on maintenance of pristine, natural conditions. The Protocol should be rapidly ratified, brought into force legally, and implemented. UNCED should call for the remaining gaps in protection to be filled, including provisions for liability for harm to the environment.

Similar support should be given to the negotiation of an international agreement on the protection of the Arctic, and a conservation strategy for the sustainable use of its resources. The agreement should take into account the unique and fragile character of Arctic ecosystems and the rights of the indigenous peoples to live harmoniously and sustainably within that environment.

U.S. Leadership: The U.S. maintains the largest scientific research program in the Antarctic, and is a major player in the Arctic. It should enact model implementing legislation for the new Antarctic Environmental Protection Protocol, and press for the negotiation of a comprehensive protection agreement for the Arctic.

G. Law of the Sea: All countries should ratify the Law of the Sea Convention. Toward that end, the UN should sponsor a multilateral consultation open to all nations to achieve consensus on controversial parts of the LOS Convention.

U.S. Leadership: Simply by ratifying the Convention, the U.S. would lead the international community in bringing into force this important agreement.

H. Other international agreements: UNCED should endorse the ratification and effective implementation of all international agreements relevant to protection of the marine environment. Specific conventions that need ratification and/or better implementation include two International Maritime Organization treaties -- MARPOL (the International Convention for Prevention of Pollution from Ships) and all its annexes, and the International Convention on Oil Pollution Preparedness and Response; the Basel Convention; the Ramsar Convention; CITES, which needs to be more effectively applied to marine species; and the London Dumping Convention, which needs new strengthening provisions.

U.S. Leadership: The U.S. should ratify and implement all the MARPOL annexes and RAMSAR.

I. Precautionary Approach: UNCED should support the incorporation of the precautionary approach as an overriding principle in international agreements on marine pollution. If there is good reason to suspect harmful effects upon marine ecosystems, even in the absence of scientific proof of such effects, the proposed activity should be prohibited.

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UNITED NATIONS CONFERENCE ON

ENVIRONMENT AND DEVELOPMENT

THIRD SESSION OF THE PREPARATORY COMMITTEE

GENEVA, 12 AUGUST - 4 SEPTEMBER 1991

STATEMENT BY MR I L G STEWART

NEW ZEALAND COMMISSIONER TO THE
INTERNATIONAL WHALING COMMISSION AND ADVISER TO
THE NEW ZEALAND DELEGATION

WORKING GROUP II : ITEM 2

Protection of Oceans, All Kinds of Seas including Enclosed and Semi-enclosed Seas, Coastal Areas and the Protection, Rational Use and Development of their Living Resources

Statement on Cetaceans

Monday, 12 August 1991

In this intervention I wish to address one particular part of the mandate of this Working Group under the Oceans and Seas item: the subject of cetaceans - whales, dolphins and porpoises. Decision 1/20 in para 1 (r) refers to this subject. I should like to discuss the question of cetaceans and then touch on the question of marine mammals generally. But before I do so could I note that one or two misunderstandings appear to have crept into two Conference documents, namely Document/42/ADD.6, para 34(a), and Document 69, para 80. We will be submitting corrections in written form to the Secretariat.

The background to this issue is becoming increasingly well known within the international community. Whales have been hunted in different areas over long periods of history, but only became faced with the possibility of virtual extinction in our lifetimes. In New Zealand waters, the once abundant schools of whales had been virtually fished out by foreign whaling vessels in the first half of the 19th Century. It was late in the 19th century, with the advent of steam chasers and the harpoon gun, that the real onslaught began. By the end of the 2nd World War it was realised that with the use of techniques developed to detect submarines, it was technically possible (although perhaps not economically feasible), to track down and kill the last whale left on earth. The Governments of 15 whaling countries (including New Zealand) therefore got together and signed in 1946 a Convention - a legal treaty - which was "to provide for the proper conservation of whale stocks and thus make possible the orderly development of the whaling industry". It established an International Whaling Commission for this purpose.

As we all know, the IWC signally failed to ensure the proper conservation of whale stocks. Working from the largest down, species after species was depleted to the edge of commercial extinction, often against the advice of its own Scientific Committee. Short term commercial interests prevailed over the interests of the whales. By 1972 the situation was so alarming that the UN Conference on the Human Environment, meeting in Stockholm, adopted with no opposition a resolution, designated Recommendation 33, which read as follows:

> "It is recommended that Governments agree to strengthen the International Whaling Commission, to increase international research efforts, and as a matter of urgency to call for an international agreement, under the auspices of IWC and involving all the Governments concerned, for a 10 year moratorium on Commercial Whaling."

It is a matter of real regret to my delegation (and to others, I believe) that Recommendation 33 was not accepted by the IWC, and that large scale whaling continued. Indeed Mr Chairman it was not until 10 years after the Stockholm Conference - in 1982 - that the IWC agreed on a moratorium on commercial whaling, to come into effect in 1985/86. Even then, some states lodged objections (as they were entitled to do under the 1946 Convention) and commercial whaling continued until 1988. The moratorium has therefore been in place for a little over 3 years. Even then, some IWC members have been taking advantage of a provision of the Convention which permits whaling for scientific purposes, despite condemnation of their programmes by the IWC. I should emphasise that through all this, aboriginal or subsistence whaling (where the whales are consumed by those who catch them) has continued, since this activity is exempt from the moratorium. Nobody questions the continuance of this activity.

We have now reached the point where the IWC is putting together yet another management procedure, and this may well be adopted at its next meeting in June 1992, thus unlocking the door to a resumption of commercial whaling. For those not familiar with the IWC system, a management procedure essentially determines how many whales may be killed from a certain stock.

Whaling interests in the limited number of countries involved are pressing very hard for quotas for commercial catches to be established, and this may well take place, unless outside influences intervene. The position is further confused by the decision of one whaling country to give notice of its intention to withdraw from the IWC next year, after which it will not be subject to IWC management control.

It is not that a majority of IWC members are necessarily in favour of commercial whaling; clearly they are not. But they are being driven by a 45 year old Convention which lays down procedures that almost inevitably lead back to a resumption of whaling operations.

It would be wrong to suggest that the IWC has not done good work. Its Scientific Committee has unrivalled expertise concerning cetaceans, and despite the pro-whaling bias of its Convention, the Commission did finally manage to put in place a moratorium. However, under the revised management procedure now going through the process of approval, it is envisaged that there will be a deliberate and steady depletion of the last large stock of whales left on this earth - the minke whales of the Southern Ocean. This is a region of particular interest to New Zealand, and more and more countries are coming around to the view that its great natural resources should be protected for all time.

Mr Chairman, if the situation of whales is grave, the situation of many of the smaller cetaceans - dolphins and porpoises - can only be described as desperate. The Secretariat has received a review of the status of many small cetacean species which was carried out by the Scientific Committee of the IWC, on the initiative of New Zealand and supported by many other countries at the 1990 meeting. Our thanks are due to the scientists who took part in the review for providing such a comprehensive report to guide our future deliberations.

The report reveals that three species are on the verge of extinction, and are down in number to the few hundreds. The status of several other species is unknown, but of concern, while many of the formerly abundant species are now greatly reduced. It is estimated that over 7 million dolphins have been killed by purse-seining for tuna in the eastern tropical Pacific in the last 25 years or so.

New Zealand's position on driftnet fishing on the high seas is well known, and I should like to acknowledge the work which was carried out in producing another major report which is available from the Secretariat for our consideration. The October 1990 Workshop on the Mortality of Cetaceans in Passive Fishing Nets and Traps drew together the available scientific information on the effects of coastal gill-nets and high seas driftnets on both large and small cetaceans. The report confirms that the modern nylon gillnet, is responsible for the deaths of hundreds of thousands of whales and dolphins each year.

In addition, small cetaceans are taken by many countries within their Exclusive Economic Zones for human consumption, and are also killed by fishermen for bait or because they are thought to be interfering with fishing operations. A further serious threat, especially in the coast seas around industrialised areas, is pollution. Because they are long-lived top predators, small cetaceans accumulate high levels of pollutant in their body tissues.

The threats to small cetaceans are many and varied, and it is perhaps not surprising that the international community has so far been unable to develop an integrated response to their global conservation. The United Nations Environment Programme has provided a number of helpful initiatives, in particular the Marine Mammal Action Plan. The IWC has provided a valuable focus for scientists to come together to discuss the status of many species, but there is a major difference of opinion amongst member states concerning the IWC's competence to deal with management issues related to small cetaceans and this has inhibited direct action being taken. New Zealand, like many other IWC members, holds the view that the Commission

is empowered to manage all species of cetaceans, but some other members maintain that only large whales can be managed through the IWC. In the IWC we have however agreed to consider small cetaceans without prejudice to the positions of member governments regarding sovereignty over their 200 mile zones, and we would hope that a similar understanding could be reached in UNCED.

Article 65 of the U.N. Convention on the Law of the Sea stipulates that in the case of cetaceans, states should work through the appropriate international organisations for their conservation, management and study. For dolphins and porpoises there is no generally accepted organisation. The Convention on Migratory Species (Bonn Convention) provides for the establishment of regional agreements, but has only a small number of signatories. Some regional fisheries agreements may refer to interactions with small cetaceans in a particular area, but on the whole, dolphins and porpoises largely fall through the gaps. There is an urgent need for the international community to consider how endangered stocks and species of small cetaceans can best be managed.

Pending the elaboration and agreement of a comprehensive international management regime for small cetaceans, New Zealand believes that the International Whaling Commission should continue with its valuable scientific work on small cetaceans. Furthermore, until a management regime is concluded, my delegation believes that governments should act promptly on the recommendations addressed to them by the Scientific Committee, which provides the best available scientific advice on the status and management options for small cetaceans.

The question facing us is: What can the Earth Summit do to ensure that <u>all</u> cetaceans - large and small - will be preserved for future generations? What sort of statement should our leaders at Rio be making about the future of cetaceans, leading into the 21st century? We suggest that UNCED could start off by looking back to the 1972 Stockholm Conference, and noting what has happened to the whales, under IWC's direction, in the intervening 20 years. It should then conclude, in our view, that the 1972 decision recommending a 10 year moratorium was the correct one, and should be strongly reaffirmed in 1992. It would then be appropriate to consider whether IWC under its 1946 mandate is adequately equipped and oriented to bear the responsibility for managing whale stocks into the 21st century. Is it representative, and does it fairly reflect the attitudes and aspirations of the international Community? Does its limited membership stem partly from the need for new members to ratify a 1946 Convention with which they have little sympathy? Should small cetaceans be left without effective management protection because of a dispute on competence within the membership of the IWC?

Obviously questions of this far-reaching nature - and those that other delegations will undoubtedly have - could not be dealt with adequately in the limited time available before or during the UNCED meeting. It is vital however that the opportunity not be lost, and that UNCED put in place the machinery to enable these questions to be considered, and decisions to be taken.

Applying this initiative to Agenda 21, we would therefore propose the inclusion of a recommendation for an international conference to be held by 1995 under U.N. auspices, with the widest possible representation, to review the responsibilities and activities of agencies engaged in cetacean research, protection and management, and to consider whether any changes to the existing arrangements may be required.

My delegation therefore wishes to propose the inclusion in Agenda 21 of appropriate references on these subjects.

In para 34 of Secretariat document PC42 Add 6 on possible options for Agenda 21 we would propose the following amendments to what is before us:

Leaving aside the specific of the chapeau to this paragraph we would delete sub paragraph (a) and replace it with the 3 following sub paragraphs:

- Affirm the validity of the 1972 U.N. Conference recommendation that there should be a 10 year moratorium on Commercial Whaling and call for its full implementation;

- Welcome the IWC report on small cetaceans and urge IWC to continue this work, and governments specifically concerned to act promptly on the recommendations of the IWC's Scientific Committee on this issue;

- Call for a diplomatic conference with the widest possible participation to be convened under U.N. auspices by 1995 to review the international machinery for the protection of all cetaceans, and to consider the most effective means for providing cetacean research, conservation and management into the 21st century.

If this is acceptable this would of course require subsequent renumbering of the remainder of this paragraph.

Consistent with these proposals we would see no reason for retention of the reference to the IWC in sub paragraph (c).

We do not see this proposal on cetaceans as being in any way in conflict with the principle of the sustainable use of living marine resources. Whale stocks cannot be compared with, say, fisheries resources. They include the largest animals ever seen on this planet, with brains larger than and almost as complex as our own, making them in a sense the equivalent in the marine environment of human beings in the land environment. They have a low rate of reproduction but scientific knowledge about them is very limited; they can be gravely damaged by incorrect management decisions. Whereas 95 per cent of fish catches are caught in countries' coastal areas, whales inhabit the world's oceans and are not the exclusive resource of any one nation. Once, whale products were needed to meet essential human needs. That is no longer the case. There is no longer any whale product for which substitutes are not readily available. Increasingly, coastal states are recognising the economic contribution that can be provided by live whales, in the form of whale-watching and eco-tourism. This is certainly the case in New Zealand, and we would be pleased to share with interested delegations our experience in this area.

From these proposals it will be clear that we see these cetacean issues as central to the inter-relationship of environmental concerns with economic development. It is our hope that the way in which UNCED addresses these issues of whales and other cetaceans will be symbolic of the international community's ability to manage natural resources responsibly, not just for the present but looking well into next century.

This completes the outline of our proposal. We look forward to discussing it further with interested delegations and other participants. I would point out also that although we have limited the purview of the proposed international conference to whales, dolphins and porpoises, it would be possible to extend its mandate, if this was considered appropriate, to all marine mammals. We would be interested to hear the views of other delegations on this point.

We have a chance to turn a new and brighter page in the long and sorry history of whaling, to approach these awe-inspiring, intelligent and unique creatures from the viewpoint of their intrinsic worth, as fellow denizens of planet Earth, with perhaps much to teach us, rather than as potential steaks or pet food. In this way we would respond positively to the fears and concerns about the future of whales that have been expressed by millions of people around the world. The opportunity may not come again. Let us seize it with both hands.

PRESIDENCE DES COMMUNAUTES EUROPEENNES

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PRESIDENCY OF THE EUROPEAN COMMUNITIES



THIRD SESSION OF THE PREPARATORY COMMITTEE

FOR THE UNITED NATIONS CONFERENCE ON

ENVIRONMENT AND DEVELOPMENT

(Geneva, 12 August-4 September 1991)

STATEMENT BY THE REPRESENTATIVE OF THE NETHERLANDS ON BEHALF OF THE EUROPEAN COMMUNITY AND ITS MEMBER STATES

WORKING GROUP II

AGENDA ITEM 2 :

PROTECTION OF THE OCEANS AND ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

(GENEVA, 12 AUGUST 1991)

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Final

Mr Chairman,

1. The Netherlands delegation has the honour to speak on behalf of the European Community and its Member States.

2. We wish to start with complimenting the secretariat on the extensive job it has done in such a short period since PrepCom II: the documents PC 69 and 71, and the paper on Options for the Agenda 21 addendum 6 to PC/42, present many good ideas on the issues at stake "protection of the oceans and other seas" but we have difficulties with some of the proposals.

3. We do however feel the need to repeat the two general lines of our intervention during the meeting of PrepCom II, and to elaborate them a little further in relation to the present documents:
a) In our view the principles to be respected when formulating international and national policy are strict application of the Precautionary Approach, as well as of the Polluter Pays Principle; these are practically the same for any major environmental issue and are essential for the normative objective of sustainable management of the oceans;
and
b) the international emphasis should be directed at formulating a stimulating and committal policy for execution taking also in due consideration the already existing provisions of UNCLOS at regional level, rather than a new global treaty-like instrument for management of the oceans or a new global forum on ocean issues.

4. Consequently in the draft proposals for action on this issue, the political commitment to take measures as a matter of precaution should come forward even stronger than at present. However important we think monitoring activities and creation of databases are, a lack of these may never be a reason for postponing measures. This may be reflected by way of prioritising suggested actions. The priorities should include the start or revitalization of regional cooperation and agreement on policy-targets as concrete as possible with target-dates.

5. The European Community and its Member-States support the wide aspirations as listed in the document PC/42 addendum 6, and particularly acknowledge the importance of International Decisions and Conventions in this field, notably UNCLOS. It is important that the proposals for action should not jeopardize or conflict with the provisions of UNCLOS. We consider it important to reach agreement about such program of activities that uses the best of existing international agreements, and to give new impetus to them where needed.

In particular we wish to mention the importance of ratification of Conventions that have as objective to prevent pollution of the seas by activities, such as London Dumping Convention and relevant shipping and transport Conventions by those States that have not ratified sofar. New global regimes concerning off-shore-activities, and for adequate regulation of liability and compensation are beeing considered in other fora. But also other Conventions that are relevant for an effective protection of the seas deserve mentioning: the Basel Convention on transfrontier Movements of Hazardous Wastes and the UN/ECE-Convention on Environmental Impact Assessment in a transboundary context.
The program must call upon the executive bodies of these international agreements to further elaborate on the lines of activities set out in the Agenda 21 towards the highest level of protection of the seas. Particularly we want to support the international tendencies to provide the highest level of protection of the marine environment by preventing, eliminating and ultimately ban all forms of ocean dumping of industrial and other hazardous wastes.

6. Whereas the emphasis of activities should be at the regional level, general guidelines and support systems could be developed at the global level. We would like to underline at this point that the European Community itself has well defined existing policies concerning fisheries and environment and that account will have to be taken of this in the draft proposals for action.

The European Community and its Member-States see the need for a strong unit for stimulating and coordinating new regional activities, revitalizing existing regional agreements, and facilitation of activities by way of facilitating technology- cooperation, and the transfer of policy-knowhow and experiences on the areas not covered by more competent global agreements. We believe that UNEP would be an excellent choice for this role, which would be stimulatory, rather than supervisory.

We do not believe that a heavy machinery comprising a new high-level intergovernmental body would serve the objectives of effective and operational protection of the marine environment. The Governing Council of UNEP and the General Assembly of the UN are the appropriate bodies for reviewing the progress made at regular intervals.

7. With respect to marine pollution from land-based sources the afore-mentioned principles and organisational approach apply even stronger:
First: a regional cooperation in whatever way that might be chosen by States and proves effective, preferably within the framework of regional conventions, taking account of environmental circumstances, regional priorities and levels of development. In this respect we want to stress the advantages of cooperation of riverine States; this has not been sufficiently elaborated upon in the documents.
And second: this regional cooperation supported by a global unit for stimulation and facilitation under the flag of UNEP.

We want to stress that there is in our opinion no need for a new global treaty-like instrument for effectively operating on this issue; there is a risk that efforts to establish a global treaty-like instrument may impede the soonest possible progress at regional level.

We agree that effective regional cooperation should be the basis to prevent marine pollution from land based sources including pollution that reaches the sea by the atmosphere but that guidelines are needed and should apply to all regions. UNEP'S Montreal Guidelines from 1985 form a major step towards a comprehensive approach. Key elements of this strategy must be an integrated policy to tackle all types of degradation in the marine environment, the Precautionary Principle and the Polluter Pays Principle, and the use of the best available technologies. We think the Intergovernmental Meeting of Experts that will meet by the end of this year should be instructed with a strict mandate calling for such framework, building upon the results of the Halifax Intergovernmental Meeting of Experts.

Within regional agreements provisions should be taken up for the enforcement of the application of generally accepted policy and internationally agreed measures.

In developing a comprehensive approach it should be taken into account that the Global Environmental Facility, still in the pilote phase, is already beeing used to fund measures to protect international waters.

8. We urge that UNCED recognizes the importance of integrated coastal management planning and that UNCED adresses the many global environmental issues that confront the world's coastal zones. However, some of the proposals listed in the Secretariat's paper cause considerable difficulties to the EEC and its Members'States. In our view CZM is a tool to both protect the coastal environment while working towards the goal of sustainable development. CZM should be integrated into the proposals for action.

   Integrated management of coastal zones and marine living resources should be related to the policy towards pollution from land-based sources. A similar regionally oriented approach seems most appropriate.

9. Finally, building capacity inter alia through providing information is a necessary condition for sufficient public awareness and by that for a strong political commitment. We are sure that this strong political commitment, internationally and nationally, is crucial for taking such precautionary measures that are adequate for ensuring a sustainable management of the ocean environment.

STATEMENT OF JAPAN
AT THE THIRD SESSION OF THE PREPARATORY COMMITTEE
FOR THE UNITED NATIONS CONFERENCE ON
ENVIRONMENT AND DEVELOPMENT

WORKING GROUP II

PROTECTION OF OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES:

August 13, 1991

GENEVA

Mr.Chairman,

First of all, my delegation would like to join the previous speakers who appreciated the Secretariat's work which produced the useful documents for the consideration by W.G.II.
I would like to make comments on some of the program areas proposed as options for Agenda 21, in Doc.PC/42/Add.6.

1. MANAGEMENT OF HIGH SEAS: LIVING RESOURCES

My delegation highly appreciates the initiative of FAO and the United Nation's Office for Ocean Affairs and the Law of the Sea (UN/OALOS) which led to holding the expert consultation on the legal aspects of the high seas fishery issue from July 22 to 26 this year in New York. We support the further and continuing efforts of FAO, which has the competence in world food production, and UN/OALOS as the guardian of the Law of the Sea in enlightening us for reasonable guidelines on responsible high seas fisheries. In the process of making such guidelines, the interests of all states, including fishing, coastal, land-locked and geographically disadvantaged states, should be duly reflected without reopening the discussions at the Third United Nations Conference on the Law of the Sea. Also, the drafting history of pertinent provision of the Convention should be respected.

My delegation believes that each nation has a responsibility to develop high seas living marine resources in a manner acceptable to the international community, while protecting their reproductive capability. Freedom of fishing on high seas can be exercised only when a nation fulfills certain obligations to carry out this responsibility. Those obligations, which are applicable to all fishing activities, should be fulfilled on a nation-by-nation basis or through an appropriate regional or international framework.

At the last preparatory committee my delegation proposed the five criteria for obligations of high seas fisheries states. They are, (1)the necessity of conservation and management on a sustainable

basis based upon the best available scientific information, (2)the transparency of high seas fishing activities by adopting a monitoring program including the standardized collection of scientific data and the deployment of scientific observers etc., (3)reduction of the incidental taking of non-target species by improving the selectivity of fishing techniques, (4)the implementation of scientific research and study activities to better understand resource conditions and (5)responsible enforcement activities.

My delegation wishes that these points will be duly incorporated in the process of the development of guidelines by the FAO and UN/OALOS.

Among the criteria mentioned above I would like to elaborate on the third one relating to incidental catches.
Para 102 of Doc. PC/69 states, "Even when carried out responsively, fishing will inevitably capture non-target species in small numbers. Substitutes for some types of fishing gear cannot readily be found to meet excessively rigorous criteria. Unduly restrictive norms may bring many forms of commercial fishing to an end". We share the view since we recognize that all fisheries, more or less, experience incidental catch problems. In order to manage incidental catches it is important to know scientifically the impacts that incidental catches will have on the population of the species incidentally caught and what an acceptable level of the incidental catches to the population should be.

In relation to high sea fisheries and incidental catches I would like to express our views on high seas driftnet fishing. The Japanese basic position on high-seas driftnet fishing is to deal with this issue in accordance with the 1989 and 1990 UN resolutions on large scale pelagic driftnet fishing. Bearing in mind the provision of the UN resolutions calling for the best available scientific data, Japan has been positively conducting scientific research and study activities on the effects of this fishery. These activities include the deployment of scientific research vessels, the deployment of scientific observers from Japan, Canada, and the United States on board Japanese commercial driftnet vessels (98 vessels in 1990) and the collection of scientific data on the catch of target and non-target species. Japan has been conducting these activities in close cooperation with Canada and the United States and agreed with these countries to continue the program in 1991.

As a part of a process required by provisions of the United Nations resolutions, scientists from Canada, the United States, Japan, China, the Republic of Korea, the United Nations, Australia and the International North Pacific Fisheries Commission met in Sidney, British Columbia, Canada from June 11 to 14, 1991, and reviewed scientific information concerning driftnet fishing in the North Pacific.
Productive discussions were held on a wide-range of issues surrounding driftnet fisheries, and progress was made in

identifying the magnitude of harvests and the impacts of driftnet fishing on the marine resources of the North Pacific. Discussions also included consideration of alternative fishing techniques which may offer more selective means of fishing to overcome problems associated with incidental catches.

Furthermore, a Scientific Symposium, to be hosted by the International North Pacific Fisheries Commission, scheduled to be held in Tokyo, in November, 1991, is expected to provide an opportunity to deepen further scientific discussions on driftnet fishing and our understandings of its impacts on marine living resources.

On the basis of analysis of the statistically sound data obtained through joint observer programs Japan has been making efforts to develop the most effective conservation and management measures of living marine resources to control the impact of driftnet fishery.

With regard to Para 20(b) of Doc PC/42/Add.6, referring to the UN resolution 44/225, our delegation feels this paragraph is not properly formulated. We would like to discuss it later in the course of the meeting.

2. MAINTENANCE OF ECOSYSTEMS AND MARINE BIODIVERSITY

My delegation places great importance on maintenance of ecosystems and marine biodiversity.
With reference to the conservation of marine mammals, we are of the view that the appropriate management and rational utilization of marine mammals should be based on scientific information and analysis. This approach is well described as the objectives in the International Convention for the Regulation of Whaling (IWC) and the Convention for the Conservation of Antarctic Seals.

Since the inception of the moratorium on all commercial whaling in 1986, the IWC has been studying the way to rationally manage whale resources, mainly within the Scientific committee. In particular, at the 43rd annual meeting this year, certain progress was made in developing a management procedure for whale resources.

IWC also collected and analyzed a great deal of scientific information on whale resources. It has been conducting sighting surveys on the resources in the Antarctic for thirteen years since 1978. This program is one of the best examples of international cooperation of field research activities. Japan has been supporting and wishes to continue to support the program by providing its research vessels and researchers.

My delegation would like to reiterate that the proper conservation and rational utilization of marine mammals can only be achieved based upon scientific information obtained through these research activities.

With regard to Para 34(a) of Doc. PC/42/Add.6, we feel that this paragraph describes the mandate of IWC in an incorrect way. We would like to come back to this point later.

3. LAND-BASED MARINE POLLUTION PREVENTION AND CONTROL

Concerning the land -based marine pollution, we are of the view that solutions lie in a regional approach. In this connection, we support the UNEP's regional program together with the Montreal Guideline.

4. SEA-BASED MARINE POLLUTION PREVENTION AND CONTROL

Paragraph 47 of Doc.PC/42/Add.6 refers to various target years. I understand that time targets often help to make the work effective. However, in my opinion, the time targets should be set out within the respective organizations. In the framework of London Dumping convention member states have been discussing the long-term strategy. I would like to suggest that W.G.II recommend the fora concerned, namely London Dumping Convention and IMO, to consider the target time frame for their own work.

5. STRENGTHENING INTERNATIONAL AND REGIONAL COOPERATION

My delegation supports the idea of strengthening existing international arrangements at the national, regional and international levels, which Japan implements faithfully and effectively.

With regard to the ocean affairs, various UN agencies, such as IMO, UNEP, IOC and FAO have dealt with their problems within their own mandate and we think they should continue and strengthen their efforts.

Coordination among such organizations should be promoted. The modalities of coordination should be examined by the W.G.III. Concerning the idea of convening the Conference on Ocean Affairs every 5 year, which is mentioned in PC/42/Add.6. Paragraph 60, subpara (d), and also the proposal of establishing a Standing Commission on Ocean Affairs, which is mentioned in subpara (g), I think that these ideas should be further considered in the context of the follow-up mechanism in W.G.III. At this moment my delegation can not support the ideas and therefore suggest to delete subparas (d) and (g).

Thank you very much.

STATEMENT BY JOHN P. BELL, HEAD OF THE CANADIAN DELEGATION

THIRD PREPARATORY COMMITTEE OF THE UNCED

PROTECTION OF THE OCEANS AND ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING MARINE RESOURCES

AUGUST 1991, GENEVA

Mr. Chairman,

First I would like to thank the UNCED Secretariat for the excellent documents it has prepared on the sustainable development and management of oceans and seas (PC/68, 69, 70, 71, 72 and 42/Add.6) for consideration by this PrepCom. In particular I would like to flag the documents on institutions and legal instruments, and on options for Agenda 21, which will help focus our discussions and identify concrete steps for endorsement by UNCED. These documents draw the important link between marine environmental quality and economic development opportunities, particularly in coastal areas which rely heavily on fishing, tourism and recreation, and other marine-based activities.

The health of our oceans and the effectiveness of our current efforts clearly call for a new approach to ocean management which builds on the United Nations Law of the Sea Convention and existing regional sea agreements. Particular attention should be directed to land-based sources of marine pollution, coastal zone management and the conservation and protection of living marine resources. This requires that we consider ways to improve the linkages and cooperation among international institutions active in this area. It also requires that we further identify and clarify objectives, goals, and activities worthy of further consideration by all levels of government, and along the lines of the UNCED document PC 42/Add.6 dealing with Ocean Options for Agenda 21. In this connection, coastal zone management activities have a direct influence on other issues, such as land-based sources of marine pollution.

As far as the role and actions of international organizations and institutions, Canada supports the use and strengthening of existing organizations and institutions, rather than the establishment of new ones. Canada urges the development of practical measures based on existing principles of the Law of the Sea Convention. Concrete progress must and can be achieved.

For example, Canada strongly believes that we cannot afford a "ten-year timeframe" to deal with the current problems affecting the living marine resources, as suggested in paragraph 19 of PC/42/Add.6.

Since we last met there have been several important international conferences and meetings which have a bearing on our work here today. Of particular note are the Halifax Intergovernmental Meeting on Land-based Sources of Marine Pollution in May and the July ACOPS International Conference on Land-based Sources of Marine Pollution in Brussels. Ocean environmental issues were also discussed at the UNEP Governing Council in May and at the G-7 Economic Summit in London in July.

As well a meeting of legal experts was convened recently in New York by the UN office for Ocean Affairs and Law of the Sea to discuss problems affecting the conservation of living marine resources and to develop effective management guidelines.

Many of us attended the Halifax meeting which was called for by the First PrepCom. As requested by the Second PrepCom, I am tabling the Halifax results here today in the form of the Meeting Statement, Conclusions and Recommendations, and Annexes on the four Working Group discussions. I would like to briefly outline its main conclusions and recommendations.

- First, land-based sources of marine pollution should be seen within the context of a broad, overall concern for the health of our oceans and seas.

- Second, we must adopt a comprehensive, sequential and coordinated approach based on action at the global, national, regional and local levels.

- Third, in developing ocean management strategies, there is a continuing need for scientific information, but deficiencies in scientific understanding should **not** limit our actions.

- Fourth, States should adopt, individually or jointly, and in accordance with their capabilities, precautionary measures to prevent, reduce and control pollution from land-based sources.

- Fifth, point-source pollution should be reduced and controlled at source rather than at the point of environmental release.

- Sixth, the reduction and control of non-point source pollutants requires broad changes in sewage and waste management, and practices in agriculture, mining, construction and transportation. Although not mentioned in

the Halifax results, I would respectfully suggest forestry be added to this list.

- Finally, a coherent strategy, whether on a national, regional or global scale must be based on a commonly accepted set of principles, contain a set of goals to be achieved and prescribe the essential elements of environmental management at the national level.

Mr. Chairman,

These are important results and should be incorporated into all aspects of the UNCED work on oceans.

In addition, Halifax experts called on UNCED to recognize the urgent nature of the problem of land-based sources of marine pollution, and to confirm the principles necessary for establishing a global strategy for addressing land-based sources. They agreed to reconvene, preferably before the end of this year, to develop a declaration, a strategy and action plan for adoption at UNCED, with the results of the follow-on meeting to be presented to PrepCom IV and incorporated as an important chapter in Agenda 21. They recommended that Canada be requested to continue as lead country in this process, in cooperation with the UNCED Secretariat.

At the May UNEP Governing Council Meeting in Nairobi, Canada presented the results of the Halifax meeting. While the Halifax Meeting recommended that Canada continue to be the lead country on land-based sources of marine pollution (LBSMP) the UNEP Governing Council (May 20-31) offered to host the next Intergovernmental Meeting of Experts, due in large part to UNEP's Regional Seas Programs. Canada and others supported this offer on the understanding that it would continue the work begun in Halifax and would be based on policy guidance provided by the Third Preparatory Committee of UNCED. Specifically, the results of the follow-on meeting of experts should be presented to PrepCom IV for consideration and further elaboration in that forum. Canada supports the lead role of UNCED in articulating a comprehensive approach to ocean environmental issues, including land-based sources of marine pollution. Canada will continue to take an active role in the development of such a comprehensive approach.

UNEP Governing Council decision 16/26A authorizes the Executive Director to convene, subject to the availability of resources, such a meeting and to initiate preparations without delay. Should UNEP have insufficient funds to host the next Intergovernmental Meeting of Experts on Land-based Sources of Marine Pollution, Prep Com III should consider contingency plans to continue this needed work. This could include requesting the UNCED Secretariat in collaboration with its working party on

Oceans to prepare a draft declaration, strategy and action plan for consideration at Prep Com IV.

The ACOPS Conference on Land-based Marine Pollution (July 3-5) made particular reference to the need for progress within UNCED. This would include the transfer of technology to developing countries and the integration of economic and financial measures in the legal instruments selected to address the problem. While some delegates focused on regional approaches, others emphasized the need to integrate them into a global framework of objectives and priorities. The concluding statement of the conference emphasizes the link between poverty and marine pollution (hence the need for transfers of financial resources and technology); the need for action on land-based sources, at the global, regional and national levels; and the importance of coastal zone management.

At the July Economic Summit in London, G-7 Leaders discussed ocean environmental issues including the conservation and protection of living marine resources. Prime Minister Mulroney noted the importance of oceans to Canada's economy and environment, and underlined the need for a comprehensive and global approach covering, inter alia, land-based sources of marine pollution, coastal zone management, and the conservation and protection of living marine resources. In the final communique, based on our Prime Minister's intervention, Leaders stated that they "seek to promote, in the context of UNCED, a comprehensive approach to oceans, including regional seas. The environmental and economic importance of oceans and seas means that they must be protected and sustainably managed." They also stated that "living marine resources are threatened by over-fishing and other harmful practices and should be protected by the implementation of measures in accordance with international law. We urge control of marine pollution and compliance with the regimes established by regional fisheries organisations through effective monitoring and enforcement measures."

The issue in particular of fishing on the high seas of stocks that straddle the 200-mile limit is of fundamental importance to Canada. At the recent meeting in New York of legal experts on high seas fisheries, the necessity to conserve these resources and to cooperate within more effective regional fisheries organizations was recognized. Suggested guidelines were discussed which identify what the responsibilities of fisheries organizations should be. At the meeting a draft proposal by experts from Canada and seven other countries was tabled for further consideration. It outlines specific principles and measures for an effective regime for conservation and management of living resources of the high seas based on the Law of the Sea Convention.

In this regard, key elements include:

- the duty of high seas fishing countries to adopt and enforce conservation measures, to cooperate and to support the work of regional conservation and management authorities established to protect living marine resources in areas where they fish.

- for members of regional organizations, quotas and other rules must be effectively enforced.

- non-members of regional organizations must respect the conservation and management decisions of those organizations.

- high seas fishing must not have an adverse impact on the resources under the jurisdiction of coastal states.

- the management regime applied to the high seas portion of a straddling stock must be consistent with the management regime applied by the coastal state in its adjacent zone.

Mr. Chairman,

I would like to turn now to the future to sketch a picture of where we envisage international discussions on oceans going from here, and drawing implications for the work of UNCED.

Canada strongly believes that ocean environmental issues need to be addressed in a comprehensive and integrated manner. This is the approach suggested in UNCED document PC/42/Add.6 on Ocean Options for Agenda 21 and we fully support it. Part of this approach could be the development of a comprehensive set of principles on all aspects of oceans, along the lines of the contribution made by the U.S. delegation to UNCED Working Group II discussions. Another aspect would be the development of global strategies and action plans on key issues, as was proposed at the Halifax meeting for land-based sources of marine pollution.

Action needs to be taken on ocean environmental issues at all levels internationally: global, regional, national and local. While we support the need for cooperative action at the regional level, we must not lose sight of the fact that the oceans are part of the global commons. Many problems considered to be local in nature, such as sewage treatment and disposal, are in fact present on a global scale. Moreover, national decisions and practices ultimately affect marine environmental quality far beyond national coastal areas and exclusive economic zones. A prime example of this is marine environmental contamination in the Arctic and its impact on Inuit and other natives.

Special attention needs to be paid, on an urgent basis, to three key issues: land-based sources of marine pollution; coastal zone management; and conservation and protection of

living marine resources. In doing so, we envisage the development of strategies, action plans or frameworks which build on existing guidelines and agreements at the regional and global levels. These would include strengthening regional seas programs and agreements. Most importantly, we must develop measures which give full effect to the principles of the Law of the Sea Convention.

We are not out to re-invent the wheel, but rather to ensure that there are four wheels, working together, to make the necessary progress. We must also ensure that the destination is clear, through the articulation of specific objectives and timeframes. It is in the area of concrete targets and timetables where existing guidelines and agreements are noticeably lacking and must be taken further.

For UNCED, this points to working together to develop a global strategy and action plan for integrated oceans management. The results of the Halifax meeting on land-based sources of marine pollution would be an important component. Progress in articulating an integrated approach to coastal zone management is another. The conservation and protection of living marine resources is a third key area.

We have also been considering what the follow-up mechanism for Agenda 21 goals and objectives will be. At UNCED we could consider follow-on work through a mechanism such as a global oceans conference.

To conclude, it should be our objective at this PrepCom to define the linkages among ocean issues, to clarify their relationships to economic development objectives, to consider ways to improve the linkages and cooperation among international institutions active in this area, and identify objectives and goals worthy of further consideration, along the lines of the document prepared by the Secretariat. This could lead, at PrepCom IV, to the consideration of a comprehensive set of principles on all aspects of oceans and specific recommendations for action (an "Agenda 21" for oceans). At UNCED, we could consider adopting a declaration, global strategy and action plan for integrated oceans management.

Thank you.

TROPICAL COASTAL ZONE MANAGEMENT

A discussion paper submitted by the Delegation of

Australia

TROPICAL COASTAL ZONE MANAGEMENT

The Tropical Coastal Zone

Coral reefs and other largely tropical coastal habitats such as sea grass communities, mangroves and estuaries are amongst the most highly diverse, integrated and productive of the earth's ecosystems. Where they occur they are often of critical importance, being at the centre of the natural resource base of local economies, being used or exploited for food production and harvesting, building and other materials, energy sources, recreation, tourism, waste disposal, transportation, agricultural and residential development and conservation. Damage to them has direct ecological and socio-economic effects. In addition, in many tropical areas (such as the Pacific islands) traditional subsistence based lifestyles and cultures are firmly rooted in the relationship between human populations and the coastal environment.

All coastal zones are places of rapid transition from terrestrial to marine influences, and, while highly productive, are also particularly vulnerable to environmental stress. Many of the components of these ecosystem have little tolerance to changes greater than those they already experience by virtue of the dynamic coastal environment. In tropical areas reef and lagoon systems also act as a buffer to the hazards of the open sea, and if damaged can expose the inter coastal zone to much greater stress.

Threats

There is increasing international recognition of the critical role these ecosystems play and the threats that are posed to them by global change and regional development patterns. Specific threats to coral reef organisms and tropical coastal biological communities are posed by such phenomena as:

- changes in sea temperature or sea level,
- more severe or more frequent storm or seismic activity,
- changes in ultraviolet radiation,
- changes in water circulation patterns,
- changes in salinity,
- increased sedimentation, and
- direct damage resulting from human activity such as reef blasting or sand dredging.

They are also particularly susceptible to the effects of pollution from terrestrial and marine sources, in particular

- the introduction of toxic chemicals,
- oil spills and
- increases in nutrients leading to phytoplankton blooms or increased competition from benthic

Most of these threats are attributable directly or indirectly to unsustainable development and resource utilisation practices within, adjacent to and outside the coastal zone, and the changes and degradation they cause in turn affect the natural resource base and quality of life of the human populations dependant on them.

Coverage in Multilateral Forums

The importance of effective management of the coastal zone in general, and of coral reefs and associated ecosystems in particular, has been raised in meetings of the Preparatory Committee and in related regional and sectoral meetings. It has also been raised in the negotiations for conventions on climate change and conservation of biological diversity. The relevance of these ecosystems to the biodiversity negotiations is clear. The status in relation to projected climate change is more equivocal; although coral reefs effectively fix carbon, their role in the changing global carbon budget may be neutral.

The Need for Sustainable Management

There is therefore increasing recognition of the vulnerability of these resources to the direct and indirect effects of human activity. Consequenlty ecologically sustainable management of such areas is an urgent priority. This priority can only be addressed by practical integration of environmental and socio-economic factors in comprehensive and coordinated frameworks for planning and management. In many tropical communities the centrality of the relationship between people and their environment in their cultural heritage gives effective coastal zone management an additional importance. It is seen as essential to ensure the retention and use of traditional knowledge and practices inherent in this relationship which foster sustainable development. The challenge therefore is to effectively integrate traditional use and management patterns in frameworks which can ensure cultural continuity while accommodating sustainable economic development to improve living standards and opportunities.

Previous Approaches

In considering how best to approach these objectives it is useful to consider the development of approaches to coastal zone management. Until very recently the scale of human activity and impact was understood to be so small in relation to marine ecosystems that management was considered adequately addressed by single activity regulation for matters such as fishing or the navigation of ships or small craft. In response to awareness of the need to conserve marine and particularly coastal ecosystems, regulation typically developed from one or two sources. The first was extension of the legislation and concept of fisheries management to protect the breeding areas of target species and to establish research sites or refuges to act as control sites for fishery related study. The second was to extend the legislation, preservation and wilderness

The need for conservation and management of marine environments is now widely accepted. There is nevertheless confusion regarding terminology and objectives which may be traced to different components of fisheries, recreation and preservation objectives. A consequence of the confusion is that the terms "marine protected area", "marine park" and "marine reserve" are used inconsistently and interchangeably. They cover a range from:

- an area of a few hectares closed to access other than for the purposes of scientific research.
- small areas managed to protect or enhance the amenity for a use such as SCUBA diving or tourism
- a large area in which a wide range of human activity is allowed provided it how not damage the fish habitat structure or processes of the environment
- a large zoned are to provide for multiple, ecologically sustainable, use including development, commercial shipping and trawl fishing, provided that they are managed in a manner consistent with achieving conservation goals for the area as a whole.

All such areas can have a place in a comprehensive approach to management.

A Comprehensive Approach

Priorities

The priorities in a comprehensive approach should be

- the fostering of the development of national and regional programs to identify areas for inclusion in a global system of marine parks and reserves,
- the adoption of an integrated large area planning approach to the management and sustained use of tropical coastal zone resources, particularly of areas surrounding parks and reserves, incorporating the following principles
  - the resources of the coast and nearshore can be used sustainably for a variety of purposes in combination
  - the structural integrity of substantial parts of management areas must be maintained and adverse process influences such as pollution minimised to protect the genetic diversity of biological communities

- elaboration between countries in broader regions of cooperative programs for the development of expertise in planning and management for sustainable use of tropical coastal zone resources. (For this purpose existing machanisms such as the UNEP Regional Seas programs should be used)

Issues for Planning

There are several essential issues to be addressed in planning for the conservation of a coastal environment. The appropriate large scale management area must be determined taking into account ecological, social, economic and political considerations. The ecosystems represented in the area must be identified and the extent to which they are represented elsewhere and interconnected must be determined. The ways in which the ecosystems are used for, and impacted by, all types of human activity, particularly traditional use, and the rights and reasonable sustainable expectations of all users and interest groups must be determined. On this basis, and with the involvement of all sectoral interests, comprehensive conservation strategies should be adopted which will coordinate multiple uses and impacts within the management area in order to maintain the structure and processes of the environments in question.

Key Objectives

Whatever the regulatory packaging, key objectives to a strategy for comprehensive management will be

- cautious management controls to achieve sustainable development in sectors with high impact such as sea bed or coastal mining, coastal engineering ports and fishing. For example in relation to fishing an objective could be that the combined subsistence, commercial and recreational fishing effort does not exceed the sustainable yield of target species or the capacity of ecosystems to absorb impacts

- robust pollution controls to ensure that processes that sustain the ecosystems are not compromised

- provision for reasonable recreation and tourist activities to ensure that they do not have unsustainable impacts and that their amenity is not eroded by conflicting activities

- designation of areas in which recreational use is allowed but other usages restricted, and areas in which all use other than research and monitoring is restricted

Frameworks for Multiple Use

The essence of such comprehensive marine conservation is coordination of multiple uses and impacts within a large area. If it is to be effective, such coordination must not be dominated or directed by any one sectoral interest. The means of coordination will vary from nation to nation and area to area depending on legal political and social structures. there may even be a variety of approaches within a large nation. Thus in Australia, the legislative approach in designating a large area as a protected area has been adopted for the Great Barrier Reef, while less formal means are used to coordinate conservation, fisheries, tourism, shipping and coastal development in other area. Provided there is an effective coordinating mechanism to address the broad issues, the concept of the marine protected area may well involve smaller areas with more specific protective arrangements.

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PROTECTION OF OCEANS, ALL KINDS OF SEAS INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

BACKGROUND DOCUMENT

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. Decision 1/20 of the Preparatory Committee of the United Nations Conference on Environment and Development requested the Secretary General of the Conference to submit a comprehensive report with recommendations for action covering 20 substantive issues. In accordance with document A/CONF.151/PC/30 and decision 2/18 of the Preparatory Committee at its second session, the issues were regrouped into 6 components which are summarized in this report.

(a) Coastal Development and Enclosed Seas
(b) Management of Living Marine Resources
(c) Marine Pollution Prevention and Control Strategies
(d) Implications of Climate Change in Ocean Management
(e) Capacity Building
(f) Legal Instruments and International Institutions

2. Each of these areas was covered by a lead United Nations Agency with the very valuable support of the Office for Oceans Affairs and the Law of the Sea of the United Nations Secretariat, the United Nations Environment Programme, the Food and Agriculture Organization of the United Nations, the International

Maritime Organization, the Intergovernmental Oceanographic Commission, the International Atomic Energy Agency, the World Meteorological Organization, the United Nations Centre for Human Settlements and the World Health Organization. Non-governmental organizations also contributed including: the Oslo and Paris Commissions, the World Resources Institute, the International Union for Conservation of Nature, the International Council of Scientific Unions, the Environmental Defense Fund, Greenpeace International, Friends of the Earth, and the International Indigenous Commission.

3. Additional reports were requested of the Secretary-General which are presented separately:

i. Global Ocean Observing System prepared by IOC, WMO and UNEP (Document A/CONF.151/PC/70).
ii. Land Based Sources of Pollution (Document A/CONF.151/PC/71):
- Report of the Intergovernmental Expert Meeting held in Halifax, Canada (6-10 May)
- Evaluation of the Montreal Guidelines by UNEP
- Proposals for further cooperation by UNEP
iii. Environmental Assessment of the Gulf Crisis prepared by UNEP and IMO (Document A/CONF.151/PC/72).

4. The Preparatory Committee requested the Secretary General to take due account in its further work in this area of the relevant paragraphs of the Bergen Ministerial Declaration on Sustainable Development in the ECE Region, the Tlatelolco Platform on Environment and Development, the Ministerial Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific and the Regional Conference for Africa organized in accordance with General Assembly resolution 44/228, Section II, para. 13 and decision I of the Preparatory Committee at its organizational session.

5. These reports together with the background papers were used in preparing this background synthesis. This paper includes a framework for an integrated approach to marine and coastal sustainable development. The main elements for a programme of action are presented in Document A/CONF.151/PC/42/Add.6 entitled Oceans: Options for Agenda 21.

6. It would therefore be useful to recall the results of the regional conferences, highlighting the points that are most relevant for the ocean issues. Some of the proposals have been considered in this report and in the Options for Agenda 21:

(i) The Bergen Declaration, highlights the importance of achieving sustainable patterns of production and consumption, of applying the "precautionary principle", of integrating environmental considerations with economic and sectoral planning, of making extensive use of economic instruments with balanced mix of regulatory approaches, of increasing the flow of capital and environmentally sound technology to developing countries, of addressing the relationship between population pressures and sustainable development, and of analyzing the inter-linkages between environmental and trade policies. Special reference is made to sustainable energy use, to sustainable industrial activities with relevant recommendations for ocean and coastal management.

(ii) The Tlatelolco Platform highlights the need to pay special attention to poverty and social equity, economic crisis, international trade access to technology, funding mechanisms and the importance of considering the peculiarities and vulnerability derived from the size of small island States. In relation to protection and management of oceans, seas and coastal zones several important proposals are mentioned in order to optimize the benefits from the use of the region's resources for its development. Some of the proposals include the following: prepare inventories of the resources, establish "special areas" for protection purposes, exchange of data, improve appropriate technology, increase links between regional bodies, establish regional marine technology centres, promote integrated management of coastal areas, ban the discharge of toxic wastes into the oceans, create cooperation mechanisms and promote an international agreement on land-based sources of marine pollution.

(iii) The Ministerial Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific stresses the adoption of an integrated approach to environment and development with special reference to poverty, health and population, the adoption of the precautionary principle and transfer of technology, and the elaboration of a regional strategy on environmentally sound and sustainable development including the special problems of small islands. Calls for promoting environmental education, exchange of information, technical assistance and cooperation.

(iv) The results of the Regional Conference for Africa were not available at the time of writing this report.

II. PROBLEMS AND OPPORTUNITIES OF COASTAL AND OCEAN MANAGEMENT

7. The oceans cover 70% of the surface of the globe and play a dominant and decisive role in the biogeochemical processes of the planet on local, regional and global scales. The global energy budget, climate and weather, the hydrological and carbon cycles, and atmospheric and physical processes are critically influenced by the properties of the oceanic processes. Most of the earth's life, expressed as biomass, exist within the vast volume of the oceans. The fertility of the seas is determined by the abundance of the phytoplankton. The annual phytoplankton production is estimated between 15 and 30 billion tonnes of carbon. The annual world fish production is estimated as almost 30 million tonnes of carbon. Yet our understanding of these processes is less well developed than those occurring in the terrestrial environment and atmosphere. Long-term management and sustainable development of the world's resources must be based on a sound understanding of the role of the ocean in shaping conditions on the globe and on a proper evaluation of the benefits of the marine resource base for development.

8. Uses of ocean and coastal space are multiple and serve many and diverse purposes. The traditional ones include the production of food, sources of energy, minerals and other raw materials, a base for tourism, recreation, settlement, transport and the location of both aquatic and semi-aquatic farming. Over the last 20 years, offshore oil production has greatly increased and new technological developments have opened greater areas of the sea floor to drilling and production. World seaborne trade in oil and cargo has also grown enormously in the past decades. This includes changes in the

type of vessels requiring new port development and major channel dredging. In addition, the oceans have been used as a free dump service for sewage and wastes, without the proper inclusion of damage costs.

9. Turning to fisheries, the oceans are sources of living and non-living resources which are currently treated as open access goods. The marine catch is close to the maximum production obtainable, nearly 80 million metric tons, of which ninety percent is estimated to be from coastal areas. Mariculture yields approximately 5 million metric tons and by the end of the century should be almost doubled. Increases in marine catches in the last two decades are the result of different events such as the discovery of new resources, the introduction on new fishing technologies, changes as a result of the Law of the Sea and major environmental changes. Artisanal fisheries are socially important since they contribute significantly to fisheries employment, particularly in developing countries.

10. Aside from some living resources, the high seas seem to be largely unaffected, but the physical and ecological degradation of coastal areas and the increase in pollution from land-based sources are greatly increasing. The root cause of coastal management problems lies in the distribution, absolute size and rates of growth of human populations. Rapid growth of coastal settlements, expansion of recreational areas and centres of maritime transport and concentration of industrial development along the coast, all result in accelerated coastal degradation. Sixty-five percent of cities with populations above 2.5 million inhabitants are coastal and at present 20% of the world population lives in coastal urban centres and approximately 60% may be living within 60 kilometres of the coast. This illustrates increasing human impacts on one of the most productive of ecosystems, the shallow marine and brackishwater areas. The situation in many enclosed and semi-enclosed seas, is of particular concern.

11. The capabilities of most countries to manage current problems are still insufficient and limit future choices for meeting the challenge of sustainable development. Management units for ocean and coastal affairs are generally weak and disperse. They currently reflect agencies' sectoral responsibilities rather than the boundaries of coastal systems. There is now a widespread recognition that sectoral approaches to managing coastal zones fail to resolve conflict. The responsibilities of national agencies must integrate the environmental limits of the ecosystems under management with the sectoral economic interests.

12. Moreover, current patterns of management and exploitation in the marine environment reflect historical conditions of use which no longer apply. Numbers of people in the coastal areas were low and technologies less advanced so the supply of ocean goods and services was little impacted by demand. Free use and open access when demand is low poses no problem. However, when demand nears or exceeds supply, policies of open access on the ocean environment creates conflict among users and significant resource and environmental degradation. In general, there is not an efficient user-rights system in the exclusive economic zones at the national level and in open seas at the international level.

13. Ocean legal regimes, historically have been reactive. Few recent legal regimes have been designed to operate in a proactive manner and avoid conflict. Legal instruments need to be more closely correlated with anticipatory environmental planning and management approaches designed to incorporate new perceptions of ocean uses. The new perspective on ocean management must recognize the need for proactive and anticipatory regimes that could avoid conflict, prevent environmental damage and economic loss, as an alternative to the traditional view which has been centred on reactions to conflicts in resource use, environmental degradation and prescriptive actions.

14. Geopolitical and administrative boundaries have no meaning in environmental terms since marine living resources and ecosystems do not correspond to these man-made limits. The need to maintain the natural functioning of the oceans in the face of increasing uses may result in viewing ocean space in ecosystem terms. The scales of management and the economic and legal regimes must therefore be adjusted so as to reflect not only the political or administrative boundaries but the real physical and biological units being managed e.g. large marine ecosystem, marine catchment basins and species ranges (Table 1).

15. Public perception of ocean issues is in transition. Society is gradually appreciating that the impact of intensified human activities no longer permits a casual approach to oceans as an unlimited receptacle for wastes and an endless supply of free and open access resources. The increasing active support of significant non-governmental organizations is placing ocean management to centre stage as a significant public policy issue. Broader educational and public awareness programmes are essential to enhance participation in decision-making debates. In this connection, the value of clean coastal areas for tourism and the role of coastal ecosystems in terms of erosion control and protection against storm and episodic damage are rarely included in economic or social evaluations.

16. Management refers to the attempt to provide order for a directed balance between and among the various uses of ocean space, as well as to protecting the ocean environmental viability. It encompasses several steps which include: collection, organization and analysis of data; setting of priorities; making choices related to policy directives, laws and regulations; implementation of policies; surveillance and enforcement of rules and evaluation of results. Technical solutions for many of the problems are quite well known and action is needed. However, there are still critical uncertainties for management purposes. Significant among the challenges for future ocean management are the availability, incorporation and utilization of scientific and technical information in the policy process, jurisdictional problems, the nature of ocean political constituencies and the costs associated with management efforts.

17. The overall objective for future ocean management lies in utilising the environmental and economic goods and services provided by marine and coastal ecosystems to meet development objectives whilst at the same time ensuring the long-term maintenance of marine environmental health, resource quality and ecological integrity. The oceans and coastal areas need to be viewed as a positive asset presenting opportunities for sustainable development. This will only be possible under a holistic and integrated management approach to

their utilisation. The ocean requires a full evaluation of the marine and coastal resource base and of opportunities and constraints provided within a given area or country. Where marine resources and ecosystems are shared with other states, cooperative approaches will be necessary.

III. THE MAIN LINKAGES

18. Ocean problems tend to be systemic in both scope and scale. They feature a host of linkages to other sectors, particularly because human activities which take place in marine and coastal areas do not recognize boundaries. The most important environmental linkages include: atmospheric processes, in terms of climate and weather events; effects of ozone depletion and airborne pollution; processes of environmental degradation such as loss of biodiversity; pollution (both sea and land derived) and deterioration of ecosystems. Important linkages of ocean issues with economic and developmental sectors include: in the primary sector, fisheries, agriculture and forestry, mineral extraction and freshwater supply; in the secondary sector, infrastructure, manufacturing industry and transport and, in the tertiary sector, human settlements, health, tourism, financial services and trade. Population, poverty and food security as well as the role of women and indigenous peoples are also important social linkages. However the analytic response to oceans is typically scientific and technical and the policy approach is generally specialized and categorized, rather than integrative and holistic. Oceans are receiving numerous spillover effects from land-based activities which reflect the lack of attention to these linkages. Precisely because of this disregard for linkages, many oceans problems are increasing in size and number.

19. Current attention ought to concentrate on the rational use of the coastal and near-shore areas and their resources, especially in the more vulnerable enclosed and semi-enclosed seas. The impact of sectoral activities include marine pollution from land-based and sea-based sources. Shipping and mineral extraction including oil production is the main source of uncontrolled release of toxic wastes and chemicals, oil spills, and disposal of contaminated used water. Human settlements, agricultural practices and deforestation cause severe contamination as upstream sewage, solid, toxic and hazardous wastes, nutrients and pesticides flow into near-shore zones, affecting mariculture and critical recruitment areas for fishing. The case of marine fisheries, which relates to one stock of ocean resources, is a good example of inappropriate biologic- economic interactions. The fisheries overexploitation is mainly generated by common property status and high discount rates. Both factors encourage poor practices such as habitat destruction, use of illegal techniques such as dynamite and chemicals or intensive dredging, seining, driftnetting and trawling, incidental capture of non-target species and unselective fishing. Thus there is a fundamental mismatch between the management rationale of biologists and market-oriented producers, perpetuated in part because of the lack of understanding of the linkages.

20. These multiple linkages require that ocean and coastal management strategies could be geared to at the same time produce food, serve as a medium for transportation; and encourage port development, industries, tourism and human settlements. Strategies must also aim to maintain the marine and coastal environmental and resource quality to reflect adequately the interests

and needs of future generations. The following sections are an attempt to address some of these linkages with an integrated approach to ocean management. This approach calls for integrated coastal zone management; prevention of marine pollution from all sources; management of areas requiring special protection, such as the polar seas; management of shared living resources in the high seas; application of the precautionary and ecosystem approach; addressing critical uncertainties related to climate change; capacity building, exchange of information, technical assistance and strengthening of international and regional arrangements.

IV. DEVELOPMENT OF COASTAL AREAS AND ENCLOSED SEAS

Main Issues

21. The coastal area is the interface between the land and the sea. It extends inland and seawards to a variable extent including coastal lowlands and islands, intertidal areas, salt marshes, wetlands and beaches. Six out of ten people now live within 60 kilometres of the coast and the population of the coastal zone is projected to double within the next 20 to 30 years. Its boundaries depend on political, administrative, ecological and pragmatic considerations. It can be affected by remote activities located from the edge of the watershed to the limit of the Exclusive Economic Zone (EEZ) and possibly even beyond. It is an area relevant for economic and ecological management since it involves a distinctive set of interactions between land, freshwater and ocean resources and between these resources and the people who depend on them. The resources under about 35 percent of the oceans' surface, previously recognized as part of the high seas and common property of mankind have been recently covered by national jurisdiction of coastal states.

22. Coastal degradation may result from local causes such as industrial development, urbanization and port activities, discharges of wastes and pollutants, use of inappropriate technologies, competition for space and resources and overfishing. Coastal zones concentrate negative consequences from inland development activities including inadequate management of soil and water resources, excess use of fertilizers and pesticides, deforestation, industrial pollution and river damming. Dam construction interrupts sediment inputs to coastal floodplains and deltas, accelerates erosion, interrupts fish migration, modifies seasonal flooding patterns and reduces coastal marine productivity. Harmful coastal algal blooms are linked with sewage pollution and eutrophication. Global climate change will also affect coastal zone productivity and potential for development.

23. Basic resources such as fuel, water and fertile land are in short supply and fish stocks are already heavily exploited. Overexploitation leads to biological and economic stress, loss of development opportunities and biological diversity, conflict and reduced seafood security. Extraction rates of living resources must not exceed their biological regeneration capacity. In some cases provisions must be made for regeneration within an acceptable time frame. Natural resource depletion is aggravated by the search for short-term benefits. Tenure systems are particularly inadequate in the aquatic coastal areas and will require efforts to establish them explicitly or, in the case of traditional user rights, to revive them formally.

24. Confined habitats need the most protection. Coastal lagoons are special habitats and the locus of substantial economic activity. The pressure on them and on rivers leading to them, is increasing, resulting in degradation and loss of natural resources flow patterns and life cycles and increasing natural hazards. Enclosed and semi-enclosed seas (such as the Mediterranean, the Baltic, the Red Sea and the Black Sea) are particularly vulnerable because of their limited area and relatively shallow nature, the high density of the populations and industries they support and the relatively slow exchange of their waters with larger oceanic areas.

25. A sine qua non condition to overall sustainability of the coastal areas development not dealt with in this paper is the achievement of sustainability also at each sectoral level (agriculture, forestry, fisheries, transport and urban development). The issues addressed in this section aim at the development of national capacity to sustainably develop coastal areas, optimizing the benefits which can drawn from their multiple use.

The Multiple Uses of the Coastal Areas

26. Coastal areas provide human settlements with essential life support and economic development opportunities as well as natural shore protection. In coastal rural areas, agriculture, forestry and fisheries (including aquaculture) are the main economic development activities. Coastal areas can provide, naturally, many benefits to local populations, such as: thatching materials, medical oils, firewood, timber, fish and wildlife food. In coastal urbanized areas, the most important activities relate to human residential development, industries, recreation and tourism, transport and trade. Harbours are essential centres for national and international trade and transport. In addition about 95% of world fisheries catch (80 million tons annually) comes from the near shore areas. Coastal areas are also essential to marine life (biodiversity) and productivity, operating as breeding, nursery or feeding areas for most marine species.

27. Agriculture utilizes coastal plains, wetlands and lowlands to increase food production and to provide employment. Such conversion may reduce coastal marine productivity and protection against natural hazards (floods and rainstorms), facilitate salt intrusions in the water table, and spread water-borne diseases. Poor agricultural practices release pesticides, fertilizers and silt into coastal waters.

28. The 24 million hectares of mangrove forests of the coastal areas of subtropical and tropical countries represent an important resource and their deterioration threatens coastal productivity and biodiversity. Their loss also affects availability of building material, wood, tannins, skins and hides to coastal, usually poor, populations. Upland deforestation increases erosion, sediment loadings of rivers and accelerates fresh water runoff to coastal areas, reducing water transparency and light, increasing flood risks, affecting riverine and estuarine fisheries, coral reefs and sea-grass beds.

29. Marine fisheries provide 16% of the total animal protein available in the world, low cost food for poor people, livelihood for fishermen and their families, support for related industries as well as social, economic, and political stability in the rural coastal areas, reducing migration to

overcrowded cities. However, fishing often affects the environment, threatening sensitive species often already affected by coastal nurseries degradation (e.g. turtles, coral shells, ornamental fish). Maximum Sustainable Yield (MSY) and Optimum Sustainable Yield (OSY) have been the explicit objectives of fisheries management for decades but many coastal fisheries are presently developed beyond these levels.

30. Marine aquaculture represents one of the fast growing sectors of the coastal zone, providing employment, a valuable supplement to local diets and foreign currency through exports. It requires a clean environment but intensive aquaculture practices themselves may be polluting, leading to eutrophication, release of pharmaceutical or antifouling products. Habitat conversion affects wildlife and biodiversity as well as the introduction of non-indigenous cultured species into the ocean ecosystems.

31. Manufacturing industries represent the third largest economic activity in developing countries, after agriculture and services sectors. Much of the pollution they create could be eliminated by applying clean technologies and with adequate industrial waste treatment techniques. Many coastal degraded habitats could be rehabilitated by the application of the "polluters pays" and "user pays" approaches. Extractive industries (for tin, sand, gravel and live coral mining) raise problems which can be serious, especially in island countries where the shoreline is often exposed to erosion and storm surges. Shores are protected against seastorms and erosion by natural systems, such as mangroves and other wetlands, coral reefs, and coastal barrier islands and lagoons, deflecting and absorbing much of the energy of sea storms. Their deterioration exposes populations to increased threats. Sinking and receding shorelines must be given special attention.

32. Marine transportation may conflict with fisheries, aquaculture or oil platforms. Ports and marine transportation facilities are required by offshore oil and gas development, shipping, fisheries, tourism and military operations. Major threats include destruction of mangroves and other wetlands, ecological modification of lagoons through channelling and deterioration of coastal habitats by dredging and filling operations. Waste disposal is a serious problem and will be treated in section V of this document.

33. Coastal feeder roads, highways, bridges and airports are essential to development. They also often pollute the sea, destroy critical intertidal habitats, and obstruct natural water flows, so careful planning is needed.

34. Water control and supply projects provide regulated sources of water for irrigation and housing. They also modify the quantity, quality and seasonal flow patterns of streams. This disturbs transport of nutrients and sand to coastal ecosystems. It affects mangrove forests, juvenile fish "nurseries", colonial waterbirds and other wildlife reproduction. They can seriously unbalance river-dependent ecosystems, reducing their productivity and species diversity.

35. Tourism is one of the fastest growing areas of economic activity, particularly for smaller coastal countries and island countries. Recreational

activities are, however, a potential area of conflict, sometimes threatening fishermen's livelihood. Sewage problems related to tourism may seriously affect the marine environment .

36. National security activities exist in the coastal zones and coastal seas. Coastal areas reserved for military purposes tend to be well conserved. However, naval ports and harbours, coastal airfields, and special bases of all kinds are sited in the coastal zone, usually with a high priority and intense security, preempting any other use and generating pollution.

37. Nature conservation can be considered as a type of use in its own right. Coastal areas are important ecological boundaries with high biological diversity and productivity, providing critical habitats to many species which are important for the equilibrium of the ecosystem and its capacity to respond to natural changes. Benefits from conservation may be less tangible in the short term but must be considered when allocating space and resources to competing utilizations. It may appear essential to protect particularly some representative samples and unique features of these areas as representatives of the national and global heritage.

Integrated Planning and Management of Coastal Areas

38. The above sections demonstrate that the linkages among the development sectors require proper, integrated, decision making and regulatory processes. Sectors compete for funding, resources and political advantage and special arrangements are needed to guarantee a multi- sectoral, integrated, approach. The following sections consider some of the main important aspects of planning and management of coastal areas resources with particular emphasis on Integrated Coastal Zone Management (ICZM).

39. Integrated management requires a pragmatic approach to regulate the area and mainly actors involved in coastal activities. Cooperation among the users who are affected by a coastal management programme is essential to ensure success and reduce enforcement costs. Communities with exclusive rights on marine resources, whether traditional (such as indigenous peoples) or modern, may be given responsibility for their management.

40. Integrated Coastal Zone Management (ICZM) is both a concept and a tool for inter-sectoral coordination, following modern principles of natural resources management, involving interdisciplinary processes and requiring adequate information bases and people's participation. Central governments have responsibility and authority for many marine affairs (navigation, national security, shared stocks and international relations). Provincial or regional governments usually have financial and administrative responsibilities in the coastal area. Local authorities who often deal most directly with the issues and feel the impact of actions very directly could be involved in the coordination mechanisms of national agencies.

41. A viable ICZM programme needs to be comprehensive but its content and complexity will vary from area to area according to development trends, conservation needs, traditions, norms, governmental systems and current critical issues and conflicts. A minimum programme would encompass: policy, enforcement mechanisms, an institutional arrangement for coordination and the

assigning of responsibilities for approval of permits and performance of Environmental Impact Assessment procedures (EIA). In reactive policies, crises tend to shape the programme making however corrective measures more expensive and difficult to apply. In a proactive mode, ICZM is part of development planning and may help achieve lower cost solutions, may anticipate problems early in the process and may better reconcile development and environmental concerns.

42. ICZM programmes must be related to national development policy. National policy could provide guidance for the formulation of specific marine development strategies which would follow the principles laid down in the United Nations Convention for the Law Of the Sea (UNCLOS) and identify financial, human and technical needs and institutional components. The ICZM programmes could be part of the legal framework. Regulatory instruments (taking into account existing international or regional conventions) must be developed to establish a system of regulations and permits. ICZM programmes could also provide for coordination between central and local governments and between agencies, regulating their respective competence. A major challenge in ICZM is in ensuring compatibility between global, regional and sectoral goals and targets.

43. The ICZM process starts with a Strategic Plan stating the objectives of the programme in broad terms, indicating how these objectives would be met, assigning responsibilities, identifying funding, organizing collaboration, and defining time frames. The Master Plan provides a detailed description of the coastal zone, an inventory of the resources and of critical areas in terms of protection or potential for development, and an identification of permissible uses. It elaborates the procedures for permit approval, monitoring and enforcement.

44. Geographical information systems can help greatly in compiling and analysing the required information. National research capacity needs to be strengthened to increase understanding of the coastal processes, to forecast and monitor impacts, to assess resources and environmental protection requirements, to assess new surveying and mapping technology and to develop approaches for multiple uses management and conflict resolution.

45. Evidence is required to convince users and decision makers of the utility and cost-effectiveness of the proposed management programme. A clear description of social and economic benefits could be incorporated into the Environmental Impact Assessment (EIA) or done as a separate assessment including the economic expression of the value of ecological functions to society.

46. The coastal zone is a transition of highly diverse ecosystems and habitats which are among the most biologically productive. These include extensive inter-tidal mudflats, rocky shores, sandy beaches, mangroves, saltmarshes, estuaries and other wetlands, seagrass and seaweed beds and coral reefs. There is a need to maintain essential ecological processes of the coastal ecosystems, preserve genetic diversity and ensure the sustainable utilization of species. Marine biodiversity conservation requires identification of critical habitats and application of the concept referred to "particularly sensitive sea areas" following ecological, social, economic, historical, educational or other criteria. The repair of damaged natural

systems to restore their functions and biological properties could be among the specific aims of an ICZM programme, as well as the protection of natural landforms (e.g. dunes, mangrove forests) which serve as barriers to storms and flooding and hazards reduction programmes.

47. For ICZM to be successful, a number of problems must be overcome, including: lack of political commitment, lack of trained personnel and financial support, problems of common property rights, administrative fragmentation, inadequate coastal zone boundaries, unclear goals, late action and inadequate information and research capacity. National and international sources of funds such as licence and user fees and taxes under the "polluter pays" and "user pays" principles need to be established and a commitment from the international developmental agencies to incorporate ICZM in their programmes.

48. International cooperation needs to be an integral part of comprehensive plans of action which could comprise environmental assessment, development of methodologies, policy advice and management, together with institutional and financial arrangements supporting the plans of action. Plans could provide for preferential treatment of disadvantaged countries, technical assistance and training, as well as financial aid and transfer of technologies. Experience with numerous regional intergovernmental programmes for the management of coastal areas, most of them support by legally binding agreements, has proved that the regional approach is viable and effective. These programmes tend to utilize ICZM as a framework. Control of land-based sources of marine degradation could be an integral part of these programmes. Fishery bodies could integrate environmental issues and strengthen links with relevant regional organization. Development banks and bilateral donors could play a useful role as coordinating forces.

49. Trans-national issues related to ICZM require international cooperation. For example, there may be issues of shared stocks, straddling stocks, highly migratory and endangered species, monitoring of long range fishing fleets, maritime transport, maritime boundary resolution, straddling oil and gas deposits, transboundary pollution, climate change and trade linked to environment.

50. Non Governmental Organizations (NGOs) may play an important role in the implementation of coastal integrated development, especially at the local level, where people's participation is fundamental to ensure equity, to take account of local knowledge and to gain support for the strategy. NGO'S participation is particularly important in the protection of sensitive areas and endangered species.

V. MANAGEMENT OF LIVING MARINE RESOURCES

Main Issues

51. There is a broader spectrum of different types of life forms in the ocean than on land. This is reflected in the number of species and of higher taxa (families, orders and phyla) which represent larger genetic differences than occur at the species level. However the list of marine species that exist has not yet been compiled. Although oceans cover two-thirds of the earth's

surface, it is coastal waters and nearshore ecosystems that support the majority of the world's living marine resources. Both freshwater and salt water fishes are represented in more than 20,000 species. Approximately 9,000 species are harvested, but only 22 support significant fisheries.

52. The catch statistics released by FAO, indicate that the worldwide commercial harvest of fishes, crustaceans and molluscs had reached 98.3 million metric tons in 1990. FAO has estimated an upper limit to the sustainable yield from all conventional fisheries at about 100 million metric tons annually. Of this, 86% came from the sea, and around 95% of this from the coastal and shelf seas within EEZs. This does not include the additional 24 million metric tons estimated to be taken each year in small-scale artisanal fisheries of developing nations. Coastal marine resources, especially those with high commercial value, are fully exploited or overfished practically everywhere. By the year 2000 population will double to 10 billion and percapita consumption is expected to increase, there is a need to increase all kinds of food production 2 to 3 fold. If fish catch has reached its maximum sustainable yield, that means even more pressure on land resources to grow grains, meat, etc. In this sense, the shortfall in fisheries production will be at least 20 million tons even without the collapse of fisheries that are overfished. This will further increase real prices for marine products.

53. Food from the sea is critical to balanced nutrition. Sixty per cent of people obtain between 40 and 100% of their protein from fish and consumption amounts to 7.7 kg per person per year. In developed countries consumption is about 25 kg per person per year. In Asia over 1 billion people depend almost totally on fish for animal protein. The above shortfall of 20 million tons, does not take account the conversion of a quarter of global marine production, mainly small pelagic species, into meal for livestock. Conversion to meal results from low market demand and problems of handling and marketing. Animal protein for livestock feed represents a food loss for the poor and hence a potential for development, which would increase catch value to fishermen.

54. Present valuations of marine resources are inadequate since the costs of the natural production of living and non-living resources are not reflected in present economic costings and prices. Marine product prices reflect only the economic cost of extraction and processing. In addition, since world supply is constant or declining, and prices are rising in industrialized countries, there is an increased flow of fish to industrialized countries under free trade. Many developing countries export processed fish to earn hard currency, substituting local products in their diets. This could be serious, in particular for children dependent mainly on a diet of carbohydrates. The desperate need for both food and export earnings motivates poor people to overfish, threatening the sustainability of the catch rate and interfering with sound fisheries management. Reference should be made to document A/CONF.151/PC/45 which refers to the Relationship between Poverty and Environmental Degradation.

55. Fleet expansion and overcapitalization in the last two decades resulted in increased fishing intensity and range of action of fishing fleets. High levels of exploitation lead to inefficient use of equipment purchased with

hard currency, to catch, process and store fish. Hence, uncontrolled expansion adversely affects net export earnings, foreign exchange reserves, and the stability of marine resources. In addition, trawling and dredging is also destroying organisms on the sea bed by mechanical disturbance and siltation together with illegal fishing techniques. These intensive fishing risks are reducing genetic diversity of the species.

56. Oil spills, are more visible, but perhaps less serious in the long run than discharges of nutrients and toxic chemicals, except in the case of littoral areas of semi-enclosed seas, where their effects can be particularly severe. The widespread use of nylon and other long-lasting synthetic fibres has led to concern regarding possible entanglement and "ghost fishing" by discarded or lost gear.

57. Safety of aquatic products is essential, as consumers become increasingly quality conscious and governments introduce stringent regulations to avoid loss of consumer confidence and health hazards. Discharge of pollutants such as DDT, PCBs, heavy metals and organotin compounds, may influence the living resources in many ways, even at low concentration levels. Subsequent concentration of this contaminants in the food chain has an impact on product quality. Chemical pollution may cause mass mortalities, changes in populations or ecosystems, increase occurrences of diseases, and lower growth rates in fisheries.

The State of Living Marine Resources and their Environment

59. The effects of development on the marine environment have not been uniformly felt in all ecosystems. While some systems have shown a degree of resilience to high levels of human impacts, other such as estuarine and near-shore environments and semi-enclosed seas have been seriously degraded. Alternative geographic frames of reference are necessary in any discussion of marine resources, as the political boundaries are rarely meaningful biologically.

60. Located near shore and in estuaries, marine aquaculture provides a small fraction of aquatic production. Integral to aquaculture development is the allocation of rights, and the protection of livestock against other sometimes incompatible uses of the environment. At high density, aquaculture itself causes problems such as red tides and anoxic water. In the tropics, the conversion of coastal wetlands and forest to pond culture has reduced natural shrimp nursery grounds, and eliminated sources of biodiversity. Estuaries and wetland areas deserve priority concern since their well-being is essential to many resources harvested offshore, especially in tropical areas.

61. Enclosed and semi-enclosed seas are of particular value, providing favourable environments for settlement, and containing unique resources and habitats. Intergovernmental bodies have been established for the protection of several semi-enclosed seas. For example, the Helsinki Commission and Baltic Sea Fishery Commission cover the environment and fisheries of the Baltic. However, there are major deficiencies in coordination between bodies concerned with environmental protection and those concerned with fisheries.

62. Semi-enclosed and enclosed seas show close parallels with stressed freshwater systems. Flushing times may be long, some 80 years for the Mediterranean for example, so that nutrients and toxic materials tend to accumulate. Fully enclosed systems suffer from changes in water level due to excessive utilization of incoming rivers. Nutrient enrichment and overfishing can result in a decline in diversity, and the dominance by short-lived, especially pelagic and introduced species. Development planning for semi-enclosed seas, needs to be based on integrated environmental and resource management for the entire catchment basin. The introduction of exotic species into these ecologically unique environments needs to be actively discouraged.

63. Experience in inland seas suggests that enrichment of nutrient-limited systems may initially favour shellfish culture, and increased production of small pelagic fish of low value, but at the expense of more valuable bottom-dwelling fish. More importantly, waste discharges lead to eutrophication, oxygen depletion and anoxic conditions in deeper water and on shelf areas, as in the Black Sea, with disastrous effects on the benthos, demersal and small pelagic fish. Blooms of toxic phytoplankton may result in shellfish poisoning, and untreated sewage can lead to contamination of fish and disease epidemics. Over-fertilization causes fouling of nets and cages used in aquaculture.

64. Several productive shelf environments merit special mention, especially coastal upwelling areas and shelf areas fertilized by run-off from land. Their over-exploitation under conditions of high natural variability has contributed to fish population collapses, although these appear reversible. Shelf areas fertilized by land run-off generate many productive fishery systems, as in the case of the North Sea, the Bay of Bengal and the Yellow Sea.

65. Coral reefs are characterized by many specialized species evolved over long periods within a stable environment. Mass coral reef bleaching derived from abnormally elevated sea water temperatures has also been recorded particularly in the Caribbean region. Many reef communities have been irreversibly degraded by human activities. Man's exploitation, as elsewhere, reduces their complexity, and favours simpler ecosystems and pioneering species. Most shelf fisheries still operate under open access conditions, high exploitation, and a low return on investment.

66. Recent increased pressures in shelf fisheries, long considered a marginal activity, ignores the fact that landings have reached a plateau. Under open access rules, coastal States have encouraged shelf fishing and this is causing a deterioration of the resource base. High pressures in the coastal zone to use fisheries for employment of persons displaced from agriculture, makes the control of access politically delicate. Further employment in fisheries must be looked for in the retail and processing sectors and in cultivation systems.

67. Developing coastal States often seek quick foreign exchange returns from their marine resources, by licensing foreign vessels, and through joint ventures. These mechanisms have the advantage of putting of ill-advised investment in exceeded fleet and facilities. However, the removal of open-access, setting of maximum effort levels, allocation schemes, and systems of transferring user rights, can improve sustainability, as can the allocation

of specific geographical rights within EEZ's. Environmental impacts on shelf areas and resources need to be reconciled with renewable resource use.

68. The environment of the high seas is still relatively clean, with some contamination, especially via the atmosphere and due to the widespread occurrence of floating plastic debris in the surface layers of the oceans. The resources of the high seas include about 400 potentially commercial species, but few are subject to fishing. The information concerning such species is still poor. Tunas, salmon, sharks, billfish and squid are now the main resources exploited on the high seas. Tunas feed on smaller species such as frigate mackerel and squid, which could yield perhaps ten times the landings from tuna. However, tunas integrate the oceanic food chain, and except for squid, tuna prey species are unexploited because of the high costs and low prices.

69. Tuna stocks have been heavily exploited, along with the depletion of most marine turtles, seals, whales, some seabird populations and some shark resources. Concern has recently focused on dolphins, and in some enclosed seas and coastal areas these are endangered. Recent evidence suggests that populations offshore in areas such as the Eastern Pacific, are being maintained, but by- catches in some fishing gear have led to imposition of international trade barriers.

70. Distant-water fishing vessels operate outside their historical jurisdiction, and although reporting procedures are often set up, these are very difficult for the State of the ship's flag to control. It is difficult of obtain unbiased fishery data, especially on by-catch of protected species. The need for a common data base for high seas fisheries has become more evident in recent years. The lack of a framework for limiting negative impacts on these resources was highlighted recently with respect to large-scale pelagic driftnet fisheries.

71. Preventing illegal fishing is impossible without international management and one solution has been the prohibition of certain gears within specific areas. A particular problem is the poor selectivity of the nets used in large-scale pelagic driftnet fishing; these tangle fish, squids, birds and mammals. General Assembly resolution 44/225 recognized the need to ensure that gear will catch target species with only minor by-catches.

72. Most high seas resources consist of stocks, partially included in EEZ's, which require more explicit conservation mechanisms. There is a need for a code of practice governing fishing on the high seas. Management of a stock can only occur when harvests throughout its range are known and an exchange of information occurs as prescribed under UNCLOS. Effectiveness of fisheries commissions is limited by important gaps in membership and coverage. Also, catches taken on the high seas are not always recorded accurately as to place of origin, and distant water fleets are at sea for long periods, making the use of observers difficult. The rapid movement between jurisdictions allows the processing of catches at sea. To oversee exploitation of high sea resources, radical new solutions will be required using high technology, under a new management framework.

73. The need to maintain the natural functioning of the oceans in the face of increasing and conflicting uses suggests the advisability of viewing ocean space with an ecosystem approach. Many of the constituents of ecological rationality, as developed elsewhere, are embodied in the large marine ecosystem approach for marine fisheries. Whole system management will be necessary within defined Large Marine Ecosystems (LME's).

Polar Regions

74. Polar seas are good examples of the need to apply the ecosystem approach. The 1980 Convention on Antarctic Marine Living Resources seeks to protect living resources of the region in an ecosystem context. It aims to prevent the reduction of any population, whether by direct exploitation, exploitation of its prey, or transformation of the environment, below a level that may endanger its stable recruitment. For resources, such as Antarctic krill, further exploitation depends on establishing an acceptable impact on other resources which depend on this species for food.

75. In this connection, the surrounding Southern Ocean is rich in planktonic species, and among the most biologically productive in the world. Its richness supports economically important fisheries and a number of endangered species of whales that migrate into it. A central theme of all efforts for protection and conservation in the region is the need for greatly increased research of all aspects of Antarctica's ecological structure. The Antarctic region is characterised by the absence of major marine environmental problems and a strong multilateral commitment to conservation. However, several Antarctic and sub-Antarctic living marine resources, in particular some seals, whales and slow-growing fish, have been overfished. Some of the larger whales appear slow to recover from past exploitation. Growing international support for the protection of the region has led to a series of meetings during the last few years.

76. The regime which Antarctic treaty parties are currently working to establish would constitute a comprehensive environment protection regime for the region. Negotiations are continuing about an environment protocol to the Antarctic Treaty which has been provisionally approved as detailed articles. Recent consideration has been given to establish a 50 year moratorium on mineral exploration in Antarctica, which is currently being discussed. The meeting of parties in June 1991 in Madrid did not reach a final agreement on this, however. The new Protocol establishes a Committee for Environmental Protection for the Treaty. It also includes several Annexes which strengthen the regulation of environmental impact assessment, waste disposal, marine pollution, and protected areas.

77. The problems facing Arctic flora, fauna and habitats are not confined to any one country but are circumpolar in nature. Furthermore, because of the uniqueness of Arctic ecosystems, strategies to deal with these problems differ from those of other regions. These resources have been threatened by large scale economic development projects; long range transport of pollutants and degradation of habitats. Several multilateral and bilateral agreements are currently in existence which pertain to the conservation of the Arctic resources. In June 1991, the Arctic countries with the participation of

Arctic indigenous peoples prepared an environmental protection strategy which build on the intitatives already taken nationally and by indigenous peoples to protect the Arctic environment.

Marine Mammals and Reptiles, Top Predators, Birds and Endangered Species and Sensitive Ecosystems

78. The last two centuries have witnessed the depletion of a number of populations of marine birds, reptiles and mammals, and in some cases their recovery, once protected. Fishing or hunting have caused several extinctions, while viral or bacterial infections are implicated in marine mammal die-offs in the Baltic and Mediterranean. The top predators which harvest the production in the oceanic food web are particularly susceptible to human interference. These include fish-eating marine mammals, and large predatory fish which control the densities of their prey species: all were reduced in numbers by man who is now the dominant predator in marine ecosystems.

79. Elimination of an apical predator does not always lead to a major increase in the yield of their prey. There is, however, a degree of competition between man and the other apical predators for their common prey. Thus, mammal populations, even though now reduced in size in many areas still consume as much or more of their prey species as are harvested by man. Simplistic calculations of 'surplus' yield to man in the hypothetical absence of marine mammals do not take into account their ecological role and their cultural significance to man.

80. Many large whale species have been overfished in the past, and some may be on the verge of extinction. Some species have recovered or are recovering, while others remain in serious danger of extinction. In most cases available data are insufficient to determine whether populations are increasing, decreasing or stable (Table 2 and 3). Large-scale commercial hunting of seals has ceased, at least for the present, due to uncertainties and concerns about the status of the affected stocks. The International Whaling Commission is charged with management of large whales throughout the world's oceans. Following the 10-year moratorium on harvesting, the IWC implemented in 1975, a new management procedure designed to deal with whale stocks on an individual basis rather than by a blanket ban. A separate management regime for aboriginal subsistence whaling was also instituted. In 1982, IWC adopted a proposal that the "catch limits for the killing of commercial purposes of whales from all stocks for the 1986 and the 1985/86 pelagic seasons and thereafter shall be zero. Since 1986 the IWC Scientific Committee has undertaken a Comprehensive Assessment of whale stocks, including the examination of current stock size, recent population trends, carrying capacity and productivity. Because of the considerable scientific uncertainty over the numbers of whales of different species and in different geographical stocks, it is still not clear what are the prospects for recovery of some stocks. So far the Scientific Committee has carried out detailed assessments of three groups of whales, gray whales in the eastern North Pacific and minke whales in the Southern Hemisphere and the North Atlantic (Table 4). Support could be provided to the IWC in its efforts to extend the bans on harvesting of endangered species and to restore stocks of highly migratory stocks of large whales.

81. Large-scale commercial hunting presently poses no immediate threat to seals or whales. In recent years there have been increases in the commercial exploitation of certain small cetaceans and in the number of marine mammals caught and killed incidentally in fisheries. The harvesting of non-migratory marine mammals for food or for predator control within EEZ's needs to take into account the slow rate of replenishment of these populations. The management of stocks of small marine mammals, turtles and birds is less assured, and few explicit mechanisms guarantee their survival. For example, for marine turtles, habitat degradation has been an important cause for depletion, together with harvesting for food, leather and other products. Incidental catches of marine mammals, turtles and birds need to be reduced, and, for endangered species, eliminated as far as possible.

82. A number of important steps also have been taken in the international arena in the last two decades to foster the conservation and recovery of marine mammals. Example are, the Convention on the Conservation of Antarctic Seals, the Agreement on the Conservation of Polar Bears, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the Convention on the Conservation of Antarctic Marine Living Resources. There is also the FAO-sponsored "Scientific Consultation on the Conservation and Management of Marine Mammals and Their Environment" in 1976 and subsequently, the United Nations Environment Programme's Global Plan of Action for the Conservation of Marine Mammals.

Sustainable Use of Living Marine Resources

83. The United Nations Convention on the Law of the Sea (UNCLOS) provides the framework for fisheries management and calls on coastal states to promote optimal utilization of the living resources in their Exclusive Economic Zones (EEZ), while giving states the right to determine the allowable catch. In 1988, the FAO Council defined sustainable development as "the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development conserves land, water, plant and genetic resources. is environmentally non-degrading, technologically appropriate, economically viable and socially acceptable".

84. This definition was aimed primarily at the harvesting of resources, and recognises the possibility of economic growth from exploiting new resources, without compromising sustainability. It encompasses the need to adjust levels of use of resources and diversify this usage, and to render exploitation more productive and cost effective by reducing its impacts on the ecosystem, its environment, and on other human endeavours. An additional action involves restoring degraded systems to productive use.

85. Conserving living marine resources has been a goal of fisheries management for decades, and various targets have been proposed, namely Maximum Sustainable Yield (MSY) and Maximum Economic Yield (MEY). Despite being the main benchmark for optimal exploitation in the UNCLOS treaty, 'single species MSY' may not be compatible with Sustainable Development, which requires other, whole-ecosystem criteria. Maximum Economic yield (MEY) implies lower rates of capitalization, higher catch rates, and greater stability than MSY.

86. The abundance of most fish depends on both biotic and environmental factors. Short and medium term natural variations in population numbers and longer-term fluctuations in the marine environment and in fish abundance also occur. Heavy fishing can change the relative abundance of all species in the fish community linked to it as competitors or predators. This change is not necessarily irreversible as long as the species capacity to reproduce is not endangered and the integrity of the environment is not compromised. Recruitment variations are related to oceanic conditions, and to the size of the surviving bloodstock. In this connection, expected global climate change will be superimposed on wide natural and man-made variations and its impacts on fisheries and aquaculture are difficult to predict.

87. The sustainable use of living marine resources has more in common with wildlife management than other uses of terrestrial ecosystems. The intensity of marine resource exploitation that can be sustained, however, is easily exceeded. The themes of conservation, development and rights of access need to be reconciled before major advances in marine resource management can be expected. The conservation of aquatic biodiversity is a top priority. Although few species extinctions have resulted from fishing, this is not true for some populations and races, and other human activities which have had critical effects on marine habitats.

88. Aquaculture development has followed two separate paths: that of rural, extensive aquaculture, practised mainly in developing countries, and that of commercial and intensive aquaculture practised in both developed and developing countries. The potential of marine aquaculture may be less than has been previously thought given environmental degradation in some areas. The role of mariculture in relation to food security is strictly limited since most cultivated marine finfish are predators, and need protein (fish) feeds. This is not the case for plankton and detritus feeding mollusca or for seaweed, whose cultivation offers great potential if markets can be found. Only a few developing countries have enacted legislation supporting aquaculture. So far, the setting-up of aquaculture enterprises is often being constrained by regulations on land tenure, water use, environmental concerns and public health. A restatement of the pertinent legislation is convenient. It is important to note that the present number of species raised in aquaculture is relatively limited and concern needs to be given to maintaining wild species diversity until more is known about a considerable number of other species.

89. Developing strategies for sustainable use of living marine resources and their environments faces problems from open access strategies that do not apply on land, where the ownership of resources and environment is long established. For the oceans, the framework of rights and responsibilities reflected in the United Nations Convention on the Law of the Sea provides for national allocation of rights. However, many coastal states have not developed strategies for allocation rights and responsibilities within their Exclusive Economic Zones. Still fewer have established frameworks for collaboration with neighbouring States, or have formalized conditions for access by foreign fishing fleets.

90. Sustainable use of living marine resources and fishery development must be closely linked to research. The conservation of resources which span two

or more EEZ's under UNCLOS, necessitates exchange of data as an essential precondition to management, and could form part of any agreement on exploitation. The status of stocks can only be determined indirectly by expenditure on research vessels and fisheries statistical systems. Adequate monitoring of stocks is essential for management and conservation. Monitoring this sector requires trained personnel for the collection of statistics and resource assessment, socio-economic analysis, fishing technology, marketing and quality control; surveillance, and fisheries legislation. Required also is a permanent research team providing advice to government and the fishing industry, and input from the fishing industry in practical management.

91. The technology needed for better understanding the oceans and environment needs to be made available to institutes in developing countries. Geographic Information Systems for living marine resources, the fisheries, their environment, and the coastal communities involved in their sustainable use, need developing as an aid to decision-making. The exchange of software and data bases needs to be promoted. Systems for the collection of reliable statistics need to be established prior to exploitation. Accurate information on removals from, as well as inputs to, and impacts on, the marine environment need to be conditions of access.

92. The areas for future development may be considered under two time horizons; those that are currently feasible and those that require marine research and development. Relevant research priorities include: multi-species resource management and ecosystem studies, the monitoring of water-borne and atmospheric transmitted pollutants, the economic consequences of ecosystem changes, the improvement of fishing gear, and the understanding of the reaction of fish, marine mammals and marine reptiles to fishing gear and other man-made harvesting techniques. Some future possibilities that require technological and scientific investigation as well as careful cost-benefit analysis before large-scale application, include enhancing productivity, offshore aquaculture, biotechnology and the use of genetic resources, and large-scale artificial reefs.

93. The negotiation of fishing agreements, and development of appropriate management schemes require a national research capability as well as the development of new technologies to improve safety and effectiveness of fisherpersons and selective gear. The reduction in the loss of edible by-catch in fishery operations whether lost at sea, in storage, during processing or in transport, offers potential for appropriate technological solutions.

94. Adequate funding of national institutes studying living marine resources is essential, and intergovernmental agencies and governments could be encouraged to support inter-disciplinary research in marine science. The costs of research and management could, where possible, be covered from revenues from renewable resource use, and private sector involvement could be encouraged.

Small-Scale Fisheries, Women and Indigenous Peoples

95. Artisanal fishermen in coastal and shallow shelf seas form over 90 percent of people employed in fisheries. Traditional systems of resource

management and rights of access of indigenous peoples need to be preserved and strengthened. Artisanal fisheries are an energy efficient method of harvesting and an essential component of coastal communities. Inshore fishing by larger vessels affects the marine environment and may force artisanal fishermen to harvest juveniles in the nursery areas. Space allocation for small scale fishermen is an urgent action that could be accomplished with the general idea of reserving inshore fishing grounds to the use of small-scale fisheries by allocating 20 nautical mile zone as an average.

96. Small-scale fisheries are proving more effective than large- scale fisheries in wider sharing of benefits of marine resources, with greater employment opportunities in the sector. The benefits from marine resources need to be spread more evenly in the chain between harvesters and consumers, and the traditional role of women in processing and marketing needs to be strengthened. The resilience of fishing communities can be improved by diversification of technologies with seasonal or part-time revenues from fish processing, aquaculture, tourism and small-scale farming.

97. Throughout the world the fishing industry has long been considered a male occupation and in fact many international agencies and businesses develop programs solely for the fishermen without considering women's efforts. Women play an important role in fishing communities all over the world. This role encompasses social and economic responsibilities and duties, including marketing, processing and harvesting of aquatic products. FAO has established a group on Women-in-Fisheries matters and a regular review of pipeline project proposals and ideas as to their adequate consideration of women as a target group. FAO also prepared guidelines to ensure that women are considered in every stage of identification, preparation, implementation and evaluation of development activities. It is interesting to note that a shift of emphasis with regard to the theory of development planning for women has occurred. The practical limitations of focusing on women in isolation have been recognised and the need to look at gender and development has emerged -gender as a reflection of the social relationship between men and women and the gender differences shaped by ideological, historical, religious, ethnic, economic and cultural determinants. Women, Environmental and Development Network is aiming to document and legitimize the knowledge and women's roles as managers of natural resources in both traditional and contemporary contexts. Strategies towards strengthening their capacities as resource managers is essential. One of the keys is to ensure that fisherwomen have access to credit institutions so that they can finance their own ventures. Technology has to be developed to meet the needs of improving processing and to allow women to improved fishing crafts and fishing techniques. Transfer of technology for women needs to be a priority.

98. Traditional fisheries management practices of indigenous peoples, e.g. Maori, reflects the value placed on sustaining natural resources for use by future generations. These practices reflect the view that all living and non living thing interact to varying degrees strongly linked to spiritual and cultural values and beliefs. Fishing gears are fashioned to ensure selective fishing so the wrong fish is not taken at the wrong time and place. The indigenous peoples must be acknowledged the right to strengthen their own regional base. Recognition of indigenous peoples' special economic rights to wildlife, fish and other resources need to be reconciled with the national

management goals. The inter-tribal fishery councils in the northwest coast of the United States are a very good example of resource co-management systems that could be extended to other indigenous communities. Other examples of territorial autonomy include the Greenland Home Rule Government, the Kuna Comarca of San Blas, in Panama and Nicaragua's Atlantic Coast. Concrete studies of these systems are needed as well as the confidence of governments to enable indigenous peoples to make environmental decisions for themselves.

99. Promoting a more equitable sharing of the benefits of living marine resources in the context of limited access would contribute to the development of coastal communities. It would encourage resource development, diversification of products, and better livelihood conditions for small-scale fishermen, women and indigenous peoples. Relevant research needs to be undertaken on the nature and effectiveness of traditional forms of fisheries management, among indigenous peoples and other artisanal fishing communities, along with information on the impact of large-scale fishing on these traditional systems' sustainability. This would prove that it is feasible to place greater emphasis on artisanal scale vessels equipped with appropriate technology.

National, Regional and International Strategies

100. Management of fisheries is an essential government function, and should not be postponed until overfishing is evident. Marine fisheries are not self-regulating. Preemptive regulation needs to begin early in development, and need not to await complete data. An over-optimistic evaluation, or no action at all, may lead to collapse, and the need for expensive restoration measures. Resources can be preserved and rent extracted, only by reducing access to users to levels that will not affect long-term productivity by issuing limited licences to fish, low financial incentives to new participants, encouragement of group control with the allocation of user rights to areas of continental shelf, and the institution of closure zones and marine parks.

101. Effective government control over the marine resources of the EEZ and a national legislative framework for the protection of living marine resources and critical and sensitive marine areas and habitats could be developed. In this context, user rights and responsibilities need to be made explicit, with the rights to legal redress in the case of adverse impacts on resources and environments by third parties. Licence fees and penalties for infringements could be commensurate with the value of the resource or environment, and could be used for sustainable management. If appropriate, a mechanism for transfer of user rights could be instituted. The delegation of rights and responsibilities to regions, communities or even individuals, appears to be the key to sustainable development. Mechanisms for coordination between concerned organizations, the private sector and government departments need to be established which incorporate strategic planning into decision making. The adoption of common procedures for control and surveillance would be cost effective and encourage mutual confidence.

102. Responsible fishing is a precondition for sustainability, and requires more selective fishing gear and methods. Even when carried out responsibly, fishing will inevitably capture non-target species in small numbers.

Substitutes for some types of fishing gear cannot readily be found to meet excessively rigorous criteria. Unduly restrictive norms may bring many forms of commercial fishing to an end. The hardship thus caused to human coastal populations and the loss of invaluable protein resources, will have to be taken into account in setting conservationist measures.

103. The promotion of investment in infrastructure of coastal and shelf areas is essential to increase environmentally-sustainable food production. Further investment in harvesting technology need to be discouraged depending on the status of most shelf fisheries. The proportion of fish for human food could be increased by avoiding wastage, and improving techniques of capture, handling and transportation. Harvesting practices must avoid wastage and reduce the capture of non-target, regulated, or endangered species. Specific controls and codes of practice for fishermen in relation to reducing these harmful impacts of fishing need introducing. The problems of the passage of migratory fish through straits and up estuaries need to be more explicitly addressed.

104. Fish for human food could take priority over its other uses. If markets exist, value needs to be added to limited catches by development of processing and storage facilities and through improved market information. Substitutes could be found where possible for fish protein as animal feed. The importance of fish for nutrition needs to be promoted and consumer confidence maintained. Quality assurance and fish inspection systems need to be introduced. International cooperation in transfer of technology could assist developing country exporters meet the standards for world trade.

105. Specialized agencies and funding organizations could assist in the identification of investment potentials, and the formulation of development projects that incorporate environmental monitoring and sustainability. To ensure continuity and self-sufficiency, funding needs to be provided over medium to long periods, until environmental and resource management functions are supported by revenues in the form of licence fees or rents paid by users.

106. Prices in the fisheries sector must reflect the true social and environmental costs of production and use. The true value of environmental services could be included in the price rather than being treated as "free goods". In addition, the inclusion of a premium to reflect the risks and uncertainties concerning the environmental consequences of investments may be needed, and lowered discount rates to reflect the interests of future generations. Improving valuation techniques and environmental accounting is vital to achieving sustainable development. Substitution of imported products by those locally available, as well as maximizing product value, are other economic goals.

107. There is a concern that conservation may be used inappropriately as an excuse to protect home fishing industries. This is likely to lead to trade disputes which could be settled on the basis of scientific evidence. Efforts to improve knowledge about marine ecosystems will help. There is, therefore, a need to examine the impacts of trading patterns on the environment and to establish more effective instruments.

International Commissions for Resource Management

108. UNCLOS explicitly recognizes that a coastal State has sovereign rights to exploit the resources within its EEZ. The question of how to set the total allowable catch and determine surpluses has been treated differently by many countries. Taking a surplus by non-nationals affects the catch rate and profitability of the national fleet. Fisheries commissions face serious problems in managing modern fishing fleets, which are extremely mobile and independent. 'Real time' management require fisheries inspection in port, at-sea observers, radio transmission of daily catches. A computerized data system is needed so that the fishery can be closed when the total allowable catch (TAC) has been achieved. A licensing system with realistic fees, regular research vessel surveys, a team of resource experts, and mechanisms of consultation are also needed. Aerial surveillance and standard call signs for vessels authorized to participate in the fishery, are other requirements.

109. Following UNCLOS, States are charged to cooperate in shared resources management or to use an existing fishery commission. To date, the number of shared resources to which such a formal mechanism has been applied are in a minority. Many transboundary resources are shared by only two adjacent countries, and can be managed bilaterally. Promoting the development of bilateral commissions, as appropriate, may be a useful initiative.

110. Some multi-national groupings, such as the Forum Fishery Agency for the Central Pacific, effectively function as fishery commissions for the combined EEZ's of their member states. Clearly there is a need for a comprehensive review of the coverage of areas and species by management bodies, and their powers and availability of funding, to rationalize anomalies, and to define areas for collaborative action, especially for high seas resources.

111. Regional scenarios for cooperative action could be developed for coastal and semi-enclosed seas, and common data bases on environment, resources and socio-economic activities need to be developed. International agencies could provide disinterested advice on request from States facing problems relating to common resources and environments, and could promote regional cooperative research and workshops.

112. Regional approaches to action in semi-enclosed seas must be adopted, since actions within each sub-zone are ineffective without compliance throughout the whole marine ecosystem. Agreement is needed by coastal States on a management body responsible for coordinating national actions, and maintaining the marine environment in a condition such that resource use is feasible in the indefinite future.

113. Only the high seas outside of national jurisdiction are truly 'commons'; therefore formal international management is essential for resources beyond the limits of the EEZ. Present regional conventions do not provide an adequate substitute for such a regime. There is a need for more specific mechanisms for managing the resources of high seas areas between the various regional commissions overlapping with high seas areas, which are concerned with resources and environment. Fisheries commissions and other bodies concerned with shared resource management could be given responsibility for maintaining resource levels, and powers to ensure that environmental

degradation does not occur. Financial support could be commensurate with the full range of operations that management of technically sophisticated fishing fleets require.

114. International organizations and commissions concerned with marine affairs need to promote effective cooperation between themselves and their Member States. Their regional bodies and programmes could review and, if necessary, change their modus operandi and criteria for action, to better coordinate sustainable development of marine resources and environments.

VI. MARINE POLLUTION PREVENTION AND CONTROL STRATEGIES

Main Issues

115. Human fingerprints are found everywhere in the oceans. Chemical contamination and litter can be observed from the poles to the tropics and from beaches to abyssal depths. But conditions in the marine environment vary widely. The open sea is still relatively clean. Low levels of lead, synthetic organic compounds and artificial radionuclides, though widely detectable, do not appear to be biologically significant, but they have not been adequately studied to date so as to allow firm conclusions as to their impacts on the deeper oceans. Oil slicks and litter are common along sea lanes, but are, with localized exceptions, of minor consequence to open-ocean communities of organisms.

116. In contrast to the open ocean, the margins of the sea are affected by man almost everywhere and encroachment on coastal areas continues worldwide particularly in poorly flushed areas, as mentioned in section IV. A wide range of activities on land contributes to the release of contaminants to the sea either directly or carried by rivers and the atmosphere, while sea-borne activities make a minor addition. Forty per cent of contaminants arrive via rivers, and thirty percent via the atmosphere, while maritime and dumping activities contribute ten percent each. Only a small part of those contaminants has spread beyond the limits of the continental shelf.

117. A problem currently receiving attention is the protection of the polar regions from polluting activities. In the Antarctic, the importance of preserving the relatively pristine state of the region for scientific research is a high priority. Antarctica is of critical importance to research on ozone depletion and the greenhouse effect. The low rate of biodegradation of oil and other organic and chemical wastes at the prevailing temperatures is one of many considerations that have led Antarctic decision makers to adopt special precautions to ensure protection and conservation of the natural resources and the Antarctic ecosystem. These measures include special waste collection and removal requirements, as well as the recent "special areas" designation of the Antarctic under Annexes I and V of MARPOL 73/78. In important respects, these and other measures have been the subject of special negotiations surrounding a new protocol that is designed to enhance the prospects of comprehensive environmental protection for the Antarctic regions. Parties will be required to develop stringent environmental assessments for activities as to avoid environmental damage and to develop contingency plans for environmental accidents. Particular attention is given to the disposal of wastes from scientific stations located in Antarctica.

118. The Arctic is one of the areas most vulnerable to adverse impacts from chronic and acute oil pollution due to low temperature, periods with no light and ice cover. The highest risk of oil spills is connected with transportation activities and production. Strict standards in the transportation of oil in the Arctic will be developed under the framework of the International Maritime Organization. In addition, the Arctic countries recently defined six specific pollution issues to be addressed as part of the Arctic Environmental Protection Strategy. These issues are associated with persistent organic contaminants, oil, heavy metals, noise, radioactivity, and acidification. State of the Environment Reports were prepared on each of these topics. The potential impact of these specific pollutants on Arctic flora and fauna underlined the need to consider establishing a mechanism to facilitate a cooperative approach to their conservation. The Arctic Countries also agreed to the framework for taking early cooperative action on emergency prevention, preparedness and response since the Arctic environment is particularly vulnerable to accidental discharges and uncontrolled releases of pollutants.

119. The primary targets of anticipatory, precautionary and other control mechanisms have been on pollution caused by substances and wastes, either intentionally or accidentally discharged into the sea. These include industrial waste disposal by pipelines or by dumping from vessels at sea, the operation of marine incineration vessels, disposal of dredged material and operational discharges from ships. All these activities are addressed by international agreements although inputs from pipelines and other land-based sources are not presently covered by global arrangements other than the voluntary, recommendatory 1985 Montreal Guidelines.

120. The substances and wastes that cause marine pollution are numerous. Some substances are more likely to cause pollution because they are very widely used, their movement is difficult to control, they are persistent, they have relatively high toxicity, they accumulate readily in living tissues or some combination of these factors. The major pollutants include biological contaminants such as infectious bacteria and viruses, nutrients, toxic pollutants such as metals and hydrocarbons, radionucleids and plastics and other solid wastes. Reference should be made to documents A/CONF.151/PC/74, A/CONF.151/PC/75 and A/CONF.151/PC/76 which refer to Toxic Chemicals, Hazardous Wastes and Sewage and Solid Wastes respectively. These documents deal in detail with sound waste management policies including the reduction of wastes, recycling and application of various waste treatment and disposal options. These documents refer to all sources of polluting substances including those entering coastal areas from land-based discharges, from dumping, from the atmosphere and from sea-based activities such as offshore production and shipping.

Marine Pollution from Non-maritime Sources

121. The first operative convention which specifically addresses marine pollution by substances and wastes on a world-wide basis is the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 (the London Dumping Convention). The LDC, similar to its regional counterparts in the North-East Atlantic (Oslo Convention, Baltic/Helsinki Convention), Mediterranean and South Pacific (protocols to the Barcelona and

Noumea Conventions respectively), regulates the disposal at sea of industrial wastes (including agricultural and fishery wastes), sewage sludges and dredged material. In recent years, Contracting Parties to the London Dumping Convention have agreed to suspend the dumping of low-level radioactive wastes, to phase out the use of marine incineration vessels, and to set a 1995 deadline for the termination of dumping of most forms of industrial waste. Activities and issues related to the LDC are addressed in more detail in document A/CONF.151/PC/31.

122. An initiative of significant consequence for the marine environment is the finalization of the Global Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989 (the Basel Convention). That Convention is designed to control the export and transport of hazardous wastes, and is expected to afford additional protection to the marine environment through improved supervision of disposal arrangements for exported waste and a reduction in hazardous cargoes. At the same time, regional action by African countries under the auspices of the Organisation of African Unity to adopt the Bamako Convention on hazardous waste trade reflects a growing recognition that the most effective solution lies in the reduction of hazardous wastes at source, coupled with a strong demand that such wastes should not be shipped to other countries, especially developing countries.

123. Several approaches to marine pollution prevention are of increasing importance at national, regional and global levels. A new and significant initiative is a convention on Environmental Impact Assessment in a Transboundary Context currently under preparation within the Economic Commission for Europe (UNECE). This convention will oblige signatories to prepare environmental impact assessments on specified projects that are "likely to cause significant [adverse] transboundary impacts" and to consult affected parties before a decision is reached to proceed with the proposal. The convention is scheduled for signature in 1991 and will mark a new stage in the development of international measures to control the dispersion of pollutants through marine and other environments.

124. Other important initiatives in preventing marine pollution by indirect means are illustrated by the projects and programmes of international agencies. In this regard, the work of UNEP in drawing up Action Plans as part of its Regional Sea Programme (there are now altogether 10 such Action Plans) is of particular relevance to less developed regions and extensive areas are now covered by these plans. Inter-agency initiatives in which IOC/Unesco and IMO are particularly active include training of scientists and administrators in aspects of monitoring, oceanography, waste management and marine pollution related to the shipping industry. These are essential elements of international efforts to relation to protection and management of the marine environment.

125. In general land-based sources is the dominant threat to the health of marine environment. It is estimated that over 75% of total pollutants entering the world's oceans are from land-based activites. The distinction between point and non-point sources is relevant for management purposes and is based on the specificity of the source and relates to the existence, or lack thereof, of an identifiable outfall. Point sources can be divided into two sectors: industrial discharges and municipal sources, i.e. sewage.

Non-point sources are those that come from dispersed runoffs from agricultural, industrial and construction activities. Common examples include pesticide and fertilizer runoff; salt; petroleum and other contaminants from roadways, parking lots and other hard surfaces; as well as volatile organic emissions.

126. Although matters related to land-based sources of marine pollution are the subject of a detailed separate report presented as Document A/CONF.151/PC/71 it is important to underline the need to establish a global strategy and a companion set of regional and national land-based sources action plans that could build upon the Montreal Guidelines principles. This important issue could also be seen in the context of the integrated coastal zone management plans as well as other sectoral components such as agriculture, human settlements, freshwater pollution and industry.

127. The problems of sewage management, particularly in densely populated coastal communities, are amongst the most urgent to be addressed by those responsible for marine environmental protection. Options to use sewage beneficially are available if carefully managed either on land or in oceans. In many cases, however industries discharge to municipal facilities. The separation of industrial from municipal discharges is one of the first steps to be taken. In this connection manufacturing industries may produce toxic wastes that damage the marine environment. Chemicals used as intermediates in other industries, paints, preservatives, disinfectants, dyes, pharmaceuticals, cleaning agents and biocides used in agriculture and many other products may, without careful use and surveillance throughout their life-span, reach the sea and contribute to marine pollution. Certain persistent, synthetic organic substances such as organohalogen compounds (e.g. solvents, pesticides and heat transfer fluids) are known to be particularly hazardous. Thus, their production and use need to be prohibited or strictly regulated.

128. In shallow or semi-enclosed marine areas excessive nutrient concentrations, such as for nitrogen or phosphorous, stimulate growth of phytoplankton and other plants. Damage from nutrient enrichment may result from deoxygenation following plant decomposition, substrate changes, changes in relative abundance of commercial species, enhanced production of algal toxins and increased turbidity of recreational waters. Human activities which increase nutrient supply to the marine environment include fertilizer application, sewage disposal and a range of industrial operations such as food processing, extraction of ores and uses of detergents. Ammonia is a form of nitrogen which occurs in many wastes and may readily achieve concentrations in water that are toxic to aquatic organisms. For these reasons, nutrients warrant particular attention as potential marine pollutants. Identifying, limiting and monitoring uses and emissions of nutrients is a necessary part of marine environmental protection and management.

129. Mining, mineral extraction and smelting operations, mobilize huge quantities of silts. Inadequate management of mine tailings and other mineral residues can lead to a wide range of "downstream" problems in estuaries and coastal areas through changes to habitats, sediment and water chemistry. Agriculture, mariculture, control of insect-borne diseases, metal plating operations, tanning, photographic processing, dyeing and marine anti-foulings applications depend on chemicals and processes that, either directly or

indirectly, can release potentially harmful substances into the environment. Careful planning, siting, monitoring and enforcement procedures are needed to prevent chemical releases from such operations causing marine pollution.

130. Industrial discharges through pipelines are, in general, amenable to straightforward systems of regulation, i.e. loads and concentrations of contaminants can be limited by licensing, in accordance with the best available or clean technologies for the industries concerned, and by monitoring and enforcement of the license conditions. Uniform emission standards (UES) can be developed for particular categories of industry, by consultation with the industrial sectors concerned. UESs for certain sectors, such as industries using hazardous metals (e.g. mercury, cadmium), already exist in various countries and regions, for example the N-E Atlantic region where land-based sources are regulated under the Paris Convention.

131. Environmental quality objectives (EQO) are also important tools for controlling marine pollution. These are numerical values specifying the limits of contamination by specified substances in water, sediments or biota, in order to sustain aquatic life and protect human health. They are particularly effective when used in conjunction with UESs because they provide a means of evaluating the combined effects of multiple sources on the receiving environment. However, an EQO approach necessitates regular and systematic field monitoring. Where they are based on sufficient evidence, they can be an effective measure to protect the marine environment; however, if the status of knowledge is insufficient, EQOs are of little value. The range of EQOs currently in use is rather limited but, through the application of research into cause/effect relationships, it is anticipated that many more substances could be regulated in this way, in conjunction with UES, using locally applicable criteria.

Marine Pollution by Shipping Activities

132. Although shipping contributes little more than 10% of all contaminants to the marine environment, its global character and ease of control, at least in near-shore areas, has made it the target of focused international action. The most important global agreements are: the International Convention on the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating there to (MARPOL 73/78); the International Convention on Safety of Life at Sea (SOLAS 1974); the Convention on the International Regulations for Preventing Collisions at Sea (COLREG 1972); and the International Convention on Loadlines (LL 1966).

133. MARPOL 73/78 regulates prevention of marine pollution by oil noxious liquid substances carried in bulk; harmful substances carried in packaged form or in freight containers, portable tanks for road and rail tank wagons; sewage discharges from ships; and garbage from ships. The main contributions of SOLAS to protection of the marine environment are international requirements for the design and construction of vessels that help to ensure the integrity of cargoes under adverse conditions. COLREG helps to avoid collisions at sea, in particular by the establishment of traffic separation schemes. The "Loadline" Convention places limits on the draught to which a ship may be loaded and its Annexes contain technical safety measures to ensure the watertight integrity of hulls below the freeboard decks. Taken together,

these Conventions and the many technical provisions they contain constitute an extensive range of safety controls for the protection of the marine environment from pollution by shipping.

134. The restrictions placed on waste disposal from vessels at sea make it imperative that ports are equipped with facilities to receive such wastes. Needless to say the availability of such facilities is seriously inadequate. The costs of port reception facilities vary considerably with the types of ship using the port and the lengths of prior voyages. Technically, garbage is relatively straight forward to collect, but large quantities may present difficulties in disposal. Fuel oil sludge, used lubricants and bilge oil need slightly more sophisticated equipment for collection and treatment. The most difficult problem to resolve in this regard is the collection and treatment of large volumes of oil-contaminated ballast water from crude oil tankers, which requires storage tanks, oily-water treatment plants and submarine deballasting pipelines from the berth to the shore. The main obstacle to the provision of such facilities is financial rather than technical.

135. An impediment to implementing requirements for port facilities is the view that public funds need not to be used when clearly, in accordance with the "polluter pays principle", the costs could be borne by the entities concerned, i.e. refineries, chemical companies and port operating companies. In cases where the responsibility for providing facilities cannot be handed over to a single operating industry, consideration could be given to contracting to private operators the handling and disposal of wastes generated by vessels, with financing by imposing a tariff on ships using the port (e.g. through port dues) or individual charges on ships for the use of such services. A recent study commissioned by IMO in co-operation with INTERTANKO, ICS and the Commission of the European Communities has suggested that the large investments required for tanker deballasting facilities could be serviced by automatic inclusion of reception facility costs in oil transportation charges. Where reception facilities exist, the running and depreciation costs could be offset by the revenue so received; however, where no facilities exist this element of the oil transportation charge would be diverted to a special "Fund for Reception Facilities (FRF)" from which loans could be serviced.

136. Certain sea areas may require special protection from potential damage by shipping. Such protection is provided under MARPOL 73/78 where restrictions are being imposed in larger enclosed or semi-enclosed areas designated Special Areas (Reg.10, Annex I, as amended in November 1990). The intention is to reduce or prevent pollution for instance by prohibiting the discharge of garbage from vessels and by strictly regulating any operational discharge of oil or oily water from tankers and of noxious liquid substances from chemical tankers. Nine such areas have so far been designated, most recently the North Sea and the Antarctic region south of 60 degrees South latitude. Special protection to smaller sea areas can be provided under a scheme recently adopted by Member States of IMO provided certain agreed criteria for their selection have been satisfied. The first area adopted under this scheme (November 1990) was the Great Barrier Reef Park area, Australia.

Marine Pollution Emergencies

137. Damage to ships through collision, grounding or adverse weather conditions can result in releases of fuels and hazardous chemical cargoes that are capable of causing significant harm to the marine environment. There are currently some 13 regional multilateral agreements on co-operation in combating marine pollution emergencies either in force or under development.

138. In several regions, multilateral agreements are reinforced by the establishment of bilateral agreements, operational sub-regional contingency plans, and regional centres and equipment bases. In several regions of the world, oil company co-operatives have been established to facilitate a rapid and efficient response to oil spills beyond the immediate capabilities of one company. Major oil companies have also established equipment bases in Europe, North America and Southeast Asia.

139. In general, regional intergovernmental agreements cover some, if not all, of the following main elements or obligations: pollution reporting requirements; mutual assistance and co- operation; establishment of a national system of preparedness and response; exchange of information; and institutional arrangements to facilitate implementation. To remain viable such agreements require a certain level of technical and administrative infrastructure and continuous review and monitoring of their effectiveness. Many developing countries participating in regional agreements lack the material resources and trained manpower to implement such agreements. In some regions, most of the countries participating are in this situation, and the agreement, by itself, is therefore of limited value or use.

140. In part, the International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC) addresses this problem, providing a global, legal framework for cooperation in combating major oil pollution incidents regardless of sources. The Convention also contains mandatory requirements for oil pollution emergency plans for ships, offshore structures, sea ports and oil handling facilities, sets out basic principles on the reimbursement of costs of assistance; facilitates the transfer of technology, encourages research and development; and provides technical assistance, information and advice through IMO. The oil spills associated with the recent war in the Persian Gulf have presented a special challenge to the resources, skills and talents of IMO, States and the private sector in dealing with the offshore and onshore spillage of oil.

141. Questions of liability and compensation for oil pollution damage caused by oil spills from laden tankers are governed by two international conventions adopted under the auspices of IMO: the 1969 Convention on Civil Liability for Oil Pollution Damage (Civil Liability Convention) and the 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund Convention), or CLC/Fund Conventions. The regime of compensation established by the Civil Liability Convention and the Fund Convention contributes to the protection of the marine environment, providing compensation for clean-up costs and for measures taken to prevent or minimize oil pollution damage, though the levels of allowable reimbursement need updating. Such updating was sought under the CLC/Fund Protocols negotiated in 1984 under IMO's auspices, but those Protocols have garnered few

ratifications, due in large measure to the United States decision not to ratify because of the CLC's preemption of unlimited liability requirements under United States law. IMO, in consultation with Member States, is currently reviewing alternative options for strengthening the liability and compensation requirements of the underlying CLC/Fund regimes.

142. While the CLC/Fund treaties address oil spills, IMO has included in its work programme, as a priority item, the development of a convention on liability and compensation in connection with the carriage of hazardous and noxious substances by sea (HNS). The main purposes of the prospective instrument are to implement an international global liability regime which would provide for adequate compensation to the victims of damages caused by dangerous goods during their carriage by sea. The kind of damages to be addressed by the convention would include loss of life and personal injury, loss or damage to property, as well as the loss or damage caused by the contamination of the marine environment. As envisioned to date, it would apply to packaged substances, as well as to the carriage of the residues and wastes of substances considered to be hazardous or noxious. However, there are outstanding questions on how to define the substances to be included in the convention, and the relation between the compensation limits to be established by the convention and the available third party liability insurance capacity in the open market.

143. The effectiveness of international agreements to prevent oil pollution by shipping may be judged by a study conducted in the United States on inputs of oil into the marine environment (United States Academy of Science/Marine Board of the National Research Council, 1989), which, among other things, concluded that total oil discharge had declined from 2,133,000 tons in 1971 to 568,800 tons by 1989. Although pollution caused by grounding or collision of large tankers causes severe local environmental damage, such inputs are comparatively small.

144. Reduction of the inputs of oil from shipping activities is mainly due to wide implementation of the rules and standards for prevention of operational discharges of oil from ships, contained in the first ever international agreement for the protection of the marine environment, OILPOL, 54, and its amendments, and MARPOL 73/78 which superseded OILPOL in 1983. Enforcement of pollution conventions is guaranteed by so-called non favourable treatment of non-Party ships and through the Port State control carried out by the United States, European and other countries. Under Port State control a certain percentage of foreign ships visiting their the port State are inspected to ensure that ships comply with the rules and regulations of various international agreements. Recent findings from Port State control authorities show that more than 90% of ships satisfy the Convention requirements.

145. In view of the recent EXXON VALDEZ and other incidents, IMO is reviewing the existing agreements to improve tanker construction standards as well as the problems of vessel operation which are the primary causes of more than 80% of maritime accidents. In the recently enacted US Oil Pollution Act of 1990, double hulled tankers have been mandated, with deadlines for the retirement of the existing tanker fleet beginning now until 2015, as well as state-of-the-art Vessel Traffic Schemes and other design, operational and manning requirements.

146. Accidents involving oil tankers, offshore oil and gas exploration, exploitation or production activities, storage and handling facilities and loss of hazardous chemicals at sea continue to occur notwithstanding improvements in design, construction operations and standards of training. The extent to which such accidents contribute significantly to the degradation of the overall health of the oceans is uncertain. There can be no doubt, however, as to the severity of the environmental and economic impacts and human health risks at the local level posed by a massive release of oil or other hazardous and noxious substances. Such accidents generally occur in near-shore areas which are known to be highly productive and environmentally sensitive. The risks of an oil or chemical tanker accident are not confined to high density maritime traffic routes; almost no country with a coastline is immune from the risk of pollution through such incidents.

147. Shipping-related wastes such as sewage, garbage and oily ballast waters, wastes from marine platforms such as drilling muds and incidental losses of nets and lines from fishing vessels all harm marine life. Accidental releases of substances and wastes have been responsible for some of the worst marine pollution incidents. Improper packaging, labelling and transport and poor maintenance of plant, equipment, treatment and disposal facilities are major factors in this regard. Accident prevention and response procedures are a necessary part of marine prevention efforts. These have been and continue to be, the focus of measures to combat marine pollution from shipping under the MARPOL Convention; they could usefully be extended to a number of land-based activities.

148. If the threats of a major marine pollution incident are to be avoided and the effects mitigated, there has to be in place a viable system of preparedness and response at the national, regional and global level. Each country could at least develop a national contingency plan and, to the extent feasible, the technical and administrative means by which resources can be mobilized to respond to a marine pollution incident. The ability of one or more countries to respond to such incidents can be enhanced through bilateral and regional co-operative agreements on early warning, reporting and mutual assistance.

149. There is wide recognition of the "polluter pays principle" and international regimes, both commercial and intergovernmental, exist to provide compensation for costs incurred in combating oil pollution incidents. However, what is currently lacking is a financial mechanism to provide the necessary resources to enable the countries which are exposed to the risk of a major marine pollution incident to prepare themselves for responding to such incidents. Many countries exposed to the risk of a major marine pollution disaster derive no direct economic benefit from the activity which creates the risk. Consideration of the principle of the "risk creator pays" could perhaps be explored as one option for providing such financing.

150. Coastal States adjacent to major oil and chemical trade routes which do not import or export large quantities of these substances have a strong basis for requesting assistance in developing their national systems for marine pollution preparedness and response. Currently, technical assistance and advice are provided to a limited extent through the United Nations system, e.g. IMO, UNEP, UNDP. Consideration needs to be given to the creation of a

mechanism or fund (with significant support from the oil industry) designed to support preventive measures and activities related to preparedness, including contingency planning, training, transfer of technology, equipment stockpiles, etc.

Policy Principles

151. The dominant approach to marine environmental protection over the past 20 years or more has been a combination of reliance on assumptions of the marine environment's "assimilative capacity" in conjunction with controls on inputs of substances and wastes that have harmful effects on marine life, resources and amenities. Generally, priority in marine pollution control has been to prevent toxic effects and physical interference with habitats and biological processes. As coastal waters have become increasingly degraded, though, there has been a shift in thinking towards the view that significant contamination by unnatural substances which have the property of dispersal and persistence in the marine environment could be prevented. Toxicity and bioaccumulation, whilst useful indicators of potential harm, cannot always serve as identifiers of harmful substances. As the Contracting Parties to the London Dumping Convention stated, "existing pollution control approaches, under the [LDC], have been strengthened by shifting the emphasis from a system of controlled dumping based on assumptions regarding the assimilative capacity of the oceans, to approaches based on precaution and prevention" (A/CONF.151/PC/31, Annex 1).

152. In this regard, numerous international forums have adopted revised "prevention of harm" policy statements, variously referred to as the "precautionary action" or "anticipatory and precautionary" approach, among others. As noted above, this shift has been away from the principles of assimilative capacity which have required both scientific evidence of significant environmental degradation or harm, as well as the demonstration of a causal link to a substance or activity, toward the principle of anticipatory action, which may require the first but not the second, and does not preclude acting even before the onset of damage if damage is thought likely. Appropriately, the principle of precautionary action: (1) appreciates the limits of scientific prediction, monitoring and control; (2) accepts that anticipatory action can and should be taken where sufficient grounds exist for concern, even in the absence of firm scientific proof of cause and effect; and (3) recognizes that resources must be put into clean production technology in order to ensure that harmful wastes are minimised.

153. As noted earlier, concern over the magnitude of contamination and uncertainties regarding its significance to the marine environment have stimulated the international community to adopt measures that reflect a more precautionary approach to managing contaminant inputs. This has occurred at both the global level (e.g., UNEP Governing Council, London Dumping Convention) and regional levels (e.g., North Sea Ministerial Conferences, Organization of African Unity, Paris and Oslo Commissions, Latin America and Caribbean's Tlatelolco Platform, and the Bergen ECE Conference).

154. Building on the precautionary approach, this has already resulted in regional initiatives to reduce substantially current inputs of priority contaminants such as nutrients, certain heavy metals and synthetic organic

substances from all sources (North Sea Conference, 1987) whether or not there is evidence that harmful effects have occurred. Similarly, the decisions within the Oslo Convention and the London Dumping Convention to phase out certain forms of dumping can be seen as further examples of the regulatory implementation of such an approach.

155. These actions constitute the basis of a precautionary approach to environmental contamination. While in principle they could be directed at all substances and wastes, in the initial stages of implementation, priority can be given to those materials which demonstrate a high degree of toxicity, which are persistent in environmental media, or which are liable to accumulate in biological tissues. There are many listings of hazardous substances which can assist in identifying substances that demand urgent attention from the responsible authorities. In the cases of certain synthetic organic substances with particularly harmful properties it is advisable to reduce emissions as close to zero as soon as possible.

156. Underlying global and regional actions which are serving to advance the precautionary approach is the view that greater attention could be given to all human activities that release substances or wastes and to progressively reduce the overall burden of contamination on the environment as a whole. In this regard, each of the international forums that has articulated the need for such an approach also has called for strengthened commitments to clean production technologies. Such technologies represent an improved, further development of the Best Available Technologies concept. Their primary advantage is that they ensure that pollution is eliminated and not transferred to another pathway or environmental medium. Moreover, but analyzing the entire production life cycle, including the ultimate fate of the product itself, clean production substitution is not restricted to technological fixes, but is broader. Through substitution with clean production methods, hazardous wastes and products entering the marine environment can be fully eliminated rather than creating a disposal problem.

157. There are many opportunities and practical possibilities to reduce environmental contamination. For existing practices, improved "housekeeping" and maintenance of equipment, up-grading of production processes and improved waste treatment can achieve substantial reductions in emissions. For new investments, careful attention to the choice of raw materials, energy requirements, the design of processes and waste treatment facilities, prior consideration of the opportunities for recycling and the constraints on waste disposal will assist movement towards cleaner technologies which minimize environmental impacts. With respect to "clean" production, a multitude of clean production experts, pilot projects, and case studies has developed over the past few years. The primary hurdle at present is the lack of industrial and political will to implement clean production methods, not a lack of physical or technical capability.

158. As regards the prevention of marine pollution by substances and wastes, a more specific goal is warranted that would serve as the basis for global action in controlling contaminant inputs, i.e., to manage human activities and human development in a manner that will prohibit or limit contamination of the marine environment, especially with respect to substances and wastes where there is reason to believe that damage or harmful effects are likely to be

caused, even where there is inadequate or inconclusive scientific evidence to prove a causal link between emissions and effects, and thereby to ensure that the viability of marine ecosystems and the legitimate uses of the sea are sustained for the benefit of present and future generations.

159. There are certain management approaches that could be adopted as components of national and international policies that aim to address the overall goal of marine environmental protection. Some important and entirely complementary approaches are as follows: the establishment of national agencies or institutions responsible for environmental planning; reduction of toxic and hazardous substances at the source, including requirements for waste reduction audits; the use of environmental impact assessments; adoption of a precautionary approach, including a strong commitment to clean production technologies; the polluter pays principle and the monitoring of the level and effects of marine pollution and the related scientific research.

160. The effectiveness of international agreements in preventing or reversing degradation of the marine environment depends entirely on the full and proper implementation and enforcement of the agreements by the governments concerned. Compliance with quantitative standards and targets can provide international bodies with useful measures of performance but it is not feasible to assign numerical values to all practices and environmental conditions. Nevertheless, this approach could be adopted whenever practical and appropriate.

161. Since intergovernmental litigation is seldom a satisfactory means to enforce compliance with international agreements, international bodies that deal with protection of the marine environment might consider the establishment of independent auditing bodies that would periodically evaluate the performance of States in complying with their international obligations. Alternatively, a single auditing body could be established at global level.

VII. IMPLICATIONS OF CLIMATE CHANGE IN OCEAN MANAGEMENT

Main Issues

162. The ocean has been referred to as "the flywheel of the climate system" since it stores energy in the form of heat when it is in plentiful supply during the day or summer and releases it when the supply is reduced during the night or winter. Ocean currents move thermal energy from the tropical and sub-tropical regions to higher latitudes thus moderating the climates on adjacent land masses. Any change to major ocean current systems could be expected to have major effects on regional climates, weather and on marine productivity. The inter-play between the ocean and the atmosphere involves several feed-back loops. Wind directions are determined in part by temperature differences between land and sea, and ocean surface currents are in turn affected by wind speed and direction. Increases in sea surface temperature will therefore alter the existing dynamic balance between ocean and atmosphere and current patterns at least on local and mesoscales. Increased ocean surface temperature will increase the rate of open water evaporation and cloud formation, which will in turn affect surface temperature.

163. On longer time scales other changes may be anticipated. In the tropical Atlantic, where solar heating and excess evaporation over precipitation and runoff occur, a body of warm saline water is created which moves northwards, losing heat to the atmosphere. In the area of the Greenland Sea the water now sinks as a body of cool, high salinity water and flows southwards as a deep water mass. The salinity of this water could be reduced by greater precipitation, by the Greenland ice cap melting or by the increased passage of Arctic water into the Atlantic. In that case cooling might be insufficient to increase the density of the water which would not sink. Extensive changes to the circulation patterns of the North Atlantic might occur, with major consequences for the climate of Western Europe.

164. The existence of basin scale oceanographic phenomena with major impacts on regional climates and sea levels is perhaps best known in the case of the El Nino Southern Oscillation (ENSO). During El Nino events the westerly moving, warm, surface ocean currents of the tropical Pacific dominate the northerly moving, cold, Humboldt current off the coast of Latin America. This results in major decline in off-shore oceanic production and dramatic decreases in the pelagic fisheries yield. In addition, sea levels rise by between 30 and 50 cms on the Latin American coast and are lowered in the western Pacific. Such changes in ocean circulation may be linked with periods of lowered rainfall in Australia and South East Asia. The need for better ocean observations to predict the onset of ENSO events has lead to development of a Pacific network and a number of large scale ocean experiments designed to understand the mechanisms controlling this phenomenon.

165. The role of the oceans in the global carbon cycle is still not well understood. Given that the oceanic sink of carbon is considerable, our lack of understanding concerning the oceanic fate and flux of carbon dioxide is a cause for concern. Productivity is not uniform throughout the oceans, open ocean areas are the watery equivalent of deserts. In zones of upwelling, where deep ocean reserves of nutrients are brought to the surface and in coastal zones where nutrient inputs are received from land, productivity is much higher. In tropical and sub-tropical regions primary productivity is generally limited by nutrients while at higher latitudes water temperature may limit primary productivity during the cold seasons. Ocean productivity varies on diurnal, seasonal, inter-annual, and decadal time scales. A considerable proportion of this variation is determined by climate, and is well documented, together with associated changes in fisheries production.

166. A number of factors unrelated to climatic change are known to affect climate. Volcanic eruptions producing dust clouds in the upper atmosphere or sulphur dioxide which forms droplets of sulphuric acid shield the surface of the earth and result in global cooling of several tenths of a degree. Such effects are short-lived and observations of atmospheric transparency suggest that volcanic eruptions have played little part in temperature trends over the last 100 years. Changes in the "solar constant" of 0.3–0.5% could cause a temperature increase equivalent to that observed over the last 100 years (0.5°C.). Satellite based measurements demonstrate that the sun brightness does indeed change on time scales as short as years and decades and that such changes correlate with changes in sunspot activity. The correlation between sunspot activity and average global temperature from 1885 to 1985 suggests that variation in solar radiation may be responsible for part of the post 1800 temperature rise.

167. The need for more detailed knowledge of the role of the ocean in determining global and regional climate patterns is obvious. Involvement of the Intergovernmental Oceanographic Commission and the Scientific Committee on Ocean Research/ICSU in the oceanic components of the World Climate Research Programme/ICSU-WMO is a response to the growing recognition of the role of the oceans in global climate. A number of activities, notably Joint Global Ocean Flux Study/ICSU, World Ocean Circulation Experiment and Global Energy of Water Experiment can be expected to identify elements for future ocean monitoring and observing systems. Present areas of uncertainty in climate modelling and prediction include aspects of the role of the ocean; the role of upper atmosphere water vapour and clouds; regional level prediction; and, the climatic influences of natural factors unrelated to greenhouse gases. Such areas of scientific uncertainty result in limitations to predictions of impact scenarios. Assuming that greenhouse gas concentrations continue to rise, some global warming may be expected during the next century, however the magnitude of the human induced greenhouse gas warming and the overall extent of the global changes which will occur are still ill-defined.

168. That global mean surface temperature has risen around 0.45°C including land and ocean, over the last century is now widely accepted. Similarly measurable increases in greenhouse gas concentration have occurred over the same time period, and recent evaluations of global sea-level change suggest that the current average rate of rise is approximately 1.5 mm yr-1. Whilst the similarity in trend between these three sets of observations supports the greenhouse theory, a causal relationship is not proven and the anthropogenic impacts on global climate remain a scientific hypothesis.

169. The Second World Climate Conference agreed that if no action is taken to reduce emissions of active gases, global warming could reach 2 - 5°C over the next century and that sea level could rise by 65 cm +/- 35 cm by the end of the next century. This rate of warming is unprecedented in the past 10,000 years. It is important to recognise that scientists can make predictions with any degree of confidence only in respect of global level mean temperature. Predictions concerning changes in wind patterns, rainfall, ocean currents, sea levels and other variables are being made, but these have a low level of confidence and differ considerably depending on the models used. As a consequence, impact assessment and forward planning are even more constrained.

170. Ocean observations are much less well developed than atmospheric observing systems. Existing global circulation models cannot adequately include the role of the oceans in making predictions of the earth's climate in the next century. The paucity of ocean observations has inhibited the development of single basin models and the value of data for regional climate prediction is severely limited. Data collection systems have patchy coverage and the Indian and Antarctic Oceans are data sparse areas. The need for more detailed knowledge of the role of the ocean in determining global climate and regional climatic patterns is obvious. A number of activities can be expected to identify elements for future ocean monitoring and observing systems, including parameters to be measured, and the distribution and frequency of measurements. A detailed description of these and particularly of the Global Ocean Observing System (GOOS) as a component of a Global Climate Observing System is included in document A/CONF.151/PC/70.

171. The social and economic consequences of such uncertainty are obvious. If decision makers take the lower bound they risk the consequences could worst case scenarios eventuate. Yet taking the upper bound conditions could lead to larger financial investments which may later prove to have been unnecessary. There is an imperative need to reduce the uncertainties. Acting today on current ocean and coastal zone environmental problems will mitigate them and this would represent an investment in sustainable development even if no climatic change occurs.

Impacts of Possible Climate Change on Small Islands and Archipelagic States

172. Recent assessments of climate change impacts on small islands include those conducted through the United Nations Environment Programme-Intergovernmental Oceanic Commission Regional Task Teams on climate change implications. The most comprehensive include studies of the Maldives, and of various Pacific and Caribbean Islands. For most small archipelagic states the entire land area may be considered "coastal" in that it is directly influenced by and influences the inshore waters. Few studies to date appear to have attempted a comparative ranking of the vulnerability of areas, regions or countries. One comparative algorithm for the islands of the Pacific Basin has been developed and used to identify priority countries within the region. Small archipelagic states are among the most vulnerable in the world to the potential impacts of climatic change and sea level rise. Delegates from small states to the second Preparatory Committee meeting of UNCED stressed the need to take immediate and effective action. The Ministerial meeting of fourteen small States, in Male' in 1989 amplified their needs and called on the United Nations and other International bodies to assist. To date thee response has been limited.

173. Whilst the potential impacts identified for coastal zones in general are equally applicable to small island nations, such countries are also subject to constraints and potential impacts which are unique or of greater magnitude than potential impacts in coastal states having higher altitudes and more extensive inland areas. The distinction between such "archipelagic" and 'coastal" states are already drawn within the United Nations Convention on the Law of the Sea (UNCLOS) and such states may merit particular consideration within the framework of future attempts at managing the global marine environment.

174. One critical and frequently limiting factor on small islands is the freshwater supply which is derived from rainfall stored in underground aquifers. Aquifers are small freshwater lenses floating on the seawater. Aquifer volumes reflect island area and the underlying geology and on many islands current supplies are already limiting development and agriculture. Higher sea level will ultimately reduce aquifer volumes thus reducing the carrying capacity of the island. For some island communities it could become necessary to depend on desalination for freshwater and this might be too expensive for many uses such as agriculture, increasing the dependance of the country on imported fossil fuels.

175. Small archipelagic states have limited land areas, close to sea-level. In atoll states such as Kiribati, the Marshall Islands, the Maldives and Tuval up to 80% of the land is less than 1m above sea level. In high islands most agricultural land is at or close to sea level. Most infrastructure development including roads, airports and communication networks are coastal

in location, often flooded by spring high tides. A small rise in sea level may result in substantial losses in total land area; changes in stability pose threats to the continued existence of such islands. Coastal erosion is already a problem for many Pacific islands and this will be accentuated by sea level rise.

176. It has been suggested by the IPCC that since atolls survived past conditions of rising sea level they will keep pace with rising sea level. This has been questioned and it has been argued that not all coral reefs "kept-up" with past rising sea levels, some "gave- up" and some "caught-up" following initial inundation. The reasons why individual reefs responded in these different ways are unknown at the present time. A number of researchers have drawn attention to the increasing frequency of coral bleaching and mortality, apparently as a consequence of high temperature anomalies. Changes in corallivore populations apparently as a response to small scale changes in ocean circulation and higher water temperatures are known to have occurred in a number of reef systems. Many studies have clearly shown that coral reef systems are already stressed in many areas of the world as a consequence of human activity. Current and predicted changes could affect the ability of reef systems to respond to rising sea level and this undermines the view that all atoll islands will survive climatic changes and sea level rise.

177. Similar statements relating to the ability of marshes and mangroves to respond without significant change have also been made. Various studies suggest however, that mangroves will be unable to keep pace with rising sea levels unless allochthonous sediment inputs are increased; that wetlands soil chemistry may change such that peat reserves are depleted; and that certain ecotones of marsh communities may be disproportionately reduced in extent.

178. Any changes in the frequency, intensity or distribution of tropical cyclones or hurricanes could potentially have devastating effects on small island communities particularly where urbanization has formed aggregations of people on islands with restricted land areas and little or no high ground. The diversity of the terrestrial flora and fauna of islands is limited, although islands contain a disproportionate number of endemic species and species with restricted distributions. The high salinity, alkaline PH and low fertility of many island soils and limited freshwater limit agricultural potential. Changes in rainfall and temperature as a consequence of climatic change could further limit this potential. The eco-physiological tolerance of many tropical crops restricts the range of potential introductions which might be made.

179. Islands are home to a disproportionately large section of the worlds cultural and linguistic diversity with each island community having its own cultural traditions, scientific and traditional knowledge base. Over a third of the world's languages are spoken in the archipelagic countries of Melanesia and maintaining such cultural integrity would be impossible if such communities were relocated. Island communities are highly dependent on the marine environment and resources both for subsistence and commercial production. Their store of knowledge concerning the marine environment and its resources may be more detailed and sophisticated than that of western science. Any change to biological productivity within the areas of their Exclusive Economic Zones would have dramatic impacts on the capacity of such countries to achieve sustainable development. The ability of such fragile economies to respond to the constraints imposed by the need to adopt mitigation measures for climatic change impacts is severely limited.

180. Many smaller island countries in the tropics and sub-tropics are dependent upon tuna as a major source of export earnings. Climate change impacts on the distribution of such stocks may not be great. In contrast, the potential impacts on reef fish stocks are likely to be greater given predicted changes to coral reefs, threatening the basis of the subsistence economy. A major source of income for island countries is tourism, particularly associated with coral reefs. Any decline in the amenity value of reefs, beaches and climate following climatic change and sea level rise could reduce tourism related income.

181. The constraints imposed by small land areas, huge exclusive economic zones (land areas are generally less than 0.001% of the EEZ) and consequently large maritime distances separating population centres; small and narrow, marine based economies; all render the achievement of sustainable development in such states is a difficult task. The imposition of the added burden, of planning for and taking measures to mitigate the impacts of climatic change and sea level rise may place the achievement of sustainable development beyond the reach of many small island states. A further constraint to response on the part of small island states to potential impacts is the limited pool of scientific and technical expertise available to respond to the need for integrated coastal zone management and mitigation measures for potential future impacts.

182. Although the small island states have contributed little to the problem of global climatic change they are nevertheless the countries which are likely to feel the impacts first and potentially might be the worst affected. It cannot be stated categorically that any small state will cease to exist as a consequence of global climatic change and sea level rise, but the possibility that several states may become uninhabitable or completely unviable economically must be accepted. In the case of small islands two of the three response strategies advocated by the IPCC subgroup on coastal zone management, namely retreat and protection are not possible whilst the third, accommodation, might not be possible within the existing economic and environmental conditions. Transferring solutions and models from larger coastal countries to small islands will not work.

183. From the perspective of small island states therefore measures to slow or prevent sea level rise and climate change are viewed as a positive necessity. The need for international agreements to provide assistance in evaluation, monitoring, management and planning for environmental changes are of paramount importance. In the context of their endogenous capacity to respond to the present problems, small island countries must be considered as particularly disadvantaged and therefore in need of preferential treatment in the framework of any global agreements concerning this issue.

Impact of Possible Climatic Change on Vulnerable Coastal Areas and States

184. Climatic change impacts in coastal areas will be both diverse and extensive including alterations to physical, biological and human elements. More detailed understanding of the functioning of coastal systems is required to facilitate impact prediction, planning and management. The diversity of local environmental conditions compounds the difficulty of making accurate predictions on local scales. Most studies relating to global change impacts

in coastal areas have concentrated on the potential impacts of sea- level rise and have either neglected climatic parameters completely or socio-economic considerations. Attempts at developing policy directions have been based on generalizations of impacts rather than on specific analyses for particular countries or areas.

185. Numerous publications have been produced recently on global climate change impacts in the coastal zone including the report of Working Group of the IPCC and the reports of the UNEP, IOC regional task teams. Most reviews have listed broad areas of impact and few have considered the implications of several different scenarios with specified time frames, for the same geographic location. This has resulted in a lack of direct comparability between individual studies and assessments. The Regional Seas Task Team for the Mediterranean reviews on the impacts on agricultural, social and economic features of the region concluded that social and economic changes may outweigh the impacts of climatic changes in this region over the next 50 years. Similar, some conclusions were drawn by the regional task team for the South Pacific stating that a major impact on Papua New Guinea might well be the expansion of the region of endemic malaria into the central highlands. Such examples demonstrate the need for a co-ordinated and multi-disciplinary approach to impact assessment rather than a narrow sectoral approach. Potential impacts may be directly related to temperature and other components of climate, including episodic events, or to changes in sea level, or to the combined interaction between several such factors. Establishing whether observed changes result from global climate change or from other anthropogenic or natural causes will be a major challenge for the immediate future.

186. Predicted changes include: increased air and sea surface temperatures, changes to local climates and weather, changed patterns of winds and rainfall in time and space. On a local scale changes in air temperature cannot be predicted accurately since air temperatures will be affected by local topography and by changes in other local microclimatic parameters including rainfall and wind patterns. Regional, sub-regional and local changes in rainfall and wind patterns cannot be predicted accurately. Secondary impacts include changes in relative humidity, in run-off and river flow rates, in coastal soils and soil fertility, in distribution of coastal biomes, in coastal current and wave regimes, in the location and/or persistence of oceanic frontal systems, in salinity and coastal water chemistry, in the distribution, intensity and frequency of storms, in coastal flooding and changes in human comfort of specific locations.

187. Frequency of coastal flooding would be increased by a rise in sea-level, but would also be changed by alterations to coastal current regimes affecting wave climates, by changed storm patterns and by changes in rainfall which might enhance river based flooding in major river systems. It has been suggested that a general world-wide increase in inundation is likely and the impacts of such changes can only be moderated by correctly planned development of the coast based on an assessment of vulnerability in both the short and long-term. River flooding will be affected by changes in the temporal distribution and absolute volumes of rainfall and may be exacerbated or mitigated by anthropogenic activities within watersheds.

188. The inter-connections, feed-back loops and consequences of changes in single physical parameters mean that impacts cannot be assessed on a sectoral basis and a systems approach to untangling potential impacts is imperative. For example changes in rainfall and temperature will affect relative humidity which will alter evapo-transpiration rates hence affecting the hydrological cycle and local water balance. Such changes will affect coastal vegetation distribution and abundance which will in turn alter animal distribution and abundance and the overall productivity of natural and agricultural systems on land. These will also affect human drinking water supplies. Changes in salinity levels will change coastal marine ecosystems, fish production and mariculture.

189. For many coastal cities reliant at the present time on groundwater supplies, increasing sea levels will restrict the volumes of available freshwater and saline intrusion will increase. Changes to riverine and groundwater supplies of freshwater will alter sediment and nutrient inputs to coastal and near-shore areas and will change the salinity regimes of currently productive coastal marine ecosystems, with impacts in coastal vegetation, agriculture and soil fertility. Total global fisheries production is not expected to decline as a consequence of changes in global ocean circulation. However, at a local scale, as a consequence of changes in coastal water productivity, there could be important implications for established fisheries and the economies of whole countries which are currently dependent on development income from fisheries.

190. Coastal ecosystems are likely to suffer considerable impacts as a consequence of predicted changes. Coral reefs may be one such system. They are areas of high biodiversity, being the marine equivalent of tropical rainforests as a source of species, genetic and ecosystem diversity. The potential impacts of changes to coastal fisheries are well illustrated by changes along the Pacific Coast of Latin America, when raised coastal water temperatures occur during El Niño years. Demersal and coastal fish change abundance with warm water species replacing those normally characteristic of these fisheries. These phenomena place economic and technological strains on local fishing communities requiring adaptation of catch, processing and marketing technologies and knowledge of changed fishing grounds.

191. Understanding the nature of potential impacts at a local level requires data and models which describe the current local situation and detailed local level predictions of future climates. Given that regional climate predictions may not be available for one or more decades priority will need to be given to improving the state of knowledge concerning coastal zones at local, regional and global levels and to ensuring that compatible data acquisition and exchange systems are in place in time to feed appropriate data into the regional models as they are developed.

192. The consequences of sea-level rise are more likely to be experienced by less developed countries and include; increased frequency and extent of flooding; rearrangement of coastal unconsolidated sediments and soils; increased soil salinity in areas previously unaffected; changed wave climates; accelerated dune and beach erosion; upward and landward retreat of the boundary between freshwater and brackish waters; greater upstream intrusion of saltwater wedges; and changes to bank and wetland vegetation; changes in the

physical location of the terrestrial aquatic boundary; changes in coastal water clarity and circulation; and changes in sediment sink volumes. The magnitude of such changes is difficult to predict.

193. As a consequence of the primary impacts a variety of secondary impacts can be identified which include amongst others: changes in off-shore bottom profiles; changes in sediment and nutrient flux rate; changes in marine primary production; and changes in terrestrial (coastal) primary production. Changes of sediment levels in coastal waters may enhance primary production by increasing nutrient availability or reduce it by increasing turbidity. Any concurrent changes to the sediment inputs resulting from natural causes such as changed rainfall patterns, or anthropogenic influences via changes to land use in the catchment, and/or management of river flows would further alter this balance.

194. Such complex interactions and feedback loops make the predictions of physical changes to coastlines due solely to rising sea-level difficult if not impossible at the present time. Certain critical areas of impact resulting from second and higher order changes may be identified. For example changes in beach plan form will alter current and wave regimes and hence local patterns of erosion and deposition and distribution of sub-tidal substrate types. Changes to substrates will alter the distribution patterns of benthic organisms, while changes in coastal currents will alter recruitment patterns of benthic populations. Such changes alter vulnerability of the coastline to wave attack. flooding and inundation and thus affect capital investment in construction and the suitability of coastal areas for settlement.

195. Changes in nutrient levels in coastal waters will change marine based primary productivity and may change the frequency of harmful algal blooms impacting fish and shellfish resources, thereby affecting subsistence and commercial activities. Changes in marine primary production will affect energy flow to and standing stocks of, higher trophic levels including finfish for human consumption. These will alter the economic viability of living resource based activities by affecting commercially important species such as penaid prawns and shrimp. Variations in the salinity of coastal wetlands may also alter the distribution of human disease vectors, hence changing the epidemiology of vector borne disease.

196. In many coastal areas current economic and social activities are exacerbating an already critical situation. Potential impacts of climatic change and sea-level rise are over-shadowed in many areas by existing problems of environmental management and current environmentally unsound development practices will increase susceptibility to predicted global climatic change impacts. Some coastal states are particularly vulnerable, for example between 8 and 10 million people live within one metre above sea level in each of the unprotected river deltas of Bangladesh, Egypt and Vietnam. Major centres of population such as Sydney, Shangai, Louisiana, and Bangkok are particularly vulnerable. The ability of developing countries to respond to local or national threat is severely constrained by economic considerations.

197. In synthesis, seasonal and episodic inundation and flooding are already serious problems in many countries and these are apparently increasing in frequency. Increased investment in the coastal zone has increased

vulnerability to climatic change. Past planning in the fields of engineering, human settlement and development has assumed that climates are relatively "stable" and can be described in terms of mean conditions, and the frequency of occurrence of maximum or extreme events. The view that past climatic data provides a reliable guide to the future is no longer sound and planning must take account of trends of rising temperatures and sea levels.

198. All strategies for the protection, enhancement and sustainable use of the marine and coastal environment and resources could be based on comprehensive observations and a sound, scientifically based understanding of marine ecology, ocean processes and their interactions with the terrestrial and atmospheric systems. Such an approach requires a greatly increased level of international co- operation and investment in marine and ocean science, education and training. Global strategies to address the problems of the environment and development must be examined, formulated and established, taking account of the role of the ocean in climate and climatic change impacts on ecosystems, biodiversity, and human society. Strategies need to take account of the socio-economic constraints in poor nations and the links between socio-economic and cultural processes and the natural environment. A considerable investment must be made in ocean planning and management if sustainable development is to be more than an unachievable ideal.

199. Coastal and near-shore environments are currently under threat world-wide and enhanced investment in appropriate systems for managing these vital resources and reconciling conflicts must be made a priority. The application of environmentally sound management practices in coastal and ocean activities must be a cornerstone in strategies to safeguard the marine environment. Integrated coastal zone management should not be seen as a universal panacea. A new paradigm which reconciles economic and environmental interests is needed if the accelerated rate of environmental degradation is to be halted.

VIII. CAPACITY BUILDING

Main Issues

200. The accelerating problems of the marine environment and coastal zones are growing much faster than the capacity of most countries to assess and resolve them. Since the sea is a relatively inaccessible medium for humans, its observation and study requires special and often costly means. While the industrialised countries have made great strides in coastal modelling and in ocean science and technology, this progress has not been widely shared with developing countries. It is a matter of urgency in all coastal countries to build their capacity to address ocean and coastal issues, particularly in developing countries where the need to achieve sustainable use of available resources is essential for survival. That capability must include a technical, scientific, social and political understanding of the problems and the means and methodologies to develop and implement solutions. Several principles that underlie any international approach to capacity building are included in detail in document A/CONF.151/PC/53 entitled Transfer of Technology.

201. The type of capacity required could help to harmonise and advance environment and development. Reference is frequently made to the vast

opportunities and resources of the ocean for developing countries. However the development of ocean mineral resources has proved to be costly and technically complex. Most living resources are heavily exploited and impacts of pollution and intensive coastal development are now reducing the productive capacity of many marine resources. The challenge of sustainable development in the oceans, lies in finding ways to fit together the many, often conflicting uses of the oceans and coastal areas through comprehensive integrated planning, and the restoration or even improvement of the productivity of important marine resources and the efficiency of their use through careful management.

202. Building the capacity for sustainable ocean and coastal development is thus a complex process which will require a considerable and continuing effort by all countries. Each ocean has its peculiarities and there are enormous differences in the range of marine ecosystems and coastal areas. Therefore this effort must cover the full range from global through the regional to the national and local levels. Building the necessary capacities at each of these levels could be carefully co-ordinated and mutually reinforcing. In some instances the result will be new and valuable forms of development. In others, it will be the maintenance of important resources which would otherwise be degraded and lost. There is a need to develop capacities for a variety of complementary requirements, including:

(i) Research, resource assessments and monitoring to understandthe status and trends in resources, the state of pollution and the behaviour of natural systems;

(ii) the compilation of appropriate information and its interpretation and use, through tools such as data banks, geographic information systems (GIS) and environmental impact assessments (EIA); and

(iii) the establishment and application of management measures, especially legislation, regulations and enforcement mechanisms.

203. The most essential capacity is in human resources. Marine and coastal area environmental management requires research and monitoring by specialists in the appropriate sciences as well as managers able to combine scientific, economic, social and political considerations into plans and measures for integrated coastal zone and ocean management. Training to meet environmental requirements could include high level researchers, monitoring technicians, data analysts, all levels of the management structure concerned with marine and coastal problems, local extension agents and even the resource users themselves, such as fishermen and tourism operators. An enormous and sustained flow of scientific and technical advice and expertise is needed to develop endogenous technical and institutional capability in developing countries.

204. Environmental management frequently requires scientific infrastructure such as laboratories and other research facilities which presently do not exist in many poorer countries or, if they exist, are often not efficiently maintained and supported. Until countries are capable of obtaining and evaluating data on their own environment, it will be difficult for them to carry out effective management. Improvements in basic infrastructure will require a considerable capital investment and a commitment to provide adequate operating costs.

205. The provision of boats, ships, diving equipment and other means of access for research and management is a major requirement that is a significant problem for developing countries. Research vessels in particular represent significant capital and operating costs that are beyond the means of many countries. Some access to such facilities is being provided by co-ordinated international co- operation and assistance, and this could be extended.

206. Management infrastructure is crucial for many countries, especially developing countries, who are unable to assess the problems facing their coastal and marine environment or to plan and implement the rational use and protection of their resources. In particular, they lack the means to integrate coastal and marine use and environmental management in a single policy framework. Management of any major component of the environment requires the capacity to analyze data and statistics, to generate policy options and take management decisions based on the best data available, and to apply management measures and enforce them. Both adequate facilities and trained personnel must be available to do this. Again the problems of access to the marine and coastal environment make it more expensive to carry out surveillance and to take action against offenders of fisheries or pollution regulations. Patrol boats and aircraft may be necessary if a country's authority is to be enforced more than a short distance offshore. Modification or economic and fiscal measures such as taxes and fines may be important means for environmental management but require a legal framework and personnel to enforce the law.

Building for the long term

207. The ultimate objective of any process for building capacity is that such capacity becomes self-sustaining. Once there is a certain critical mass of trained people, administrative structures and facilities, it should be able to maintain itself. This requires an adequate national commitment which is sometimes lacking, particularly for the oceans. Until that critical mass is established in a nation or a region, continued outside assistance in the form of basic support will be necessary. Unfortunately, with the difficult economic situation in many countries, present financial support is insufficient even to maintain existing capacity.

208. Building a nation's capacity is inherently a lengthy process. It takes time to train people, and even longer for them to acquire mature experience. Establishing institutions and facilities and accumulating data are also processes that require sustained effort over a considerable period. Detailed knowledge of a local environment is not something that can be imported at will. Too many aid and development projects aim for short-term results; they must be fit into longer-term strategies with clear continuity.

209. Effective regional mechanisms are an important part of environmental management capacity both in dealing with regional problems and in reinforcing capacities at the national level. Such mechanisms, whether the UNEP Regional Seas Programmes or others such as the IOC regional subsidiary bodies or the FAO regional fisheries commissions and other regional fisheries bodies, need to be strengthened where they exist and extended to or established in other areas that would benefit from a regional approach. Certain regions and countries have special characteristics for which particular attention must be

developed. Enclosed and semi-enclosed seas are especially vulnerable and must be managed as a single system through appropriate regional agreements.

210. The development and implementation of regional action plans by the Governments of a region also influences the national policies and priorities of each participating State as the state of the marine and coastal environment is assessed and specific problems are identified. The process itself results in strengthened national capacities to understand and deal with environmental problems by giving local experts more experience, building national institutions, and strengthening legislation and regulations. At the same time, the compilation of regional needs helps to attract donor support in a mutually-reinforcing process. Regions that have succeeded in establishing effective regional co-ordinating units or organizations have in general been the most successful, as such units improve communications within the region, respond more rapidly to Government requests, and assist in the effective implementation of activities. The existence of a strong regional capacity can compensate in part for weaknesses at the national level, particularly for smaller and poorer countries whose potential capacity is inherently limited.

Strengthening regulatory, administrative and institutional systems

211. Governmental structures need to be modified and integrated to give them the capacity to assess the problems facing the coastal and marine environment and to plan and implement the rational development and protection of marine and coastal resources. Personnel and facilities need to be brought together in effective institutional structures. Many options are available depending on national requirements and traditions. These can range from strong centralized national bodies through decentralized systems to reliance on local government or even traditional leaders and local users to implement environmental protection and management. The form that institutional systems take is less important than the development of the capacity and the assignment of responsibility in one form or another. Special efforts are therefore needed to present environmental data in forms that facilitate their full consideration in the decision-making process. This in turn will build the public support and political commitment without which progress is impossible.

212. While the United Nations Convention on the Law of the Sea provides a global framework and other international and regional conventions give useful legal support, much needs to be done to strengthen national legislation for the protection and sustainable management of marine and coastal areas which is often weak, fragmented or entirely lacking. States that have not yet ratified or acceded to the relevant conventions could do so and could adopt corresponding legislation to apply them at the national level. Many existing laws also reflect the lack of an integrated environmental approach to coastal and ocean management, and need to be supplemented or replaced by new laws. This will require a strengthened capacity to draft environmentally-appropriate national legislation.

213. Coastal area management is a complex field requiring the balancing of the strong and often conflicting development pressures along the coast with the requirements of a productive but vulnerable environment. Guidelines need to be developed to assist States to adopt appropriate measures for integrated coastal management. Planning tools such as geographic information systems are

coastal vulnerability maps can assist in this process. A wide range of technologies now exists to address marine and coastal problems. A capacity needs to be created in both the public and private sectors to select the technologies and approaches that will be both appropriate and cost-effective in local circumstances.

214. The complete integration of environment and development in the planning process is particularly important on islands with growing populations where both terrestrial and marine resources are limited and thus both the types of development and the total size of the population must respect the carrying capacity of the island system. Traditional knowledge of island resources and their management, where it exists, can be a useful guide to modern approaches. The lessons learned in developing sustainable island life-styles and planning processes will be useful for other societies which may also be reaching environmental limits.

215. National institutions such as universities, research institutes and development bodies can be strengthened through direct bilateral assistance projects or by "twinning" with developed country institutions which can arrange continuing exchanges of personnel and technical support for research projects. National institutions can also develop their capacity through participation in regional and international programmes. Contracts with developing country institutions for participation in research and monitoring programmes could include a capacity-building component.

216. There is often a lack of confidence in the capacity and experience of local experts in developing countries. The involvement of such experts in regional programmes, international meetings and co-operative activities can broaden their experience and strengthen their reputation in the eyes of [illegible]. Preference could be given to using local or regional experts whenever possible. Training need to be interdisciplinary in marine affairs, with emphasis on the integration of all aspects of marine science. Agencies could complement national competence with training material, advisory services, and regional centres, particularly for small island countries. Wide diffusion of skills can be facilitated by networking, exchange of personnel between institutes, and by sea-going experience on research vessels. Different training programmes are required for scientists, technicians for monitoring, environmental managers, extension agents, teachers, journalists and resource users. Some effort is required to ensure that a mix of opportunities is available to meet all the manpower needs of a country or region.

217. While some countries and regions have a pool of trained marine scientists, others have little if any scientific establishment. Training of research scientists is a lengthy process and may have to be completed at overseas academic or research centres. There are already significant international programmes to build up the marine sciences in developing countries, including those co- ordinated by the Intergovernmental Oceanographic Commission' Committee for Training, Education and Mutual Assistance in Marine Sciences (TEMA), the United Nations Educational, Scientific and Cultural Organization Marine Science Training and Education Programme (IREDMAR), the Food and Agriculture Organization of the United Nations' Fisheries Bodies Working Groups on stock assessment and worldwide training programmes, and several bilateral initiatives. However,

even when there are scientists available, they have usually been trained in traditional disciplines and need to be introduced to the interdisciplinary approaches needed for effective environmental management. There is a need for both interdisciplinary and sectoral scientific expertise at the national level to support both environmental management and development objectives. Trained scientists are particularly subject to "brain drain" and special efforts are needed to provide them with suitable positions and support for their research if they are to contribute to the development process in their country of origin.

218. There is a growing need for technicians trained to operate routine environmental monitoring and assessment programmes. IOC is planning comprehensive regional training programmes on operational and applied research and monitoring, including the integrated use of marine data, and covering biological, physical and chemical sampling of near-shore and coastal waters, use of standardized techniques, statistical and mathematical analysis of data, integrated approaches to coastal zone management, use and analysis of remotely-sensed imagery, and Geographical Information Systems.

219. Environmental managers are required in both government service and the private sector. They could receive both some technical education and general management and administrative skills. This need could be met in part by adding some environmental courses to existing training programmes and university courses of study. Specialized programmes such as the World Maritime University and other institutions set up by IMO are also important and could be supported and expanded. Again special short courses or on-the-job training need to be arranged for those presently having to deal with marine and coastal environmental questions.

220. For groups such as school teachers and journalists who can do much to build public understanding and support, environmental courses could be included in existing training programmes, and special courses could be arranged for in-service training. The training capacity of countries or regions could be developed to maintain a flow of manpower for critical environmental management and development positions in the marine and coastal field. Thus as people advance to more responsible positions or go elsewhere, there will be replacements available. Training on site in the country concerned ensures that knowledge is adapted to local equipment and conditions and allows the programme to be tailored to the specific needs of the countries concerned.

221. Training is also necessary to promote informed dialogue between those who manage and those who use the environment. Thus decision-makers need to receive some background in ocean issues, and those involved in the marine transportation, fishing and coastal tourism industries could receive some training in the environmental dimensions of their work. Extension programmes need to bring basic environmental understanding to marine resource users such as fishermen and those collecting or using coastal resources. Women have an important role in coastal gleaning and other fisheries and need to be targeted in any training programme.

222. Participation of the public is important in marine and coastal environmental management, since it is generally the people at the local level,

such as fishermen and coastal residents, who are most sensitive to their environment, and who can thus provide feedback on changes in the environment and trends in resources to those responsible for management measures. Such data are critical to determine whether development is sustainable or whether controls or changes are needed. Feedback from the grass-roots is particularly valuable in countries that cannot afford more sophisticated monitoring programmes. Fisheries extension and coastal management programmes could be designed to collect such information.

223. In educational curricula, emphasis is required on the relevance and role of coastal areas and oceans as an essential element of the Earth's life support system, on the requirements for sustainable use of coastal and ocean resources, and on the advantages of their proper management. Coastal countries could include some material on the marine environment even at the primary school level, and enough in secondary curricula that even school leavers receive a basic understanding of coastal management issues, since many may go on to become coastal resource users. Some materials for this have already been prepared by UNESCO, FAO, UNEP and others, but they need to be more widely used. Participation of NGO's as well as public awareness campaigns are needed to reduce the present level of ignorance of the economic, social and environmental significance of coastal and marine resources and of the causes of their deterioration. Where indigenous peoples have traditional knowledge of their coastal environment and marine resources, they could be encouraged to maintain that knowledge and to consider how it can be applied to modern management problems.

Monitoring of environmental parameters and improved use of data

224. Up-to-date information on the state of coastal and marine resources is essential for sustainable development and environmental management. While full environmental research and monitoring systems require considerable scientific infrastructure, much can be done to provide basic data even where the means are limited. All coastal states need to develop the capability to monitor the state of their own environment.

225. International agreement is needed on standard techniques for monitoring important marine species and habitats such as coral reefs and mangroves. A combination of simple *in situ* survey techniques and remote sensing could allow adequate documentation of the state of such critical coastal environments and their change over time. Standard fishing surveys can provide continuing data on the state of fisheries resources. Simple continuous plankton recorders can be used along regular shipping routes to give good information on the status of plankton populations and such problems as eutrophication and red tides. The capacity to analyze, interpret and store such data will also need to be developed.

226. With the increasing levels of coastal pollution in much of the world, it is necessary to establish and maintain national or regional laboratories capable of analyzing the principal pollutants which may present a risk locally, including urban effluent, agricultural runoff and industrial wastes. Marine pollution sampling programmes can then determine where there are serious problems requiring control measures, and can measure the effectiveness of pollution controls that are applied. Keeping instrumentation in such

laboratories working and up-to-date requires careful planning and choice of instruments, continuing follow-up, and assistance with trade-ins or up-grades as methods and instrumentation improve. However regional or international technical support such as that provided by the IAEA International Laboratory of Marine Radioactivity in Monaco will be necessary to keep such laboratories functioning in developing countries and to maintain the quality of their results.

227. Feedback mechanisms are needed to assess the effectiveness of capacity building. For instance programmes for quality control of analyses of chemical contaminants can identify laboratories having problems and permit rapid remedial measures to maintain the quality of output and thus sustain the initial investment in capacity building.

228. Much data have been collected on most coastal and marine environments. However they are variable in quality, frequently old, and generally buried in reports or overseas depositories where they are unavailable to those who need them. These existing data could be used in a more efficient way, with emphasis on quality control, analysis and interpretation. In particular, they can be combined with recent monitoring data to measure the changes in environmental resources and conditions over time as a basis for determining the sustainable use of resources. Such analyses can give early warning of developing environmental problems or serious overuse or declines in resources that would threaten future development and human welfare if not corrected in time.

229. Existing mechanisms for information exchange such as the Aquatic Sciences and Fisheries Information System (ASFIS) and IODE could be designed to make a more effective use of the large volumes of information available. Whenever possible, these mechanisms need to be standardized using widely-available information processing technologies. They could be readily accessible and user oriented. Databases for both existing and new information need to be strengthened and consolidated. The collection of irrelevant "data" must be avoided: data could only be collected for specific and well-conceived purposes. This can be best assured by careful design of projects and inter-calibration programmes and by creation of data banks organized to meet the real needs of the users.

230. The development of international monitoring programmes such as those which will contribute to the Global Ocean Observing System (GOOS) will provide an additional source of internationally- calibrated data in support of national environmental planning and policy-making requirements for coastal and marine areas. For instance, the UNEP/IOC/WMO long-term monitoring programme for parameters related to climate change and sea-level rise in coastal and marine areas could be implemented as rapidly and as widely as possible. Data can be compiled in geographic information systems (GIS) or included in ocean maps or coastal vulnerability maps. The presentation of data in ways that make them accessible to decision makers is critical to their effective use for planning or early warning purposes.

231. Emergency response is an essential part of a capacity building strategy. No part of the coastal and marine environment is free of the risk of accidents involving the spillage of oil or other hazardous chemicals which could

seriously damage the environment. Large quantities of such materials are transported by sea and are stored in coastal facilities. Damage can be reduced if such spills are rapidly contained and removed, but this requires careful contingency planning, expensive equipment and trained personnel. Few countries can afford to maintain full preparations for unexpected but possible disastrous accidents. Many countries and regions have been assisted by IMO and UNEP to develop contingency plans and protocols on co-operation in the event of such accidents, but much still needs to be done to increase national and regional capacities to implement such plans and to keep them up to date.

International aid and co-operation

232. Bilateral or multilateral co-operative projects related to marine and coastal development or resource exploitation need to be an integral part of national development plans. The cost of strengthening national capabilities, including institutional structures, could also be considered as an integral part of project costs. Particular attention need to be paid to development of national environmental expertise to support such projects. Transfer of environmentally harmful and obsolete technologies must be avoided. However care must also be taken in selecting highly sophisticated technologies to avoid providing with equipment which may not be manageable due to lack of trained local staff or infrastructure. Long-term co-operation on technology transfer and on building the capacity to evaluate suitable technologies is essential.

233. International assistance programmes could be based on a proper understanding of local realities. The practices of donor and aid agencies need to take into account national aspirations, traditional and cultural values, and the realities of local possibilities and environmental constraints. Support could be provided for long enough to achieve effective capacity building; programmes undertaken within a framework of recipients capacity building strategy are preferable to short-term single-purpose interventions. Where only short-term assistance is provided, appropriate follow-up could be planned after the end of the project.

234. Finance is clearly needed at appropriate scales to catalyze the development of national capacities. International assistance and budgetary allocations from national and local budgets do not need to be the only source of funds available, however. Industries can be convinced to contribute to monitoring and protection measures related to their activities. The revenues from environmental fiscal measures can be allocated directly to environmental protection and monitoring. Some countries lack the foreign currency necessary for critical inputs to environmental research, monitoring and management projects. Even a small amount of assistance with its foreign currency component can make a big difference in the effectiveness of national activities.

235. New international sources of financial support are becoming available, including infrastructure support from the development banks, and the Global Environment Facility (GEF). The use of part of these funds for institutional capacity building will help to ensure the sustainability of development projects. Continuing sources of funding must be sought to assist in developing

and maintaining the necessary capacity in the poorest countries and in island areas where some subsidies will be essential to maintain protection, monitoring and management measures in the global interest.

International and regional agreements and action plans

236. Widespread participation needs to be encouraged in international and regional legal agreements that can often provide direct benefits to countries in the reinforcement of their national capacities. Technical assistance is frequently available to help in meeting obligations under such agreements. Regional action plans and co-ordinating mechanisms also provide the means for capacity building through co-operation among countries sharing similar problems and through achieving economies of scale in the development of regional facilities beyond the means of any one country. Regional structures can contribute to technology transfer and training. They build networks through which regional priorities and actions can be identified and implemented. Regional assessment and management is essential for enclosed and semi-enclosed seas. A regional approach is also necessary to study and if necessary manage the large-scale marine ecosystems that are found off most continental margins and that provide the basis for many productive fisheries.

237. There is presently insufficient institutional capability at the international level to help developing countries with environmental planning and management, training, institutional development and awareness building. The needs have grown much faster than the capacity to respond. Agencies frequently find themselves chasing after the same few overcommitted experts. Funding in relation to the need is totally inadequate. A major effort is therefore required to increase the number of experienced experts, particularly from developing countries, who can implement capacity- building activities, and to reinforce the institutional frameworks through which they can assist. Agencies and other organisations could exchange rosters of experts and could use on the job training to develop new experts with the required skills.

XIX. INTERNATIONAL INSTITUTIONS AND LEGAL INSTRUMENTS

Main Issues

238. In recent decades human use of the oceans has expanded remarkably. Rapid scientific and technological development and political change worldwide have intensified traditional fishing, shipping, and communications activities and advanced offshore minerals and energy development, mariculture, and widespread recreational use. Industrial and agricultural growth together with expanding human settlements, particularly in coastal areas, have impacted on marine coastal areas and produced mounting volumes of wastes, much of which has been discharged into coastal waters or disposed of offshore.

239. Since the late 1950s, and particularly in late 1960s, the international community has steadily developed international institutions and legal instruments in order to cope with these and other problems effecting the oceans and wastes areas. There exist now a number of global and regional institutions, both within and outside the United Nations system, as well as numerous global and regional instruments, some of which are binding and others non-binding, for the protection and preservation of the marine environment,

the development of coastal and ocean space and resources, as well as the conservation of marine species. Comprehensive lists of such institutions and instruments are found in the addenda to the background paper to be distributed in Working Group II.

240. The major elements of the present policy framework may be described as follows:

At the global level:

(i) The United Nations Convention on the Law of the Sea (not in force) comprehensively covers all marine issues, including protection of the marine environment and its living resources. This convention is backed up by a special institution (United Nations Office for Ocean Affairs and the Law of the Sea).

(ii) The London Dumping Convention (LDC), whose regulatory system has been progressively adapted to take account of the need to prohibit or restrict dumping of toxic substances and wastes and to promote comprehensive waste reduction and management policies. Secretariat support is furnished by IMO;

(iii) MARPOL 73/78 on ship-source pollution, and other IMO conventions and codes dealing with maritime safety but contributing also to pollution prevention, most recently the 1990 Convention on Oil Pollution Preparedness, Response and Cooperation. Civil liability regimes have been developed for oil pollution damage, and work is well underway on a regime for hazardous and noxious substances (HNS). Secretariat support is furnished by IMO;

(iv) The Basel Convention on Transboundary Movement of Hazardous Wastes (not in force), which concerns also the maritime transport and disposal of wastes. Work is underway to harmonize its regime with those of LDC, MARPOL and other IMO Conventions and Codes, and to develop a liability regime. UNEP has established an interim secretariat;

(v) Conventions which deal with or otherwise encompass the protection of marine species, particularly the International Whaling Convention and the Bonn Convention on migratory species, which focus on marine mammals. These conventions are administered by independent secretariats. Also to be noted are the 1986 IAEA Conventions on liability and nuclear accidents.

At the regional level:

(i) UNEP Regional Seas conventions covering the Mediterranean, Kuwait Action Plan Region, Wider Caribbean, West and Central Africa, Eastern Africa, Red Sea and Gulf of Aden, South Pacific, and South-East Pacific. These are general conventions on the protection of the marine environment, analogous to Part XII of the Convention on the Law of the Sea, and are supplemented by a total of 19 protocols on ocean dumping (2), land-based sources (3), offshore industrial activities (1), emergency response to pollution incidents (8), radioactive pollution (1), and protected areas and species (4). Secretariat arrangements, linked to other activities under a Regional Seas Action Plan, are made by the regions concerned, supported to varying degrees by UNEP. Non-United Nations system organizations are also sponsors of these instruments and their institutional arrangements, e.g. the South Pacific Forum and CPPS.

Institutional support also is provided by IMO for the establishment and operation of emergency response centres. Regional programs in the East Asian and South Asian regions are in the process of developing conventions, and UNEP is exploring the possible development of action plans for the Black Sea, the North West Pacific, and the South West Atlantic;

(ii) Five conventions in the European region: the Oslo Convention on ocean dumping, the Paris Convention on land-based sources (extended by amendment to encompass atmospheric sources), and the Bonn Agreements on the North Sea (1983 Agreement not yet in force), all of which reach into the North Atlantic; the Helsinki Convention, dealing with all sources of marine pollution, which covers the Baltic Sea; and the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (not in force). The Oslo, Paris and Helsinki Conventions established Commissions, which regularly report on their activities to LDC and MARPOL parties at IMO meetings. The Oslo and Paris Commissions hold joint meetings and are considering merging; and

(iii) Instruments covering the polar regions: In the Arctic, only a convention on polar bears; under the Antarctic Treaty, a protocol has been prepared that consolidates and strengthens the measures for environmental protection adopted under that Treaty and extends them to all Antarctic activities, while also subjecting minerals development to at least a fifty-year prohibition. This [draft] protocol will not affect rights and obligations under other Antarctic conventions in force, currently those on protection of seals (CCAS) and conservation of marine living resources (CCAMLR). A permanent secretariat has been established only for CCAMLR.

241. Thus, it is apparent that, with the exception of global conventions dealing with pollution from ships, ocean dumping and protection of marine species, the operational context for marine environmental conservation resides at the regional level.

The United Nations Convention on the Law of the Sea

242. The proliferation of regional agreements and arrangements makes it extremely important to consider the role of the Convention on the Law of the Sea in establishing a comprehensive, global framework. That framework governs the further development of legal and policy instruments at global, regional, and national levels. Increasingly, it is a framework for programming in global and regional institutions to further understanding of the ocean environment and to create co-operative efforts to build national capacities - both to benefit from marine use and to support implementation and enforcement of applicable laws and standards.

243. The Convention establishes an important balance between the rights of States and their obligations, including those relating to conservation of the marine environment and its living resources and the promotion of marine scientific research. The basic principles and rules represent prevailing international law demonstrated by State practice over the past 10 years, or more. The vast majority of States have adopted legislation which largely conforms with the provisions of the Convention, and most global and regional instruments drafted since the mid- to late-1970s have been careful to ensure conformity with its provisions.

244. In both its provisions on the marine environment and on living resources, the Convention emphasizes the need for a sound scientific basis for regulatory and management systems. It further calls on States to promote and facilitate the development and conduct of marine scientific research, as well as environmental assessment and monitoring. The Convention specifically calls for the continuous elaboration of international rules, standards, and recommended practices and procedures for marine environmental protection. The Convention specifically promotes the development and transfer of marine technology and the establishment of national and regional marine science and technology centres, particularly in developing countries.

245. With respect to marine living resources, the Convention grants sovereign rights to coastal States over fisheries within the EEZ and obligates them to conserve these resources so that they are not endangered by over-exploitation. Consistent with obligations to protect and preserve the marine environment, States must take measures necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened, or endangered species and other forms of marine life. On the high seas, fishing rights are also subject to obligations to conserve the resources.

246. The Convention also assumes a continuing need heightened international co-operation on ocean issues, recognizing also the future impacts of expanded uses of ocean space and its resources. To further cooperation, the General Assembly has urged competent international organizations to intensify and coordinate financial, technological, organizational, and managerial assistance for developing country efforts to realize the benefits established by the Convention (A/RES/45/145).

247. Finally, recognizing the dynamic nature of the implementation of the Convention, and that continuing scientific research and technological innovation, would need to be reflected in this on-going process, the Convention provides for a general review mechanism, whereby the Secretary-General is required to report "on issues of a general nature" that arise in relation to the Convention. The annual overview of main developments relating to the Law of the Sea, prepared for the consideration of the General Assembly (in plenary), represents an early form of this reporting function.

Opportunities and deficiencies in the present framework and possible approaches

248. In order to cope with the range of increasing demands on international institutions to support sustainable ocean use, it may be useful to examine several aspects of their functioning in the areas of strategic planning and policy development and implementation. The need to appreciate the range of global and regional organizations involved in marine programs required the preparation of a directory on organizational competencies during UNCLOS III. Today the number and scope of such programs is even greater. In addition, the roles of the major funding agencies must be specifically addressed.

249. Improved mechanisms for strategic planning and the identification of priorities for legal and institutional initiatives relating to different sectors of ocean activity and the broader range of land-based activities that affect sustainable ocean use are necessary at national, regional, and global levels.

250. Within national governments, innovations are required to reconcile sectoral considerations in the formulation and implementation of national development policies. At the regional level, there is considerable scope for cost-effective, coordinated action on ocean and coastal development and management. For this purpose it will be important to establish an oceans-centred forum to define those issues and priorities that will justify the closer integration of institutional and financial capacities, and enhance development assistance possibilities. At the global level, strategic planning could be oriented, in the context of development generally, toward the identification of priorities for major new initiatives, allocation of program responsibilities among different agencies and programmes, and related budgeting considerations. Strategies could also entail review of intra- and inter-regional arrangements and gaps, both within and outside the United Nations system. Regular review and evaluation might take place in relation to stated goals and targets, subject to periodic external review.

251. The tendency to create new organizational arrangements, pursuant to the adoption of additional conventions or as a result of brief, heightened attention to certain topics, could be re- examined in view of the reluctance of many governments to embark on new institutional initiatives. Greater attention could be paid to the viability of reorienting and strengthening existing structures as new priorities emerge. The consolidation of certain legal regimes also warrants attention, as both countries and international institutions experience difficulties in dealing with an increasingly complex and inter-related array of such regimes.

252. Consideration could also be given to reviewing institutional support arrangements relating to the provision of scientific and technical advice and analyses, and related data and information needs. Emphasis on scientific evidence as the basis for regulatory and management decisions, and therefore on improved scientific and technical capabilities, will continue to intensify with environmental degradation and overfishing. Progressive legal developments that increasingly specify standards and criteria for ocean use, including those for impact assessment, and further definition of the "precautionary principle" and "burden of proof" requirements will place even greater demands on data collection and analysis.

253. Within the United Nations system, interorganizational consultation and collaboration is well-established in the marine science and services sector, through ICSPRO and in respect of a growing number of jointly sponsored programmes and expert groups. GESAMP (Joint Group of Experts on the Scientific Aspects of Marine Pollution) is expanding its advisory capacity through networking arrangements with a wider range of scientists and managers working in this field. Additional collaboration at the regional and interregional levels is needed, with attention to building national scientific and technological capabilities.

254. There are very few formal arrangements for ensuring scientific input in the preparation and implementation of legal agreements or important policy decisions. Establishment of or access to appropriate mechanisms will become increasingly important, particularly to ensure that scientist and policy makers can communicate effectively in identifying and meeting the specific needs of policymakers for analysis and advice. In some cases, ad hoc expert

groups have been established to prepare for and provide advice in the implementation of legal agreements. In other cases, existing organizations have been utilized, both governmental and non-governmental.

255. The involvement of multilateral and bilateral donors is essential in providing resources to achieve sustainable ocean development. Many failures in the past can be attributed to inadequate attention to incompatible activities or their effects on environmentally-sound development. It is essential that funding for environmental planning and management precede project funding, and that on-going planning processes provide a basis for focused, coordinated donor activities, based on priorities defined at global, regional, and national levels. Donor coordination is an essential condition, and is perhaps most urgently needed at the regional level.

256. The basic global framework for sustainable ocean use and development exists. Major future developments are likely to occur at the regional level, particularly in relation to land-based and atmospheric pollution of the marine environment and fisheries management. On the other hand, the need at the global level for more specific standards and interpretive guidance to implement existing legal obligations is growing, as is the need for harmonization among the standards and requirements applied in different countries.

257. Until the development of binding legal obligations in specified areas attracts widespread acceptance at regional or global levels, recourse to non-binding "soft law" instruments much as codes or guide-lines, is likely to guide further developments. Greater emphasis will be placed on preventive measures and incentives, as opposed to traditional regulatory approaches. At the same time, as codes and guidelines take the form of legal obligations, they are more likely to be supported by commitments of financial and technical assistance to assist all states in fulfilling them. It is therefore essential that the international community consider priorities for the elaboration of "soft law" and binding legal instruments, whether at global or regional levels, so that the allocation of resources for these purposes may then take place on a more reasoned and deliberate basis.

258. The Law of the Sea Convention contains many principles and rules that may be used as a basis for elaborating more detailed guidance, both in international and national law as well as in guidelines, codes, and other interpretive statements. A summary list is given in the Appendix. The need to examine the implications of the Convention for other global and regional legal instruments remains fundamentally important. As a framework for programs designed to meet the needs of developing countries, additional principles and provisions are set forth in the Convention that contemplate specialized global and regional arrangements to mobilize international cooperation and assistance.

259. <u>High seas fishing activities</u>: This is clearly an area where the principles and rules of international law (contained in the Law of the Sea Convention) require further elaboration in order to achieve sustainable use of resources. It may prove necessary to formulate guidelines and criteria for conservation of species, particularly to ensure that management decisions are grounded on credible and sufficient scientific evidence that can command

widespread international support. Also important will be new measures aimed at encouraging compliance with legal obligations, such as observer schemes, vessel registries (as in the South Pacific), notification and reporting requirements. Introducing institutional review functions and recourse to expert advisory bodies to weigh scientific evidence could also be considered, as could the introduction of dispute settlement mechanisms, e.g. by provisionally applying the relevant provisions of the Law of the Sea Convention.

260. Marine biodiversity: Protection of marine biodiversity will require substantial and multidisciplinary scientific input, and would benefit from the elaboration of rules and criteria for standard-setting. The new convention being prepared on the protection of biological diversity needs to take account of the special characteristics of marine biodiversity.

261. Climate change: The new convention being prepared in relation to climate change needs to take into account the special considerations and needs that arise in relation to potential sea- level rise and the obligations established by the Law of the Sea Convention concerning cooperative oceanic research, given the central role the oceans play in determining climate.

262. Protected areas: The development of rules and standards in this field is sufficiently advanced to consider taking up the process of their integration with other areas, particularly conservation and management of fisheries and maintenance of biodiversity.

263. Land-based and atmospheric sources of marine pollution: This is the most important area for development of global and regional ocean law and policy in Europe. That most marine environmental degradation originates from land-based and atmospheric sources lends weight to the obligation not to transfer or transform pollution and to the need to introduce policies and methodologies which will facilitate the introduction of comprehensive waste reduction and management systems at the national level.

264. Land-based sources of marine pollution are generally described in the Convention as including "rivers, estuaries, pipelines and outfall structures". The sources are extensive and through run-off include urban, industrial, and agricultural uses, both coastal and inland. This suggests a certain methodology: direct point sources; and rivers. The latter brings into play a distinct area of international law, namely that of international watercourses, which can be expanded to include at least an estuarine component.

265. Additional developments affecting control of land-based and atmospheric sources of marine pollution are subsumed within the context of "global climate" and "protection of the atmosphere"; under new or emerging programming initiatives concerning sewage treatment and port waste reception facilities; in relation to continuing work on environmental impact assessment and the establishment of protected areas; and as considered in relation to coastal zone management.

266. Offshore industrial development: The adoption of more detailed rules and standards in this area would seem most appropriate at a regional level at present. However, highly useful work can be done at the global level to

further develop and integrate existing rules concerning safety, removal and disposal of offshore structures; use of hazardous substances; operational discharges, assessment and monitoring; contingency planning and emergency response; environmental impact assessment; and a liability regime for marine environmental damage.

267. Offshore pipelines and seabed cables: Further attention may have to be paid to the regulation of pipelines and cables laid on the seabed as well as their protection as such pipelines proliferate in certain areas and the quality of cables become increasingly sophisticated.

268. Emergency response: Specific linkages could be developed between the 1990 Convention on Oil Pollution Preparedness and Response and regional protocols on emergency response, including pollution from offshore resources development, since the new convention applies to offshore platforms. Clear, uniform procedures for notification and exchange of information on such emergencies could usefully be developed. Moreover, greater use could be made of the 1989 Salvage Convention. Existing arrangements deal, in practice, only with oil pollution, although several regional protocols are intended to cover emergencies also from "other harmful substances". A major effort will be required to develop international cooperation with respect to incidents involving liquid chemical spillages, for example.

269. Emergency response capabilities are very much dependent on contingency planning, but it is difficult to plan or to respond efficiently without being able to target priority areas. IMO and others have called for a major effort on coastal sensitivity mapping, an activity which relates to the establishment of protected areas, the designation of "particularly sensitive sea areas" and to environmental planning and management for sustainable ocean use generally. Another area that deserves attention is the international co-operation in the maritime search and rescue operations.

270. Environmental impact assessment and environmental monitoring: This established obligation represents the first building-block in many regulatory and management regimes. Its particular importance in a transboundary context is clear, and the 1991 Convention (UN/ECE region) on this subject could be considered carefully as a possible precedent for other areas of the world, particularly with respect to advance notification and consultation. At the same time, the need for simplified approaches to EIA in developing countries, has already been recognized by UNEP, which has recently published a practical guide, supplemented by case studies.

271. An organized system for the exchange of and access to national legislation and institutional arrangements to implement treaty obligations would provide assistance to governments in developing legislative and administrative rules. It would also facilitate the tasks of international institutions whose advice and assistance is requested by States on such legal matters. The demands for such assistance has greatly increased, and bilateral aid agencies have also begun to devote resources to these needs.

272. As international legal obligations expand, keeping up with relevant technological innovations and scientific research findings relevant to their implementation requires more time and effort. An efficient system for

compiling and interpreting information must be found, accessed through a central system such as the international institution responsible for secretariat functions under the agreement. Cost-effective networks must be established through computerized information systems, which could service more than one agreement.

273. Establishment of regional focal points could serve many useful purposes: they can, among others, adapt global rules and standards as well as technical methodologies to regional conditions; stimulate and contribute to their development; serve as forums for considering transboundary and inter-sectoral considerations within logical geographic units, and for harmonizing regional policies and laws. Moreover, when economies of scale exist, they may provide a useful forum for concentrating education and training programmes, specialized documentation centres on marine technologies or experts availability, the development of interdisciplinary environmental programmes, and related data collection and analysis on regional trends and conditions.

274. Certain types of operational activities may also benefit from regional arrangements, such as surveillance, inspection, and enforcement or collective negotiation with States outside the region. It has also been suggested that regional waste reception or waste treatment facilities may be appropriate in certain circumstances. Regional fisheries management arrangements are also evolving and likely to increase in the future. In relation to securing financial assistance, proposals have been made for regional planning and investment.

275. Traditionally, action plans in the marine area have served the important purpose of bringing together and building support among regional constituencies as a basis for further legal, scientific, institutional, and financial developments. These action plans must be revitalized and strengthened in several regions and establish agreed strategies, particularly those dealing with fisheries research, development and management and those with marine and coastal environmental management, as well as scientific research and data and information exchange components. This would in turn require extended arrangements, particularly as among UNEP, FAO and IOC.

276. Equally important is the need to greatly expand inter-regional cooperation in order to capitalize on exchange of information and experience.

277. Compliance and enforcement: The first step in determining the extent of compliance with legal agreements is better information. Although a number of conventions require notification and reporting by States parties, these requirements are not being fully implemented and so create further impediments in amassing the information needed to identify and tackle problems

278. Liability: Issues of international liability, including compensation in some instances, have achieved new prominence and important legal developments can be expected. Current approaches would give equal weight to preventing transboundary harm and to reparations for damage. The work of the International Law Commission (United Nations) could also be noted. The further

development of liability regimes will also depend considerably on elaboration of the principle - "the polluter pays", "user pay" principles and the "precautionary approach", and on-going work in environmental economics to "value" environmental considerations.

279. Dispute settlement: The role of experts, as contemplated in the Law of the Sea Convention's special arbitration procedures, and in an advisory capacity could be explored for adaptation to other ocean use conflicts, particularly at the regional level.

280. Facilitating acceptance: Use of different legal techniques to facilitate and expedite acceptance and entry into force of legal agreements could be expanded. Flexible approaches employed in IMO allow States to ratify basic treaty provisions while leaving it up to them to determine later whether or when to ratify certain optional annexes. Other methods include provisional application of some or all treaty provisions (including those with institutional implications); simultaneous adoption of recommendations which deal with selected convention subjects; and declarations of voluntary compliance. A "tacit acceptance procedure" is also used in IMO to bring into effect revised regulations in detailed annexes without resort to time-consuming ratification procedures.

Appendix

Main Principles and Rules for the Development of Future Legal Instruments as contained in the United Nations Convention on the Law of the Sea

Sustainable ocean development and the protection of the marine environment

1. Avoidance of transboundary pollution (articles 194(2), 195 and 198);
2. Conservation and management of transboundary marine resources (articles 63, 64, 66(4), 67(3), 116-119);
3. Conduct of environmental impact assessment and monitoring (articles 204 to 206);
4. Establishment of scientific criteria for regulation and management to protect the marine environment (article 201);
5. Protection of rare or fragile ecosystems and habitats of depleted, threatened or endangered marine life (article 194(5));
6. Designation of marine protected areas (articles 194(5) and 211(6);
7. Caution in the use of technology or the introduction of new or alien species into the marine environment (article 196);
8. Use of "best practicable means" in controlling marine pollution (article 194(1));
9. Avoidance of pollution by toxic, harmful or noxious substances (articles 23, 194(3), 207(5));
10. Multi-media management of pollution and wastes, where States must avoid transferring, directly or indirectly, damage or hazards from one area to another and transforming one type of pollution into another (article 195);
11. Conservation based on ecosystem management (articles 61(4), 119(1)(b), 194(5));
12. Control of land-based and sources of pollution (articles 207 and 212);
13. Development of joint contingency planning and emergency response systems (articles 199 and 202(b);
14. Development of liability and compensation for marine pollution damages (article 235);
15. Regional harmonization of environmental policies, development of standards, and adoption of cooperative measures (articles 197, 207, 208, 210, 212, 270, 272, 276-77); and
16. Co-ordination of States actions on the environment, fisheries and marine scientific research in enclosed and semi-enclosed seas (articles 122 and 123).

Development assistance and cooperation

1. Promotion and facilitation of marine scientific research and the development and transfer of marine technology (Parts XIII and XIV generally);
2. International exchange of information and data (articles 119(1), 242(2), 244, 249);
3. For the protection of the marine environment, the level of capability of developing nations is to be taken into account (articles 194(1), 199 and 207(4));
4. Also for the protection of the marine environment, scientific and technical assistance is to be provided for developing nations (article 202), and their preferential treatment by international agencies is

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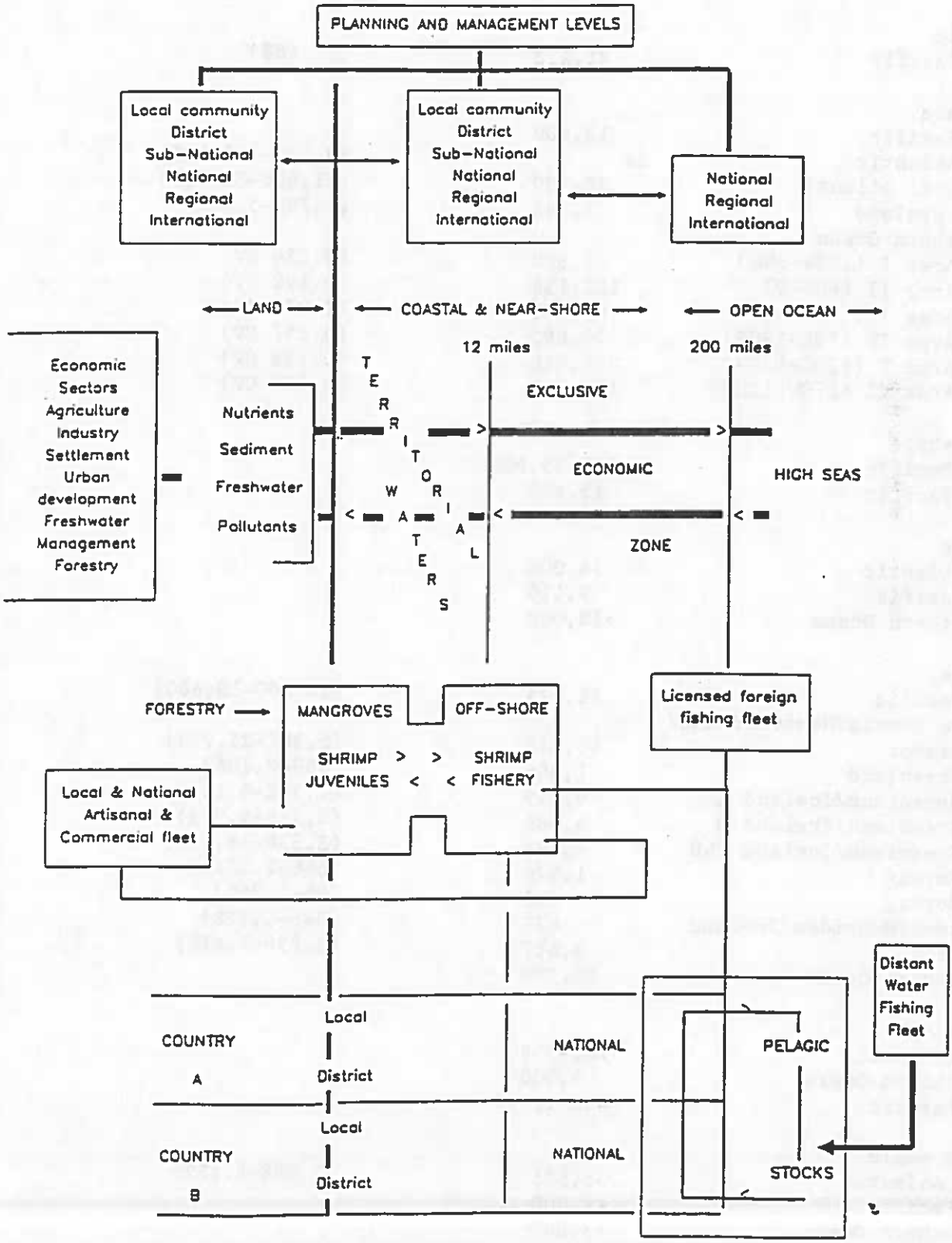


Table 1 Environmental and management boundaries, interests and conflicts

Table 2: Population Estimates: Cetacea

Species	Regional Population Totals	Range
Gray whale		
NE Pacific	21,113	(SE 688)
Minke whale		
NW Pacific	13,500	
NE Atlantic	ne	43,500-114,000)
Central Atlantic	28,000	(21,600-31,400)
W Greenland	3,266	(1,790-5,950)
Southern Ocean		
Area I (120W-60W)	73,302	(0.254 CV)
Area II (60W-0)	122,156	(0.190 CV)
Area III (0-70E)	88,735	(0.273 CV)
Area IV (70E-130E)	74,692	(0.257 CV)
Area V (130E-170W)	294,610	(0.138 CV)
Area VI (170W-120W)	106,901	(0.277 CV)
Bryde's whale		
NW Pacific	14,600-39,900	
SE Pacific	15,600	
Sei whale		
N Atlantic	>4,000	
N Pacific	9,110	
Southern Ocean	>12,000	
Fin whale		
N Pacific	16,625	(14,600-18,600)
Nova Scotia/Newfoundland/ Labrador	10,818	(5,387-21,723)
W Greenland	1,046	(520-2,106)
E Greenland/Iceland A	4,329	(2,312-8,107)
E Greenland/Iceland B	4,586	(3,519-5,976)
E Greenland/Iceland C&D	7,392	(3,334-16,390)
N Norway	1,476	(846-2,576)
W Norway	340	(85-1,355)
Faroes/Hebrides/Ireland	677	(345-1,328)
Iberia	4,617	(3,794-5,618)
Southern Ocean	85,200	
Blue whale		
N Atlantic	100-555	
S Indian Ocean	5,000	
Antarctic	450-1,900	
Humpback whale		
NW Atlantic	>5,505	(2,888-8,122)
N Pacific	<2,000	
Southern Ocean	>3,000	

Species	Regional Population Totals	Range
Right whale		
NW Atlantic	350	
SE Atlantic	>265	
SW Atlantic	/1,200	
N Pacific	200-400	
Southern Ocean	2,500	
Bowhead whale		
Davis St./Baffin Bay	>250	
W Arctic	7,800	(5,700-10,600)
Atlantic white-sided dolphin		
NW Atlantic	24,000	
Pacific white-sided dolphin		
NE Pacific	30,000-50,000	
Risso's dolphin		
NW Atlantic	10,000	
Bottlenose dolphin		
NW Atlantic	14,000-23,000	
Spinner dolphin		
NE Pacific	900,000	
Spotted dolphin		
NE Pacific	2.2 million	
Striped dolphin		
NE Pacific	2.3 million	
Common dolphin		
NW Atlantic	31,000	
NE Pacific	900,000	
Harbor porpoise		
NW Atlantic	18,000	

Species	Regional Population Totals	Range
Dall's porpoise		
N Pacific	2,15 million	
Beluga		
Arctic Circumpolar	62,000-88,000	
Narwhal		
Arctic Circumpolar	30,000	
Hector's dolphin	3,000-4,000	
Sperm whale		
Atlantic	190,000	
Pacific	930,000	
Southern Ocean	780,000	

Source: U.S. Marine Mammal Protection Act- 1989 Annual Report, NMFS, International Whaling Commission.

Table 3: Population Estimates: Pinnipedia

Species	Regional Population Totals
Pinnipeds	
California sea lion	
NE Pacific	157,000
SE Pacific	20,000
Northern sea lion	
NW Pacific	3,000
NE Pacific	63,000
South American sea lion	
SE Pacific	228,000
SW Atlantic	45,000
Australian sea lion	2,000-3,000
Hooker's (New Zealand) sea lion	6,000
Northern (Alaska) fur seal	
NW Pacific	332,000
NE Pacific	819,000
Juan Fernandez fur seal	
SE Pacific	705-750
Guadalupe fur seal	
NE Pacific	1,600
Galapagos fur seal	
SE Pacific	1,000-5,000
South American fur seal	
SE Pacific	294,000
SW Atlantic	52,000
South Africa (Cape)/Australian fur seal	
E Atlantic	850,000
Southern Ocean	20,000
New Zealand fur seal	
New Zealand	25,000
Sub Antarctic	33,000

Species	Regional Population Totals
Antarctic (Kerguelen) fur seal	
Sub Antarctic	1,52 million
Antarctic	0,000
Subantarctic fur seal	20,000
Largha seal	
NW Pacific	135,000-200,000
NE Pacific	200,000-250,000
Harbor (Common) seal	
NW Pacific	10,000-15,000
NE Pacific	302,000
NW Atlantic	30,000-45,000
NE Atlantic	48,000-51,500
Ringed seal	
Arctic Circumpolar	6-7 million
Baikal seal	
Asia	40,000-50,000
Caspian seal	
Asia	500,000-600,000
Harp seal	
NW Atlantic	1.05 million-2.1 million
NE Atlantic	600,000-1,15 million
Ribbon seal	
Arctic Circumpolar	200,000-250,000
Gray seal	
NW Atlantic	24,000-55,000
NE Atlantic	77,000-78,500
Bearded seal	
NW Pacific	>500,000
Hooded seal	
NE Atlantic	500,000-600,000
Mediterranean monkseal	500
Caribbean monkseal	extinct/near extinct
Hawaiian monkseal	500-1,500

Species	Regional Population Totals
Southern elephant seal	
SW Atlantic	7,000
Sub Antarctic	38,000
Antarctic	148,000
Northern elephant seal	
NE Pacific	100,000
Crabeater seal	
Antarctic	15 million
Ross seal	
Antarctic	220,000
Leopard seal	
Antarctic	500,000
Weddell seal	
Antarctic	750,000

Source: U.S. Marine Mammal Protection Act 1989 - Annual Report.

Table 4. Assessments of three groups of whales: gray whales in the eastern North Pacific and Minke whales in the southern hemisphere and North Atlantic

GRAY WHALES		Population Size (1987/88)	
Eastern North Pacific		21,113 SE688	

Assuming a constant rate of increase, the population was increasing at a rate of 3.2% (SE 0.5%) over the period 1967/68 -1987/88 with an average annual catch of 174 whales.

MINKE WHALES	Year	Population Size	CV
Southern Hemisphere			
Area I (120oW-60oW)	1982/83	73,302	0.254
Area II (60oW-0o)	1986/87	122,156	0.190
Area III (0o-70oE)	1987/88	88,735	0.273
Area IV (70oE-130oE)	1988/89	74,692	0.257
Area V (130oE-170oW)	1985/86	294,610	0.138
Area VI (170oW-120oW)	1983/84	106,901	0.277
North Atlantic	95% confidence interval		
Northeastern stock		43,500-114,000	
Central stock	28,000	21,600-31,400	
West Green land stock	3,266	1,790- 5,950	

Estimates for areas other than the existing management stock areas are:

Central Plus West Greenland	31,200	24,450-37,950	
Central stock excluding area around Jan Mayen	22,400		
Northeastern stock excluding southern part		30,200-79,200	

BOWHEAD WHALES	Year	Population Size	CI
Bering-Chukchi-Beaufort Seas Stock	1988	7,800	5,700-10,600
HUMPBACK WHALES			
Western North Atlantic	1979-86	5,505-+2,617	

A rate of population increase of 10.3% (95% CI 2-23%) was obtained from the Gulf of Maine.

Source: International Whaling Commission, Communication from Dr. Ray Gambell (February, 1991).

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Working Group III
Item 2 of the provisional agenda

PROTECTION OF OCEANS, ALL KINDS OF SEAS INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

Options for Agenda 21

Report of the Secretary-General of the Conference

I. INTRODUCTION

1. This document was prepared in response to decisions of the Preparatory Committee and includes a framework for an integrated approach to sustainable development of marine and coastal areas. Several programme areas are submitted to the Preparatory Committee, in an attempt to identify options for action as part of Agenda 21.

2. As explained in the background document the main ocean and coastal issues are linked to each other, to other issues and sectors. The oceans cover more than two-thirds of the planet and play a dominant and decisive role in shaping the biogeochemical processes of the Earth on global, regional and local scales. Oceans critically influence the global energy system, climate and weather, the carbon and hydrological cycles and atmospheric and physical processes. Ocean management is constrained by critical uncertainties about the exact role of marine environment in maintaining global life support system.

3. In relation to development, the oceans have traditionally provided a medium for the transportation of goods, fishing and recreation, as well as repository for wastes. In recent years those uses have expanded to include oil and gas development, and cable and pipeline routing. Recreation and tourism have greatly increased in recent years. Changes in the size of vessels have required new port development and major channel dredging. Fishing has intensified and modern large scale catching methods have brought serious over-exploitation. Fish and shellfish farming has greatly increased. Future uses of the oceans may include deep ocean mining.

4. The interface between the land and the sea, the coastal zone, is a band of highly diverse and biologically productive ecosystems and habitats. The coastal zone supports much of the world's population. Four out of ten people live within 60 kilometres of coastal areas and two-thirds of the world's cities with populations of 2.5 million or more are near tidal estuaries, with increasing sewage contamination.

5. Although international conventions have been developed for pollution from shipping, for dumping and major oil spills and for oil pollution, the coastal zone is highly degraded by other factors not yet covered by conventions. Coastal areas are the receiving end of upstream activities, including dam discharges of pollutants to rivers, changing water regime due to diverting rivers and deforestation. Considerable international cooperation exists in marine research and development, but much larger efforts are required to ensure global participation and benefits. A much stronger effort is required on behalf of governments in order to obtain the benefits of opportunities for development inherent in the marine environment.

A NEW APPROACH TO OCEAN MANAGEMENT

6. The Law of the Sea Convention has introduced new global legal regime, although it lacks the necessary ratifications to enter into force, provides a sound legislative base to govern many international relationships and for ocean management. However, at least two levels need to be harmonized in the management of oceans and coastal areas. The first level is the coastal areas and exclusive Economic Zones (EEZs), where Governments have certain rights and responsibilities within national jurisdiction. The second level is the high seas, which require different cooperative arrangements at the global, regional and national levels. Legal and economically focused management regimes must be adjusted so as to incorporate both levels and to take account of political and administrative boundaries as well as the variety of physical and biological units being managed, such as large marine ecosystems, marine catchment basins and species ranges.

7. Open access, when demand nears or exceeds supply, results in resource and environment degradation. Although coastal areas are subject to national control over resources, very few countries have established an efficient system for allocating rights in their Exclusive Economic Zones (EEZs). Beyond national jurisdiction, the traditional high seas fishing regime is supporting allocation only as agreed among States. States not party to the agreements are not bound by them.

8. The new approach to ocean management must incorporate proactive and anticipatory regimes that avoid conflict, prevent environmental damage and economic loss, in contrast with the current reactive approach. The maintenance and proper valuation of marine and coastal environmental quality and ecological integrity is a prerequisite for ensuring the provision of environmental benefits, the sustainable use of renewable resources and the provision of the economic basis for a long-term and sustainable socio-economic development. Society needs to appreciate that the impact of intensified human activities in relation to the marine environment no longer support traditional approaches to oceans as an "infinite sink" or receptacle for wastes and an endless supply of free and open access resources.

9. The oceans and coastal areas should be viewed as positive assets presenting opportunities for sustainable development. This requires an integrated approach at national, regional and international levels. The overall goal is to maintain the oceans as a functional part of the global life support system, as a productive resource, and as a current and future asset for multiple sustainable development and environmental benefits so as to meet the well-being of present and future generations.

II. OPTIONS FOR AGENDA 21

PROPOSED PROGRAMMES AREAS

10. In this report, ten programme areas are proposed as options for consideration by the Preparatory Committee:

A. INTEGRATED MANAGEMENT OF COASTAL AREAS AND EXCLUSIVE ECONOMIC ZONES
B. MANAGEMENT OF THE HIGH SEAS: LIVING MARINE RESOURCES
C. SUSTAINABLE USE OF LIVING MARINE RESOURCES UNDER NATIONAL JURISDICTION
D. MAINTENANCE OF ECOSYSTEMS AND MARINE BIODIVERSITY
E. MARINE POLLUTION PREVENTION AND CONTROL: LAND-BASED ACTIVITIES
F. MARINE POLLUTION PREVENTION AND CONTROL: SEA-BASED ACTIVITIES
G. STRENGTHENING INTERNATIONAL AND REGIONAL COOPERATION
H. CAPACITY BUILDING
I. ADDRESSING CRITICAL UNCERTAINTIES FOR OCEAN MANAGEMENT AND CLIMATE CHANGE

11. Each of these could help in the achievement of one or more ocean management objectives. Within each programme area, a number of actions could be undertaken at the national, regional or international levels. It is important to note that references made to marine and coastal resources or ecosystems, include all kinds of seas including enclosed and semi-enclosed seas.

A. INTEGRATED MANAGEMENT OF COASTAL AREAS AND EXCLUSIVE ECONOMIC ZONES

Basis for Action

12. The coastal area is important for human settlements and for development through agriculture, forestry, fisheries and aquaculture, various industries, port development, shipping, marine and coastal transport, shore protection, tourism and recreation, national security, waste disposal and conservation of

marine ecosystems. Despite efforts at national, regional and international levels, the current sector and discipline oriented approach to the multiple use of marine and coastal resources does not provide an effective framework for achieving sustainability. A holistic, multidisciplinary and inter-sectoral approach to planning and management is required in coastal areas (particularly in Island States, enclosed and semi- enclosed seas) to identify and deal with potential interactions; allocate resources; anticipate and avoid conflict; minimize environmental degradation and face the challenge of potential climate change. There is an opportunity to optimize the sustainable use of the coastal system and resources, building on the experience of regional programmes.

Objectives

13. Manage the coastal system by protecting, restoring and enhancing its productivity, regulating access to resources and rates of use, promoting environmentally safe technology, ensuring compatibility among sectoral developments, cooperating on transboundary issues and assessing effects of potential climate change.

14. Adopt global guidelines for integrated coastal zone management by 1994, and establish at national, regional and global levels integrated planning and management processes for sustainable use of coastal zones and EEZs by the year 2000.

Activities

15. Develop a Policy and Planning Framework. Each coastal State could establish a high-level planning body or a national coordinating mechanism involving local populations for integrated coastal management. The main activity could be to prepare master/integrated coastal plans, as part of development plans that could include the following:

(a) Appropriate legal framework for permits, licences and enforcement measures, allocation of resources and space, for banning of environmentally harmful fishing gears and for liability and compensation provisions. Environmental impact assessment procedures could be made mandatory;
(b) Contingency plans for man-induced and natural disasters, taking into account the likely effects of potential climate change and sea level rise. The plans could include actions to restore altered critical habitats and living conditions of endangered species;
(d) Sectoral programmes addressing sustainability issues in each sector using the coastal area or impacting on it e.g. human settlements, tourism, fishing, ports and industries;
(c) Finance management systems, including accounting systems for coastal resources, allocation schemes and establishment of explicit user's rights and fees and investments, encouraging environmentally safe uses and rehabilitation and shifting from overcapitalized activities.

16. Set Up a Regional Coordinating Mechanism on coastal development bringing together relevant international agencies, regional programmes, and donors including the regional development banks. Regional bodies could develop

guidelines for improving compatibility between ecological and socio-economic concerns and among sectors, for restoring degraded natural systems to productive use and social benefit, and for transferring clean production technologies into coastal development projects.

17. Develop Technical Capacity for preparing policy interventions in support of integrated coastal and EEZs management.

(a) International and regional organizations could help countries develop enforcement capacity for monitoring, control and surveillance. Reference is made to document entitled Global Ocean Observing System (A/CONF.151/PC/70).
(b) The relevant United Nations bodies, in cooperation with governments and non-governmental organizations, could establish geographical information systems including appropriate data bases, statistics, maps and resource inventories particularly in sensitive areas and create a coastal multi-purpose monitoring system to assess the potential of coastal areas resources and their status.
(c) Regional programmes could organize data networks with information about a critical mass of scientists and technicians for multi-disciplinary research and management of coastal systems.

B. MANAGEMENT OF HIGH SEAS: LIVING RESOURCES

Basis for Action

18. High seas are presently used for transportation, fisheries, dumping, research and defence. Since ocean mining and transportation in this area are already regulated by existing international laws, they would not be addressed in this action programme. Emphasis would be given to living resources in the high seas. Management performance in the high seas (including those in the Antarctic region) has not been successful and many resources are overfished. Cooperation at bilateral, regional and international level is essential to maintain, rehabilitate and strengthen the management systems for sustainable use of fishery resources and transboundary stocks, supported by co-operative research and improved data systems. Emphasis could be on management of some species, especially addressing depleted species of large pelagic fish and mammals, but also considering species where higher exploitation rates may be sustainable.

Objectives

19. Over the next ten years, international mechanisms should be set up to make full sustainable use of high seas resources, improving the status of those which are depleted.

Activities

20. The international community could adopt a regulatory framework to strengthen capacities and options for collaboration, enforcement and management between regional and international fishery bodies dealing with high seas, with the following action options:

(a) Relevant United Nations Agencies (Office for Ocean Affairs and Law of the Sea, FAO and IOC) could elaborate on existing principles and develop guidelines for better implementation of the Law of the Sea Convention (UNCLOS). FAO could prepare guidelines on responsible fishing in the high seas.
(b) Countries together with relevant United Nations Agencies could establish programmes and special agreements to protect endangered marine mammals and to harmonize the exploitation regimes of stocks and species whose life cycles encompass both the high seas and the EEZs. This might include a ban on unsustainable fishing techniques and practices including the implementation of General Assembly resolution 44/225 on Large Scale Pelagic Driftnet Fishing.
(c) Antarctic Treaty Member States could agree to improve the status of living resources in the Antarctic region, including marine mammals.

21. Relevant UN bodies could Develop Collaborative Technical and Research Programmes to improve understanding of species life cycle and migration, identifying critical areas and life stages.

(a) Countries with the assistance of relevant United Nations Agencies and non-governmental organizations like the International Union for Conservation of Nature and Natural Resources (IUCN), in identifying linkages between EEZs and high seas resources, could develop further the concept of Large Marine Ecosystems and its potential for practical application in ocean management regimes.
(b) FAO could assess resources potential, optimal fishing regimes and acceptable levels of exploitation and develop reliable international monitoring, control, surveillance and enforcement systems.
(c) Regional Fisheries Bodies could link information systems which have part of the high seas ecosystem under their responsibility and inventory all stocks (target and non-target) in order to set up rehabilitation measures where appropriate.
(d) FAO and GATT could strengthen international technical cooperation mechanisms in relation to high seas stock-commodities with a view of identifying and eventually eliminating inappropriate trade barriers.

C. SUSTAINABLE USE OF LIVING MARINE RESOURCES UNDER NATIONAL JURISDICTION

Basis for action

22. World oceans yield about 80-90 million tons per year, 95% of which comes from EEZs. They provide a livelihood to millions of people in coastal areas. However, many fisheries continue to face mounting problems related to local overfishing, domination by foreign fleets, ecosystem degradation, increased stock fluctuations, overcapitalization, excessive fleet sizes, insufficiently selective gear, unreliable data bases, increasing competition between artisanal and industrial fishing and between fishing and other types of

activities. The United Nations Convention for the Law of the Sea provides a new regime defining access to resources within Exclusive Economic Zones but its implementation is far from adequate. The 1984 FAO World Conference on Fisheries Management and Development laid down policy guidance and identified five Programmes of Action dealing with: Planning, Management and Development; Small Scale Fisheries; Marine and Coastal Aquaculture; and Trade and Under-Nutrition. Coastal countries could optimise benefits and achieve future sustainable use of marine renewable resources in their EEZs in accordance with UNCLOS and the carrying capacity of the resources.

Objectives

23. The objective would be to build national capacity over the next 10 years to make full use of the EEZs. Each coastal country could accomplish the following:

(a) Implement UNCLOS's fisheries provisions together with regional and international collaboration.
(b) Reduce exploitation rates to acceptable levels (maximum or optimum sustainable yield) and adopt safe technology that will not affect long-term productivity and marine ecological integrity.
(c) Establish sustainable mariculture development strategies, including environmental management in support of rural fish farming communities.

Activities

24. National Policy, Legal and Regulatory Frameworks could be completed looking toward improved enforcement capacity, investment and financing including joint venture agreements, regulation of access, replacement of foreign fleet, enhancement of small-scale fisheries, the improvement of seafood quality and rationalisation of trade.

(a) Relevant United Nations Agencies could assist coastal countries to complete their legal and policy frameworks in line with UNCLOS, as well as to improve management methods including control and surveillance. They could prepare and negotiate guidelines for responsible fishing with a view to reduce wastes, protect endangered species, reduce pollution from fishing and improve fishing gear efficiency and selectivity.
(b) Coastal countries could establish a system to regulate access through licensing, explicit user's rights, limited entry, space allocation, closure zones and economic instruments.
(c) Countries could utilize development funding for habitat management.
(d) FAO could assist countries to develop a program for transfer of management methods and environmentally sound fishing technology, particularly for small scale fishing and for the protection of resources with low resilience (marine mammals, sharks).

25. Information Systems, Training and Management-Oriented Research Programmes could be implemented to provide a framework incorporating the ecosystem management approach at the national and regional level.

(a) Coastal States together with United Nations Agencies could complete/update living-resource and critical habitat inventories of EEZ's, at national and regional levels (coastal wetland, mangroves, seagrass beds, etc.) establish research on sustainability, related processes and observations, and develop legislation to protect them. FAO could develop methodologies to improve assessments in data-limited situations for the analysis of interactions between sectors and management under uncertainty.
(b) The regional bodies could develop multidisciplinary training and research on marine living resources, particularly in social and economic sciences as well as in the use of geographical information systems.
(c) Relevant United Nations Agencies could prepare a set of guidelines for potential application of a precautionary approach to living resources management; the concept of Marine Catchment Basin for enclosed and semi-enclosed seas, as well as the ecosystem management approach and "large marine ecosystems" concepts, including the practical implications and applications.

26. National Analyses for Potential Mariculture and Coastal Aquaculture (areas, species and methodologies) in each developing coastal country could be developed within ten years.

(a) Coastal States could assess potentials for coastal and marine aquaculture using aquaculture planning techniques and Geographical Information Systems within a framework of Integrated National Planning.
(b) FAO could prepare guidelines for responsible and environmentally sound intensive aquaculture to reduce environmental impacts and develop plans for basic, strategic and applied research especially on rural aquaculture.
(c) Countries could implement the FAO/ICES Code of Practice for Consideration of Transfer and Introduction of Marine and Freshwater Organisms and regional bodies could transfer available safe technologies and establish cooperative programmes with national centres.

27. Improving Seafood Quality will be crucial for promoting trade and meeting social goals linked to nutrition and health.

(a) Countries could agree on global quality assurance systems in order to improve consumer confidence and maximize economic returns.
(b) Countries with the assistance of FAO could develop programmes to improve handling and processing, reducing post-harvest losses and discards.
(c) The international community could develop/improve markets to promote direct human consumption of fish and to enhance the contribution of subsistence fisheries.
(d) Relevant United Nations Agencies could establish a methodology to assess the nutritional and health impacts of fishery policies and projects.

28. Implementation of a Co-operation Strategy between relevant regional bodies, e.g. Regional Seas Programme, the Fishery Bodies and development agencies.

(a) Development agencies and donors could provide technical and financial support through regional organizations.
(b) Fishery bodies could establish collaborative mechanisms on issues related to migratory fish and long range fleet monitoring and control.

29. A framework to support artisanal fisheries and small-scale use of living marine resources could be developed at national and regional levels and encourage equitable participation of women and indigenous peoples.

(a) Countries could integrate small-scale fisheries development in coastal zone planning, create and encourage representation of fishermen and communities in planning and management bodies.
(b) Countries could encourage community-based users, including traditional coastal communities, women's groups and indigenous people, increased rights and responsibilities for management and enforcement of agreed practices; allocate marine resources equitably among small-scale, large-scale and sport fisheries; and set a system for small-scale fishworker rights.
(c) Coastal States could develop and introduce environmentally sound artisanal fishing technologies, ban unsafe ones and strengthen training and extension services in coordination with rural agriculture services together with appropriate financing mechanisms.
(d) Coastal States could develop systems for the acquisition, recording and application of community based traditional knowledge concerning marine resources and environment into modern management systems.

D. MAINTENANCE OF ECOSYSTEMS AND MARINE BIODIVERSITY

Basis for Action

30. In spite of the existing amount of information about the variety and distribution of coastal and ocean species there is a lack of understanding on marine ecosystems which identifies a clear need for process-oriented research to support a rational development. The worldwide network of coastal and marine protected areas is far less well developed than its terrestrial counterpart. Two main differences when dealing with marine biodiversity are: first, physical boundaries between marine ecosystems are less pronounced and therefore, the effects of environmental changes disperse more rapidly and, second, changes in biodiversity of marine ecosystems could lead to crucial functional ecological instability affecting productivity and nutrient cycling.

31. Physical and chemical alteration, toxic pollution, marine debris, incidental take and over- harvesting are the major threats to marine biodiversity. The assumption often made is that except for certain marine mammals and sea turtles, ocean biodiversity is not threatened. Although it is not yet possible to fully assess the specific losses, there has been extensive destruction in coastal areas, e.g. estuaries, wetlands, coral reefs,

seagrass-beds and mangroves due to developmental activities. Global atmospheric change, particularly the ultraviolet radiation from stratospheric ozone depletion and predicted temperature rise will affect coral reefs and salt marshes. Special reference should also be made to the polar seas. The Arctic ocean currently suffers from overfishing and the effects of oil exploration and transportation. In Antarctica efforts are currently being undertaken by the Antarctic Treaty Members to prohibit mineral exploration, avoid pollution from scientific facilities and convert it to an internationally protected wilderness area.

Objectives

32. Suggested objectives for the maintenance of marine biodiversity are included in detail in the Biodiversity document A/CONF.151/PC/42/Add.4. Some of this objectives are:

(a) Include a marine biodiversity strategy in the Global Biodiversity Convention. This could include a global programme for identification and protection of fragile, critical and vulnerable coastal and oceanic habitats.
(b) Guidelines could be developed for designating protected areas and preparing management plans at the national and regional levels.
(c) The international community could establish a global system of coastal and oceanic marine protected areas by 2010.

Activities

33. Coastal States could Develop a Programme to Establish Marine and Coastal Protected Areas, including an inventory of endangered species and critical coastal and marine habitats and where appropriate, protect them through national legislation.

(a) Members States could support scientific research on and monitoring of resources of these marine areas; particularly in areas of high diversity, endemism, productivity and spawning, recruit, nursery grounds and migratory stopover points.
(b) Non-governmental organizations could assist countries in enhancing public awareness of the importance of marine biodiversity.
(c) Countries could implement national regulations to control the introduction of new species for aquaculture.

34. The UN and other relevant agencies could develop a Cooperating Mechanism for a global system of marine and coastal protected areas; preparing guidelines for designating areas and management plans and developing worldwide species inventories. In addition the international community could:

(a) Support the International Whaling Commission in its efforts to restore stocks of highly migratory stocks of large whales and other depleted and endangered marine mammals and extend the whaling moratorium for depleted or endangered species.
(b) The FAO could develop international guidelines to regulate exotic species introduction and a global programme for improving selectivity of gears.

(c) Promote wider ratification and/or implementation inter alia of the following conventions and programs: London Dumping Convention; MARPOL 73/78; United Nations Law of the Sea Convention; International Whaling Convention; Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals; World Conservation Strategy; Biosphere Reserve Program; Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); Ramsar Convention; Polar Bear Convention; Antarctic Conventions.

(d) In the polar regions, improve and introduce the anticipatory approach in the Antarctic Treaty System and adopt and Implement the Arctic Environmental Protection Strategy and promote the Arctic Monitoring and Assessment Programme.

E. LAND-BASED MARINE POLLUTION PREVENTION AND CONTROL

Basis for Action

35. A wide range of activities on land contribute to the release of contaminants to the sea, either directly or carried by rivers and the atmosphere - 40% arrives via rivers and 30% via the atmosphere, while maritime and dumping activities contribute 10% each. The bulk of contaminants remain in coastal waters. Poorly flushed areas are particularly affected. The contaminants from land-based sources posing the greatest threat to the marine environment are sewage, nutrients, synthetic organic compounds, sediments, litter, metals, radionuclides, oil/hydrocarbons, and polycyclic hydrocarbons (PAH's). Soil erosion presents an additional source of harmful inputs.

36. It is now recognized that an anticipatory rather than a reactive approach is necessary to deal with marine pollution, particularly from land-based activities. Clean production techniques and minimisation of wastes policies are essential. Further local, national, regional and global efforts are clearly needed. The protection and conservation of oceans and their resources demands a comprehensive, sequential and coordinated approach involving all sectors including air, land and water interactions. Each coastal country could adopt, in accordance with its capabilities, precautionary measures to prevent, reduce and control pollution from land-based sources. Any management framework must include waste audits, cleaner technologies, classification of substances, establishment of quality criteria, environmental impact assessment, comparison of options, monitoring, and integrated management of coastal areas and EEZ.

Objectives

37. Suggested objectives include:

(a) Adoption of a Global Management Framework or Legal Instrument by 1994;
(b) Develop national and regional action plans by 1995;
(c) Complete, with the support of regional and national programmes, inventories and hazard assessments of marine pollution sources by 1997, and
(d) Complete national, regional and global assessments of marine environment by 1997.

Activities

38. The following are alternative not necessary mutually exclusive approaches, based on the United Nations Environment Programme assessment included in Document A/CONF.151/PC/71 which member States may wish to consider:

(a) Agreed principles and programmes, building on the existing Montreal Guidelines, at the national, regional and global levels, including possible establishment of appropriate standards.
(b) A formal declaration, charter or statute to be adopted at UNCED.
(c) A global convention to formulate principles and standards with provisions for the institutional machinery to implement the convention. The Montreal Guidelines, complemented and amended as appropriate, could serve as the basis for the convention.

39. Coastal states could establish in regional and national action plans, acceptable levels of land-based inputs into the marine environment, together with target dates and financial mechanisms. In developing countries, one priority could be to develop appropriate sewage treatment and disposal.

40. As concerns sewage, a detailed programme of action is presented in document A/CONF.151/PC/42/Add.7 (Freshwater). The elements which coastal States could consider are:

(a) Entry of non-domestic effluent to sewers should be strictly controlled so as not to preclude productive uses of sewage by contaminants (e.g., heavy metals).
(b) Municipal sewage discharged to rivers, estuaries and the sea should, as a minimum, be subject to primary treatment.
(c) Coastal outfalls should be located so as to avoid exposing shell fisheries, water intakes and bathing areas to pathogens.

41. As concerns wastes, a detailed programme is presented in documents A/CONF.151/PC/Add.8 (Solid Wastes), A/CONF.151/PC/Add.9 (Hazardous Wastes) and A/CONF.151/PC/Add.10 (Toxic Chemicals). The main elements to be considered by coastal countries are:

(a) Establish regulatory and monitoring programmes and risk assessments to control effluent discharges (point sources) to rivers, estuaries and coastal waters.
(b) Adopt new "prior informed consent" policy initiatives at national and regional levels for controlling the input of non-point source pollutants, including sediments, which requires broad changes in sewage and waste management, shifts in agricultural practices, and environmentally compatible approaches to mining, construction and transportation practices.
(c) Establish a review and control regime of loads (fluxes) of nitrogen and phosphorus entering the marine environment.

42. Countries could adopt a declaration at UNCED 1992 on land-based sources following the recommendations of the Halifax Intergovernmental Meeting of Experts. This could include specific elements for a subsequent global

strategy and action plan on land based sources of pollution at UNCED in 1992. An Intergovernmental Meeting of Experts on Land-based Sources of Marine Pollution will meet again toward the end of 1991, following the decision of 16th UNEP Governing Council. This meeting could support the UNCED Preparatory Process by helping in the articulation of UNCED options for action to be considered again at the Fourth Preparatory Committee.

F. SEA-BASED MARINE POLLUTION PREVENTION AND CONTROL

Basis for Action

43. The substances involved in marine pollution caused by shipping and maritime activities vary enormously in quantities and potential harm to the oceans. In tonnage terms and visual impact the most important pollutant is crude petroleum and its derivatives. Of the approximately 600,000 tons of oil entering the oceans each year from maritime activities less than 25 per cent is from major tanker accidents. A much larger quantity of oil is discharged as a result of normal shipping operations, e.g. pumping of bilges, tank cleaning and deballasting. The heavy concentrations of such residues in coastal areas give rise to chronic pollution, lowering aesthetic and recreational value. Offshore oil operations give rise to polluting discharges from separation of water from recovered oil and the disposal of drilling mud. Oil-well blow-outs can result in oil spillage of catastrophic proportions. There is currently no global regulatory regime for the prevention and control of pollution from offshore oil activities and only four regions have considered the adoption of legal instruments in this regard e.g. N.W. Europe in the Paris Convention, the Kuwait Action Plan Area's Kuwait Protocol, the Caribbean Countries' and the Mediterranean Countries' Barcelona Protocol now under consideration.

44. On the other hand, many chemicals carried by sea are intrinsically far more harmful to the marine environment. Some can bio-accumulate in quantities that present a danger to human health, while others taint fish, making them unsuitable for human consumption. Of the global merchant fleet of approximately 70,000 ships, some 7,000 are tankers. The global chemical tanker fleet has doubled in the past ten years to approximately one thousand. A substantial volume of other chemical products are carried in packaged form such as drums or in especially constructed containers. Up to 15 percent of goods carried in dry cargo ships are dangerous to some degree. These, together with liquid substances carried in oil and chemical tankers, make about half of the total cargo carried by the sea.

45. Discharged sewage and garbage (e.g. plastics) from ships are extremely persistent and potentially harmful if ingested by seabirds and marine mammals. Another cause of pollution is that arising from disposal of wastes at sea. By changing industrial processes and the use of recycling methods and improved waste treatment techniques the amounts of wastes dumped at sea have been reduced. In spite of these efforts, disposal at sea of certain waste types, particularly uncontaminated dredged materials, continues to be considered practical and environmentally acceptable. More attention must be paid to the selection of dumping sites, dumping techniques and monitoring programmes and

the application of hazard assessment techniques within a licensing regime which can provide the necessary level of marine pollution prevention and control.

46. In addition to the environmental impact of oil spills there are frequently economic repercussions for coastal communities or small countries reliant on the resources of the sea. Automatic financial access to resources to cover clean-up costs and economic damage through liability and compensation regimes have done much to mitigate the effects of accidental oil pollution by facilitating prompt and effective counter-pollution operations.

Objectives

47. An overall objective could be the wider ratification by coastal States of the relevant conventions, and the extension of the existing regimes to cover pollution caused by substances other than oil. Specific objectives could be developed in the following areas:

(a) International ratification and implementation of shipping conventions and more rigorous enforcement of the discharge provisions, eg. through port State control. Coastal nations, on the basis of guidelines issues by International Maritime Organization, and assisted by same, could aim to establish by 1997 port facilities for the collection and disposal of waste oil, chemical residues and garbage, especially in sensitive sea areas where ships are not permitted to make discharges.
(b) Finalize the future strategy of the London Dumping Convention by 1994.
(c) Develop an international regulatory global framework for offshore oil activities by 1995.
(d) Implement liability and compensation regimes covering pollution damage, from shipping and dumping activities, the immediate goal being the adoption by International Maritime Organization of a regime for hazardous and noxious substances carried by ships by 1993.

Activities

48. Countries could decide to initiate the regulation of an agreement to establish global rules, standards and recommended practices to prevent, reduce and control marine pollution arising from artificial islands, installations and structures used in the exploration and exploitation of offshore oil resources.

49. As concerns shipping, coastal states could urge wider ratification and implementation of safety and marine pollution conventions, including those dealing with liability and compensation for pollution damage and rigorous enforcement of MARPOL regulations (e.g., through exercise of port State control procedures and aerial surveillance of shipping lanes).

(a) Implementation of more stringent pollution control measures in semi-enclosed seas, the polar regions and particularly sensitive sea areas and maintenance of adequate salvage capacity.
(b) Full application of pollution prevention measures to ships engaged in governmental non- commercial service and control of the discharge of water containing harmful marine organisms.

50. In relation to ports, countries could urge the provision of facilities for collection and treatment of wastes from ships and for vessels and yachts in marinas and fishing harbours.

(a) Establishing of specific financing mechanisms for building port facilities, including loans or grants from international agencies, including the UNDP, UNEP and World Bank's Global Environmental Facility or a system of "Reception Facility Funds" of automatic charges on ships.

(b) Regulation of dredging of navigation channels and disposal of dredged material, including global criteria for ocean disposal of contaminated spoils.

(c) Development of guidelines for environmental impact assessments of port development and expansion and wider enforcement of codes of practice relating to transportation of hazardous and dangerous cargoes, and for detection of illicit movement of toxic chemicals and hazardous wastes.

51. Member states could urge the development of oil and chemical spill contingency plans at local, national and regional levels and establish at the national level, government/industry collaboration mechanism on provision of oil spill response materials and equipment stockpiles, and training of cleanup personnel, together with a funding mechanism.

52. Member states could agree to stop dumping of all hazardous wastes and substances and encourage a global commitment to more assiduous application of the provisions of the London Dumping Convention and regional dumping protocols, where adopted. IMO could prepare global guidelines concerning waste audits and clean production, and lists of substances and wastes prohibited from dumping at sea and could assist States to enter into regional agreements in this regard.

53. Coastal countries could urge the extension of the existing liability and compensation for shipping to include hazardous and noxious substances as well as the extension of such regimes for shipping and other sea-based activities (e.g., dumping, offshore oil and gas and transboundary movements of hazardous substances and wastes) to include high seas areas.

G. STRENGTHENING INTERNATIONAL INSTITUTIONS AND LEGAL INSTRUMENTS

Basis for Action

54. There are numerous global and regional institutions with competence in marine issues. A comprehensive convention and a number of other legal instruments deal with the various aspects of ocean affairs. However there is no appropriate global forum where the international community can consider interrelated problems as a whole, and thus identify important issues, priorities and strategic planning needs, promote intra- and interregional cooperation, and mobilize funding. There are also several mechanisms for United Nations system cooperation and coordination, but none at present has the necessary comprehensive responsibilities. A global forum for intergovernmental discussion and mechanisms for coordination among the relevant agencies and bodies concerned with ocean-related activities could

provide an integrated process. Similar arrangements for intergovernmental and intersecretariat co-operation and coordination are needed at the regional level, where a number of bodies already exist both within and outside the United Nations system.

55. The United Nations Convention on the Law of the Sea contains a comprehensive global framework and lays down fundamental rules for all significant ocean related activities and environmental protection. Universal adherence to the convention would solidify the already widely accepted principles and rules and prevent unilateral actions not compatible with them. Within this framework, wider acceptance of related conventions could also enhance international cooperation and ensure their coherent and harmonised development.

56. Governments participating in various international fora often represent the interests of different national sectors. In ocean-related fields, where all issues are closely interrelated it is essential that each government integrate sectoral interest and participate in relevant fora with consolidated positions.

Objectives

57. The United Nations General Assembly could decide on establishing a global forum on ocean issues and introduce coordinating mechanisms.

58. Regional bodies could introduce new arrangements to ensure effective coordination in the fields of environmental protection, fisheries and development.

59. Member States could ratify/achieve universal acceptance of UNCLOS.

Activities

60. Through UN co-ordination, establish new integrated arrangements, or strengthen existing coordinating arrangements at the national, regional and international levels, by setting up one or more of the following:

(a) A high-level inter-governmental forum, through the General Assembly, which will meet periodically and include all relevant agencies and bodies of the United Nations and development and donor institutions.
(b) Expanded General Assembly Plenary annual consideration on ocean affairs with appropriate reporting arrangements between the GA and the governing bodies of the relevant agencies and bodies.
(c) Related intersecretariat coordinating mechanisms, including the formalization of the existing ad hoc UN/OALOS and UNEP consultations as well as the specialized processes of ICSPRO and GESAMP; and as required, ad hoc joint advisory expert groups.
(d) A Conference on Ocean Affairs to be convened every 5 years.
(e) Regional, high-level intergovernmental fora and corresponding intersecretariat coordinating mechanisms, involving all relevant organizations, regional bodies and programmes, development agencies and donors.

(f) Extended arrangements among United Nations agencies and bodies to revitalize the regional bodies and seas programmes, with a mechanism to ensure collaboration among all relevant institutions active in the region, including adequate staff representation.

(g) The establishment by the United Nations Secretary-General of a standing Commission on Ocean Affairs (constituted of distinguished independent members) which would report periodically to the General Assembly on major issues affecting the oceans and possible means of solution.

61. The inter-governmental global and regional forums could perform inter alia the following tasks:

(a) Further expansion of the present annual UNGA report on the law of the sea, including identification and examination of critical issues, and preparation of summary reports on all United Nations System planning in the oceans sector, incorporating also related activities outside the United Nations system.

(b) Discuss policies and strategic planning and coordinating activities and allocate responsibilities among relevant intergovernmental bodies.

(c) Review and assessment of impediments to implementation and enforcement of global and regional agreements, including institutional aspects.

(d) Review assistance to developing countries and facilitate collaboration and appropriate participation of development and technical agencies, donor community, non-governmental organizations and commercial users.

62. The relevant forums and secretariats could cooperate to facilitate the progressive development of relevant international law and to ensure more consistent and effective implementation by member States, in the following:

(a) Provision of assistance to member States, on request, to improve their capability of accepting and/or implementing the Law of the Sea Convention and other relevant instruments, including the implementation of the research regime as one management tool.

(b) Development of dispute settlement mechanisms, with consideration given to the provisional application of the procedures contained in the Convention which could be resorted to before its entry into force.

(c) Further development of liability regimes, drawing on evolving methodologies for natural resources accounting, as well as the the concepts concerning "polluter pays", "user pays" and the "precautionary approach".

(d) Strengthen UN/OALOS as a central reference point for information on and access to legislation as well as for advice on legislative and institutional measures for the implementation of international ocean agreements.

H. CAPACITY BUILDING FOR OCEAN AND COASTAL MANAGEMENT

Basis for Action

63. Few countries have the human resources, scientific infrastructure or management mechanisms necessary for integrated management of ocean and coastal areas and resources. Without strengthened capacity, planning and programme implementation cannot be done properly. A coherent effort is needed

nationally, regionally and internationally to train increasing numbers of marine specialists and managers, to provide the necessary scientific facilities for research and monitoring in oceans and coastal areas, and to establish the plans, policies, legislative frameworks and institutional mechanisms to implement the strategy described above.

Objectives

64. Each coastal country could establish:

(a) A unified policy framework and intergovernmental mechanisms for coastal management and marine resources management.

(b) Procedures to involve the coastal communities in the development and implementing programmes.

65. Relevant United Nations Agencies, donor community and development agencies could adopt a funding coordinating mechanism to assist all coastal States to build national and regional capacities for ocean and coastal areas management.

Activities

66. Member States could create an interministerial mechanism, within the national planning and development bodies, for policy-making and long term planning on oceans and coastal areas. The main tasks could include the following:

(a) Rationalize and/or coordinate sectoral responsibilities for oceans and coastal areas within governments and establish a reviewing mechanism to up-date and enforce relevant national legislation to ocean management and coastal development.
(b) Establish advisory bodies for broad consultation to stimulate participation with local administrations, the business community, the academic sector, user groups and the general public.
(c) Include institutional capacity building in agreements between development aid bodies and developing country institutions.

67. Coastal States could organize training and extension programmes for resource users including fishermen, women, and incorporate ocean issues and management in educational curricula and public awareness campaigns. Indigenous peoples could be supported to maintain and apply their traditional knowledge of the coastal environment and marine resources.

68. Relevant regional agencies could assist coastal countries in improving the scientific, technological, professional and related institutional capacities.

(a) Identify existing capabilities and existing facilities within the region and potentials for expansion in regional marine and coastal areas research, training, management and technologies.

(b) Establish and maintain regional centres capable of assisting countries in analysing information and assessing the principal environmental problems, in reinforcing surveillance and implementing environmental impact assessment and monitoring programmes with predictive capabilities.
(c) Prepare national and regional contingency and emergency plans, standard techniques for monitoring species and habitats and develop geographic information systems for spatial planning in coastal areas.
(d) Create special programmes to assist island States to integrate environment and development in the planning process for their limited areas and resources.
(e) Establish programmes on marine environmental education and enhance public awareness of the role of the marine environment for society.

I. ADDRESSING CRITICAL UNCERTAINTIES FOR OCEAN MANAGEMENT AND GLOBAL CLIMATE CHANGE

Basis for Action

69. Effective management of oceans and coastal areas is often stalled by the high degree of uncertainties in present information which limit the ability to make predictions and assess environmental change. In order to rationally manage the marine and coastal environment and its resources, it is necessary to restructure the mechanisms for generating and disseminating information based on the results of research and monitoring activities. Research and monitoring information generated must be correctly communicated to all levels of the management structure and the public.

70. There are many uncertainties about climate change and sea level rise. Response strategies should be based on sound information. A long-term co-operative commitment is needed to reduce this great uncertainty. Meanwhile, precautionary measures should be initiated to diminish the risks and effects, particularly on small islands, low-lying States and coastal zones of the world.

Objectives

71. To develop globally accepted methodologies for coastal vulnerability assessment, modelling and response strategies particularly for priority areas, such as small island, low-line States and critical coastal areas.

72. To create regional accessible and readily-transferred multi-sectorial information bases, covering the results of research and monitoring programmes, linked to existing data and information services and mechanisms for communicating these results to decision makers (including environmental managers) and the public in general.

73. To establish funding mechanisms for an inter-disciplinary monitoring system through coordination among United Nations Agencies and development agencies including a programme on marine technology and engineering and to help ensure implementation of on-going and planned global and regional ocean climate- related research programmes.

Activities

74. Relevant UN Agencies could establish high-level coordinated inter-agency short-term monitoring mechanisms in the regional or global programmes that could include:

(a) A mechanism for data validation and regular scientific review, agreed formats for presentation, including Geographic Information Systems and storage, and communication of the information gathered to potential users.
(b) Monitoring of coastal habitats, inventories of marine pollution sources and fisheries statistics.
(c) Multi-parametric cross-disciplinary global ocean monitoring to build an understanding of climate change, e.g. GOOS (Document A/CONF.151/PC/70.

75. Regional programmes could establish a monitoring system to contribute to the implementation of global ocean and coastal observing systems. This long term systems should be based on the principle of free and open exchange of data and could anticipate the effects of climate related emergencies on existing physical, socio-economic coastal infrastructure (e.g. human settlements, industries, tourism, communication, ports and aquaculture) and promote site-specific analysis of sea level rise effects and temperature elevations on sensitive coastal ecosystems and lagoons and economically important species;

76. Coastal countries with the assistance of relevant UN Agencies could establish research priorities to address critical uncertainties for ocean and coastal area management such as:

(a) Living resources potential, optimal fishing regimes and acceptable levels of exploitation including the species life cycle and migration to identify critical areas and life stages.
(b) Fate and effect of all forms of chemical pollution and effects of eutrophication and toxic phytoplankton blooms in fisheries and coastal ecosystems.
(c) Development of appropriate and new marine technologies to utilise under-exploited resources, for aquaculture, food processing and for pollution control including marine environmental accountancy as a management tool.
(d) Response of critical or sensitive marine ecosystems and rehabilitation strategies of degraded areas relevant for coastal sustainable development.

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PREPARATORY COMMITTEE FOR THE UNITED NATIONS
CONFERENCE ON ENVIRONMENT AND DEVELOPMENT
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Working Group II
Agenda item 2

PROTECTION OF THE OCEANS, ALL KINDS OF SEAS INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES

Draft decision proposed by the Bureau

A. Options for Agenda 21

The Preparatory Committee,

1. Welcomes the reports of the Secretary-General of the Conference on Protection of Oceans, All Kinds of Seas Including Enclosed and Semi-enclosed Seas, Coastal Areas and the Protection, Rational Use and Development of their Living Resources (A/CONF.151/PC/69) and the Options for Agenda 21 on Oceans (A/CONF.151/PC/42/Add.6). Requests the Secretary-General of the Conference to consolidate and integrate related programme areas and rationalize their presentation for consideration at its fourth substantive session. The Committee requests the Secretary-General of the Conference to take into consideration inter alia all relevant paragraphs of General Assembly resolution 44/228, the relevant resolutions taken at the first and second substantive sessions and the decisions taken at the present substantive session in the preparation of a draft Agenda 21 section on Oceans:

(a) The need to include the requests made hereunder into the Options for Agenda 21 on Oceans as amended at the third substantive session of the Preparatory Committee and annexed to this decision;

(b) To further develop the five programme areas for oceans, as given in the annex in relation to Means of Implementation/Resource Requirements: Human Resource Development, Scientific and Technological Infrastructure Development, and Costing and Financing and the role of different international organisations in implementation, incorporating the suggestions and comments from delegations.

2. As concerns the intergovernmental meeting of experts on land-based sources of pollution to be convened by UNEP in coordination with the UNCED secretariat, the Preparatory Committee invites the Executive Director of the United Nations Environmental Programme to report the results of this meeting to the Secretary-General of UNCED on time to be presented at its fourth substantive session.

Annex

Chairman's Working Paper

(Revised version of document A/CONF.151/PC/42/Add.6)

AGENDA 21

[GENERAL OBJECTIVES]

[1. The marine environment --including the oceans and adjacent coastal areas-- forms an integrated whole that is an essential component of the global life support system. It should be viewed as a positive asset presenting opportunities for sustainable development. Management of its environmental quality and ecological integrity is a prerequisite for ensuring the sustainable use and development of its resources.

[2. Principles of]The United Nations Convention on the Law of the Sea (UNCLOS) provides [the international framework within which][basis] to pursue the protection and sustainable development of the marine environment. [UNCLOS] contains generally accepted rights and obligations of States with respect to the marine environment. Implementation of those rights and obligations constitutes the objective of this part of Agenda 21 dealing with the oceans.]

[2 The Law of the Sea Convention has introduced new global legal regime, although it lacks the necessary ratifications to enter into force, provides a solid legislative base to govern many international relationships and for ocean management. However, at least two levels need to be harmonized in the management of oceans and coastal areas. The first level is the coastal areas and Exclusive Economic Zones (EEZs), where Governments have certain rights and responsibilities within national jurisdition. The second level is the high seas, which require different cooperative arrangements at the global, regional and nationall levels. Legal and economically focused management regimes must be adjusted so as to incorporate both levels and to take account of political and administrative boundaries as well as the variety of physical and biological units being managed e.g. large marine ecosystems, marine catchment basins and species ranges. The oceans and coastal areas should be viewed as positive assets presenting opportunities for sustainable development. This requires an integrated approach at national, regional and international levels. The overall goal is to maintain the oceans as a functional part of the global life support system, as a productive resource, and as a current and future asset for multiple sustainable development and environmental benefits so as to meet the well-being of present and future generations.]

Note: The underlined text corresponds to the new proposed texts by delegations.

The numbers at the end of the paragraphs indicate the original para. of doc. A/CONF.151/PC/42/Add.6.

3. Within this framework, achievement of the protection and sustainable use of the marine environment requires new approaches to ocean management, at the national, regional and international levels,-approaches that are integrated in content and precautionary and anticipatory in ambit. The overall goal is to ensure that the oceans provide environmental and economic benefits for the well-being of present and future generations.
This goal includes:

[- integration of protection of the marine environment into/and overall economic development policies taking into account changes in value resulting from uses of the [coastal and] marine environment;]

[- Rational use of the marine environment to provide the full requirements for a sustainable development]

- prevention, reduction and control of pollution [and other type of degradation] of the marine environment, including coastal and marine ecosystems;

- preservation of the biological diversity and productivity of marine species, [habitat] and maintenance of the ecological relationships among populations of such species.]

[3bis To achieve these goals, the United Nations General Assembly could accomplish the following actions:

= Training al all levels, in the short, medium and long term of human resources for research, technology and management of coastal areas marine resources.

- Infrastructure Development and:

- Assignment of the necessary funds.

PROPOSED PROGRAMMES AREAS

Agenda 21 for oceans includes the following programme areas:

A. INTEGRATED MANAGEMENT [AND SUSTAINABLE DEVELOPMENT] OF COASTAL AREAS AND [MARINE ECOSYSTEMS][EXCLUSIVE ECONOMIC ZONES]

B. [MARINE ENVIRONMENTAL PROTECTION][MARINE POLLUTION, PREVENTION AND CONTROL: LAND-BASED AND SEA-BASED ACTIVITIES]

1 Prevention, Reduction and Control of Degradation of the Marine Environment from Land-based Activities
2 Prevention, Reduction and Control of Degradation of the Marine Environment from Sea-Based Activities
3 Prevention, Reduction and Control of Degradation of the Marine Environment from other Sources

C. MARINE LIVING RESOURCES [SUSTAINABLE UTILIZATION ON THE HIGH SEAS AND UNDER NATIONAL JURISDICTION]

1 High Seas [HIGH SEAS AND NATIONAL JURISDICTION]
2 National Jurisdiction]

[C. MANAGEMENT OF HIGH SEAS: LIVING MARINE RESOURCES
D. SUSTAINABLE USE OF LIVING MARINE RESOURCES UNDER NATIONAL JURSIDICTION.]

D[E]. ADDRESSING CRITICAL UNCERTAINTIES [FOR OCEAN MANAGEMENT] AND CLIMATE CHANGE

E[F]. STRENGTHENING INTERNATIONAL, INCLUDING REGIONAL COOPERATION AND COORDINATION

[G. HUMAN RESOURCE DEVELOPMENT FOR OCEAN [AND COASTAL] MANAGEMENT]
Human Resource Development
Scientific and Technological Infrastructure Development
Costing and Financing]

Each Programme Area will include the following components:

Basis for actions

Objectives

Activities

Management-related
Data and Information
Capacity Building
International and Regional Cooperation and Coordination

[Means of Implementation/Resource Requirements

Human Resource Development
Scientific and Technological Infrastructure Development
Costing and Financing]

[Means of Implementation

Financing and Cost Evaluation
Scientific and Technological Means
Human Resources Development
Capacity Building of Developing Countries for Preventive and Corrective Action in the Field of Environment Protection and Promotion of Development].

A. INTEGRATED MANAGEMENT [AND SUSTAINABLE] DEVELOPMENT OF COASTAL AREAS AND [MARINE ECOSYSTEMS][EXCLUSIVE ECONOMIC ZONES].

Basis for action

4. The coastal area is important for human settlements and for development through agriculture, forestry, fisheries and aquaculture, various industries, port development, shipping, marine and coastal transport, shore protection, tourism and recreation, national security, waste disposal and conservation of marine ecosystems. The Economic Exclusive Zone (EEZ) is also very important for people and for development because in this area the coastal States exercise an active protection on the natural resources. Despite efforts at national, regional and international levels, the current sector and discipline oriented approach to the multiple use of marine and coastal resources does not provide an effective framework for achieving sustainable development. A holistic, multidisciplinary and inter-sectoral approach to planning and management is required in coastal areas (particularly in island States, low coastal countries, enclosed and semi-enclosed seas) to identify and deal with potential interactions; allocate resources; anticipate and avoid conflict; minimize environmental degradation and face the challenge of potential climate change. There is an opportunity to optimize the sustainable use of the coastal and EEZs areas and resources, building on the experience of regional programmes.(12)

[4bis Problems extend beyond fisheries. Coral reefs and other largerly tropical coastal habitats such as seagrass communities, mangroves and estuaries among the most highly diverse, integrated and productive of the earth's ecosystems. They often serve important ecological functions, provide protection from hazards of the open sea, and are critical natural resources for food, energy, and economic development. In various parts of the world such coastal and marine systems are under stress or threatened due to factors ranging from local cultural practices to changes in sea temperature and or sea level.]

Objectives

5. Integrated management should provide the developing needs of coastal states, making full and cost effective use of natural resources, while maintaining and enhancing those resources for the use of future generations.

6. Assess, plan and manage on a rational economical base, the sustainable development of the coastal and the EEZ areas and their resources while protecting, restoring and enhancing its productivity and conserving its biodiversity, regulating access to resources and rates of use, promoting environmentally safe technology, ensuring compatibility among sectoral developments, cooperating on transboundary issues and assessing effects of potential climate change, particularly the sea level rise.(13)

7. Agree on guidelines for integrated coastal zone and the EEZs area management and development by 1994, and establish at national, regional and global levels integrated planning management and development processes for sustainable use of coastal zones and EEZs by the year 2000.(14)

8. Adopt programmes on the establishment of protected areas and other measures to maintain especies and their habitats in coastal areas and EEZ.

9. Establish a unified policy framework and intergovernmental mechanisms for coastal and EEZ natural resources management and development. Coordination should be promoted with governmental organizations, decision-makers, academic and private sectors, NGO's, local population and other users for this matter.(64(a))

10. Enhance the coordination for coastal and EEZs issues and introduce cooperative mechanisms.(57)

11. Introduce, for regional bodies, new arrangments to ensure effective coordination in the fields of environmental protection, fisheries [marine resource utilisation] and development. [Provisions of mechanisms to facilitate the sustainable exploitation of the EEZs and the resources contained therein to meet the needs of the people.](58)

Activities

Management-Related

12. Develop a Policy and Planning Framework. Each coastal State could establish a high-level planning body or a national coordinating mechanism involving with the governmental organisms the academic and private sector and the local populations for integrated coastal and EEZ management and development. The main activity could be to develop integrated programmes and implement master/integrated coastal and EEZ plans, as part of development plans that could include the following:(15)

(a) Appropriate legal framework for permits, licences and enforcement measures, allocation of resources and space, for banning of environmentally harmful fishing gears [exploitation practices] and for liability and compensation provisions. Environmental impact assessment procedures could be made mandatory;
(b) [Programmes for operative environmental assessment] [Environmental assessment programmes identifying the causes of degradation of the marine environment as well as measures to prevent or correct such degradation.
(c) Contingency plans for man-induced and natural disasters, taking into account the likely effects of potential climate change and sea level rise. Prior assessment of the potential significant adverse environmental impacts of major governmental policies, programmes and projects upon the coastal and the EEZ environment. The plans could include actions to restore altered critical habitats and living conditions of endangered species;
(d) Sectoral programmes addressing sustainability issues in each sector using the coastal area or impacting on it e.g. human settlements, tourism, fishing, ports and industries;
(e) Finance management systems, including accounting systems for coastal resources, allocation schemes and establishment of explicit user's rights and fees and investments, encouraging environmentally safe uses and rehabilitation and shifting from overcapitalized activities.
[(f) Public education and information programme to facilitate plan formulation, implementation and review.]

13. Coastal States could establish protected areas in coastal and EEZ ecosystems which are important because of their high species diversity or role as nursery and recruitment grounds for fish in particular coral reefs, seagrass beds, mangroves, coastal lagoons, estuaries and other coastal wetlands, including an inventory of endangered species and critical coastal and marine habitats and, where appropriate, protect them through national legislation.(33)

(a) Members States could support scientific research on and monitoring of resources of these marine areas; particularly in areas of high diversity, endemism, productivity and spawning, recruitment, nursery grounds and migratory stopover points.
(b) Non-governmental organizations could assist countries in enhancing public awareness of the importance of marine biodiversity.
(c) Countries could implement national regulations to control the introduction of new species for aquaculture, which may have adverse effects on the ecosystem.
[(d) Limited use of resources in protected areas could be allowed statutorily if their use is justified by tradition.]

[13bisSpecial measures [based on the best available scientific information], to preserve the habitats of marine species and designation of areas of the marine environment for special protection in order to:

a) Protect rare or fragile ecosystems;
b) Preserve or restore breeding, spawning, nursery and high biodiversity areas such as coral reefs, seagrass beds, mangrove forests and other highly productive habitats.
c) Preserve or restore their scientific, wilderness, recreational or aesthetic values.
d) Monitor changes in the marine environment.
e) Preserve unique opportunities for scientific research.

Monitoring of changes to coral reefs and other marine life that threaten their ecological, economic and social value.]

International and Regional Cooperation and Coordination

14. Develop Technical Capacity for preparing policy interventions in support of integrated coastal and EEZs management.(17)

(a) International and regional organizations could help countries develop enforcement capacity for monitoring, control and surveillance. Reference is made to document entitled Global Ocean Observing System (A/CONF.151/PC/70).
(b) The coastal States with the cooperation of the relevant United Nations bodies and non-governmental organisations, could establish geographical information systems including appropriate data bases, statistics, maps and resource inventories particularly in sensitive areas and create a coastal multi-purpose monitoring system to assess the potential of coastal areas resources and their status.
(c) Regional programmes could organize data networks with information about a critical mass of scientists and technicians for multi-disciplinary research and management of coastal and EEZ systems.

15. Set Up a Regional Coordinating Mechanism on coastal and EEZ development bringing together relevant international agencies, regional programmes, and donors including the regional development banks. Regional bodies could develop guidelines for improving compatibility between ecological and socio-economic concerns and among sectors, for restoring degraded natural systems to productive use and social benefit, and for transferring clean production technologies into coastal and EEZ development projects.(16)

Data and Information

16. Enhance the capacity of the developing countries for the acquisition and availability of information and data adequate for prior assessments of the potential significant adverse environmental impacts of [and informed judgments] about major governmental policies, programmes and projects affecting the coastal and EEZ environment.

To improve the information base, it is necessary to:

a) Assess the fishing resources [marine resources].
b) Rationalize and expand the data base available in most countries for management of coastal seas resources, with specific needs in mind. In particular, strengthen global coastal shelf and ocean observing systems, as proposed by IOC, UNEP and WMO need developing or strengthening.
c) Assess technologies and information systems available to developing countries for storage and processing of data and for resources mapping, analysis and characterization (including remote sensing, coastal observing systems, etc). In particular, develop Geographic Information Systems (GIS) including appropriate training and equipment.
d) Assess present status of coastal zones urgently, including diagnostics on eutrophication, occurrence of coral bleaching, red tides, "ciguatera", bacteria at beaches, nitrification and salination of groundwater, fish abundance, habitat degradation levels, identification of local and upstream impacting activities (agriculture and others), wetland obliteration, etc.
e) Prepare inventories (atlases) of present and potential activities in the coastal areas (including human settlements), or with impacts on such areas, in order to identify compatible or mutually exclusive activities and problem areas. Identify boundaries for specific pilot projects and zoning purposes.
[f) Prepare inventories (atheses) of present and potential resources and activities in the EEZs.][Delete]

Capacity Building

17. Member States could create an interministerial mechanism, within the national planning and development bodies, for policy-making and long-term planning on EEZ and coastal areas. The main tasks could include the following:

(a) Rationalize and/or coordinate sectoral responsabilities for EEZ and coastal areas within Governments and establish a reviewing mechanism to update and enforce relevant national legislation to EEZ/marine management and coastal development.

(b) Establish advisory bodies for broad consultation to stimulate participation with local administrations, the business community, the academic sector, user groups and the general public.
(c) Include institutional capacity building in agreements between development aid bodies and developing country institutions.(66)

18. Coastal States could organize training and extension programmes for resources users including fishermen, women, and incorporate ocean issues and management in educational curricula and public awareness campaigns. Indigenous peoples could be supported to maintain and apply their traditional knowledge of the coastal environment and marine resources.(67)

19. Relevant global and regional agencies should cooperate with coastal countries in improving the scientific, technological, professional and related institutional capacities.

(a) Identify existing capabilities and existing facilities within the countries of the region; determine the needs of human resources, the scientific and technological infrastructure required and potential for expansion in regional marine and coastal areas research, training, management and technologies.
(b) Establish and maintain regional centres capable of assisting countries in analyzing information and assessing the principal environmental problems, in reinforcing surveillance and implementing environmental impact assessment and monitoring programmes with predictive capabilities.
(c) Prepare national and regional contingency and emergency plans, standard techniques for monitoring species and habitats and develop geographic information systems for spatial planning in coastal areas. To establish the appropriate legislation to protect the marine and coastal ecosystems.
(d) Create special programmes to assist island States to integrate environment and development in the planning process for their limited areas and resources.
(e) Establish programmes on marine environmental education and enhance public awareness of the role of the marine environment for society.(68)

Means of Implementation/Resource Requirements
20.

a) Development of human resources, regional and international institutions related to the subject should help developing island countries to improve their scientific and technical capacities for the integrated management of their coastal areas and EEZs, according to the following:

- Define and implement regional training programs on integrated management of coastal areas and EEZs with the participation of local and regional research centres, as well with the native comunities.

- Establish geographical information networks as a support for activities related to the integrated management of coastal and marine areas.

b) Develop scientific and technological infra/estructure.

- The appropriate regional and international institutions could assist member States with support resources for the habilitation of monitoring and research centres, as information networks, specially in developing countries.

c) Cost and financing.

The cost and funding of the programs to implement and integrated management and development of coastal areas and EEZs should be met by coastal States with the help of special funds provided by donor States and institutions, as the World Bank and other regional financial institutions.

B. [MARINE ENVIRONMENTAL PROTECTION][MARINE POLLUTION, PREVENTION AND CONTROL: LAND-BASED AND SEA-BASED ACTIVITIES]

Basis for Action

21. Anthropogenic degradation of the marine environment can result either from a lack of, or an excess, of economic and industrial growth. The size and distribution of human population, particularly in coastal areas, the patterns of land use [agriculture, forestry, fisheries, urban development] and industry, and the extent to which these activities are managed can impact negatively or positively on the marine environment. Recognition of the anthropogenic sources as basic causes of marine degradation is a crucial step towards effective solutions.

22. A wide range of activities on land contribute to degradation of the marine environment. Of the contaminants to the sea, 40% arrives via rivers and 30% via the atmosphere, while maritime and dumping activities contribute 10% each. The bulk of contaminants remain in coastal waters. The contaminants from land-based sources posing the greatest threat to the marine environment are sewage, nutrients, synthetic organic compounds, [particularly pesticides and herbicides] sediments, litter, metals, radionuclides, oil/hydrocarbons, and polycyclic hydrocarbons (PAH's). Soil erosion presents an additional source of harmful inputs.(35)

23. An anticipatory rather than a reactive approach is necessary to protect the marine environment. This will require the utilization of clean production techniques, policies to minimize wastes, improved sewage treatment and a comprehensive, sequential and coordinated approach involving all sectors including air, land and water interactions. Each coastal country should adopt, in accordance with its capabilities, precautionary measures to prevent, reduce and control pollution [and other forms of degradation of the marine environment from land-based acitvities] from land-based sources. [Any management framework must include waste audits, cleaner technologies, classification of substances, establishment of quality criteria, environmental impact assessment,] [Any management framework must include the enhancement and improvement of housing conditions and quality in ports and coastal zones in developing countries, due environmental impact assessment of new industrial site development for processes which include handling of chemicals and other

substances harmful and/or toxic to the marine environment] comparison of options, monitoring, and integrated management [and development] of coastal areas and EEZ.(36)

24. The substances involved in marine pollution caused by shipping and maritime activities vary enormously in quantities and potential harm to the oceans. In tonnage terms and visual impact the most important pollutant is crude petroleum and its derivatives. Of the approximately 600,000 tons of oil entering the oceans each year from maritime activities less than 25% is from major tanker accidents. A much larger quantity of oil is discharged as a result of normal shipping operations, e.g. pumping of bilges, tank cleaning and deballasting. The heavy concentrations of such residues in coastal areas give rise to chronic pollution, lowering aesthetic and recreational value. Offshore oil operations give rise to polluting discharges from separation of water from recovered oil and the disposal of drilling mud. Oil-well blow-outs can result in oil spillage of catastrophic proportions. There is currently no global regulatory regime for the prevention and control of pollution from offshore oil activities and only four regions have considered the adoption of legal instruments in this regard e.g. N.W. Europe in the Paris Convention, the Kuwait Action Plan Area's Kuwait Protocol, the Caribbean Countries' and the Mediterranean Countries' Barcelona Protocol now under consideration.(43)

25. On the other hand, many chemicals carried by sea are intrinsically far more harmful to the marine environment. Some can bio-accumulate in quantities that present a danger to human health, while others taint fish, making them unsuitable for human consumption. Of the global merchant fleet of approximately 70,000 ships, some 7,000 are tankers. The global chemical tanker fleet has doubled in the past 10 years to approximately 1,000. A substantial volume of other chemical products are carried in packaged form such as drums or in especially constructed containers. Up to 15% of goods carried in dry cargo ships are dangerous to some degree. These, together with liquid substances carried in oil and chemical tankers, make about half of the total cargo carried by the sea.(44)

26. Another cause of pollution is that arising from disposal of wastes at sea. Plastics and other solid wastes are extremely persistent and potentially harmful if ingested by seabirds and marine mammals. By changing industrial processes and the use of recycling methods and improved waste treatment techniques the amounts of wastes dumped at sea have been reduced. In spite of these efforts, disposal at sea of certain waste types, particularly uncontaminated dredged materials, continues to be considered practical and environmentally acceptable. More attention must be paid to the selection of dumping sites, dumping techniques and monitoring programmes and the application of hazard assessment techniques within a licensing regime which can provide the necessary level of marine pollution prevention and control.(45)

27. In addition to the environmental impact of oil spills there are frequently economic repercussions for coastal communities or small countries reliant on the resources of the sea. Automatic financial access to resources to cover clean-up costs and economic damage through liability and compensation regimes have done much to mitigate the effects of accidental oil pollution by facilitating prompt and effective counter-pollution operations.(46)

[27bis. Wider ratification by coastal States of the relevant conventions, and the extension of the existing regimes to cover pollution caused by substances other than oil is essential. Specific objectives could be considered and developed in the following areas:

(a) International ratification and implementation of shipping conventions and more rigorous enforcement of the discharge provisions, eg. through port State control. Coastal nations, on the basis of guidelines issues by International Maritime Organization, and assisted by same, could aim to establish by 1997 port facilities for the collection and disposal of waste oil, chemical residues and garbage, especially in sensitive sea areas where ships are not permitted to make discharges. This would require substantial funding.
(b) Encourage States to ratify [and finalize the future strategy of] the London Dumping Convention by 1994.
(c) Develop an international regulatory global framework for offshore oil discharges, safety and disposal activities by 1995.
(d) Implement liability and compensation regimes covering pollution damage from shipping and dumping activities, the immediate goal being the development of a regime for hazardous and noxious substances carried by ships.(47)
[(e) Improve living conditions of port and coastal human settlements in developing countries, and give special attention to adequate housing and sewage.]
(f) Technical and scientific capacity building and enhancement of research centers for systematic observation of marine pollution in developing countries, managed and staffed with experts from the concerned developing country.]

28. In addition to pollution, many [development][economic] activities directly and indirectly adversely affect marine resources. For example, industrial and residential development, [including touristic and recreational building] can destroy natural habitats [dredging mangroves and similar areas] by filling wetlands channelization, and construction of dams [and other coastal infrastructure]. Unsustainable agricultural, forestry and construction practices can increase levels of sediment in coastal areas, thereby negatively affecting many organisms, such as coral reefs and shellfish. Conversion of mangroves, forests and other low-lying lands to mariculture not only destroys productive natural systems, but can also lead to introduction of non-indigenous species.

Objectives

29. The protection of the marine environment against the adverse effects of human activities [and human development] so as to conserve marine ecosystems and to safeguard human health while providing for rational use of living and non-living resources. In so doing, it is necessary to:

(a) Ensure the proper integration of environment and development concerns.
(b) Recognize the difficulties of developing countries in implementing such strategies.

30. Accordingly, States, acting individually and through appropriate regional and international fora, agree to:

(a) Coordinate and integrate [and develop] measures to achieve marine environment protection and conservation through appropriate local, national, regional, and global mechanisms [and policies].
(b) Adopt and implement, as a matter of priority, precautionary measures to prevent, reduce, and control degradation of the marine environment from land-based and sea- based activities.
(c) Use economic measures, clean technology, and sustainable resource management to limit industrial and agricultural practices that threaten the marine environment.
(d) Maximize best practicable control and reduction of toxic, persistent, and bio-acumulative pollutant discharges.
(e) Restore degraded habitats so that they provide a sustainable marine ecosystem.

Activities

B.1. PREVENTION, REDUCTION AND CONTROL OF DEGRADATION OF THE MARINE ENVIRONMENT FROM LAND-BASED ACTIVITIES

Management-Related Activities

31. The following goals and essential programme elements are necessary components of a comprehensive strategy to protect, conserve, prevent, reduce, and control degradation of the marine environment from land-based activities.(37)

32. Suggested specific objectives include:

(a) Identify existing institutional and technical impediments to conserving the marine environment.
(b) Adoption of a global management [and development] framework by 1994; [The functioning by 1994 of a global framework for intergovernmental cooperation with close links to regional conventions and action plans.]
(c) Strengthen and develop national and regional integrated action plans such as the United Nations Environment Programme Regional Seas Programmes [and the Intergovernmental Oceanographic Commission by 1995;

33. States may wish to consider the following incremental steps:

(a) Agreed principles and programmes, building on the existing Montreal Guidelines, with the appropriate funding and technical support where applicable, at the national, regional and global levels, including possible establishment of appropriate standards.
(b) A formal declaration or charter to be adopted at UNCED.
(c) A global convention to formulate principles and standards with provisions for the institutional machinery to implement the convention. The Montreal Guidelines, complemented and amended as appropriate, could serve as the basis for the convention.(38)

34. Coastal states should establish in regional and national action plans, [reduction programmes for inputs from land-based activities] into the marine environment, [in order to achieve] [acceptable quality of the marine environment] together with target dates and financial mechanisms. While obvious global priorities exist both national and regional differences in terms of knowledge, viewpoints, infrastructure and technology, require different emphasis throughout the world. Countries should adopt precautionary approaches to development and management. Such approaches could involve a reduction of [effluents and] emissions, through, inter alia, improved housekeeping practices, greater treatment and recycling, and the introduction of cleaner production technologies. In both developed and developing countries, priorities should include appropriate sewage and industrial effluents treatment and disposal, synthetic organic compounds, and non-point runoffs. As well, priority attention should be given to pollution from land-based sources which reach the oceans via the atmosphere.(39)

35. As concerns sewage, priority actions in this area include:

(a) Building sewage treatment facilities [and safeguarding the maintenance and operation of treatment plants] [in accordance with national policies, capacities and international cooperation available].
(b) Entry of non-domestic effluent to sewers containing contaminants (such as heavy metals) should be strictly controlled so as not to preclude productive uses of sewage and not exclude the possibility of environmentally sound co-treatments of domestic and compatible industrial effluents.
(c) Municipal sewage [and industrial effluents] discharged to rivers, estuaries and the sea should, as a minimum, be subject to primary treatment.
(d) Coastal outfalls should be located so as to avoid exposing shell fisheries, water intakes and bathing areas to pathogens.(40)
(e) Cooperation in the development of minimum sewage effluent guidelines and water quality criteria for municipal [and industrial] wastes.
[(f) Settlement plans should be formulated or reviewed taking into account sewage concerns including resettlement of heavily populated coastal and riverbank areas.]
[(g) The establishment of regulatory and monitoring programmes to control effluent discharge, using appropriate risk and environmental impact assessments.]

[36. As concerns wastes, the main elements to be considered by coastal countries are:]

(a) Regulatory and monitoring programmes to control effluent discharge, using appropriate risk and environmental impact assessments.
(b) New ["prior informed consent" policy] [prior notification and consultation] initiatives at national and regional levels for controlling the input of non-point source pollutants, including sediments, which requires broad changes in sewage and waste management, shifts in agricultural practices, and environmentally compatible approaches to mining, construction and transportation practices.
(c) A review and control regime of loads (fluxes) of nitrogen and phosphorus entering the marine environment. (41) Taking into account different national capacities.

[(d) Assistance to developing countries to develop land-based waste disposal systems to preclude sea-dumping through financial support and transfer of environmentally sound technology.]

37. As concerns pollution from non-point sources:

(a) Cooperation in the development of land-use techniques, particularly buffer zones, along estuaries and water courses to limit agricultural runoff;
(b) Promotion of bilaterally and multilaterally through international development organizations and industry the use and application of environmentally sound pesticides and fertilizers (e.g., minimum toxicity and bio-accumultation standards).
(c) Elaboration of best environmental practices to prevent degradation.
[(d) Adoption of new ["prior informed consent" policy][prior notification and consultation] initiatives at national and regional levels for controlling the input of non-point source pollutants, including sediments, which requires broad changes in sewage and waste management, shifts in agricultural practices, and environmentally compatible approaches to mining, construction and transportation practices.
(e) Establish a review and control regime of loads (fluxes) of nitrogen and phosphorus entering the marine environment, Taking into account different national capacities.]

38. Countries could adopt a declaration at UNCED 1992 on land-based sources [a set of principles on prevention, reduction and control of degradation of the marine environment by land-based activities] following the recommendations of the Halifax and UNEP Intergovernmental Meetings of Experts. This could include specific elements for a subsequent global strategy and action plan on marine environmental degradation from land based activities. An Intergovernmental Meeting of Experts on Land-based Sources of Marine Pollution will meet again toward the end of 1991, following the decision of the UNEP Governing Council at its Sixteenth Session. This meeting could support the UNCED Preparatory Process by helping in the articulation of UNCED options for action [in preparing elements of a strategy and a targeted and costed programme of action as well as a set of principles concerning prevention, reduction and control of marine degradation caused by land-based activities] to be considered again at the Fourth Preparatory Committee.(42)

B.2 PREVENTION, REDUCTION AND CONTROL OF DEGRADATION OF THE MARINE ENVIRONMENT FROM SEA-BASED ACTIVITIES

Management-Related Activities

39. Wider ratification by coastal States of the relevant conventions, and the extension of the existing regimes to cover pollution caused by substances other than oil is essential. Specific objectives could be considered and developed in the following areas:

(a) International ratification and implementation of shipping conventions and more rigorous enforcement of the discharge provisions, eg. through port State control. Coastal nations, on the basis of guidelines issues by International Maritime Organization, and assisted by same, could aim to

establish by 1997 port facilities for the collection and disposal of waste oil, chemical residues and garbage, especially in sensitive sea areas where ships are not permitted to make discharges. This would require substantial funding.

(b) Encourage States to ratify [and finalize the future strategy of] the London Dumping Convention by 1994.

(c) Develop an international regulatory global framework for offshore oil discharges, safety and disposal activities by 1995.

(d) Implement liability and compensation regimes covering pollution damage from shipping and dumping activities, the immediate goal being the development of a regime for hazardous and noxious substances carried by ships.(47)

40. Countries should initiate regional agreements to prevent, reduce and control marine pollution arising from artificial islands, installations and structures used in the exploration and exploitation of offshore oil [and other] resources, and ballast water dumping rules to prevent the spread of non-indigenous organisms.(48)

41. As concerns shipping, coastal States could urge wider ratification and implementation of safety and marine pollution conventions, including those dealing with liability and compensation for pollution damage and rigorous enforcement of MARPOL regulations (e.g., through exercise of port State control procedures and aerial surveillance of shipping lanes). States could also implement more stringent pollution control measures [in semi-enclosed seas, the polar regions and particularly sensitive sea areas].(49)

42. In relation to ports, countries could urge the provision of facilities for collection and treatment of wastes from ships and for vessels and yachts in marinas and fishing harbours by:

(a) In accordance with the London Dumping Convention and MARPOL provisions, regulation of dredging of navigation channels and disposal of dredged material, including global criteria for ocean disposal of contaminated spoils.

(b) Development of guidelines for environmental impact assessments of port development and expansion and wider enforcement of codes of practice relating to transportation of hazardous and dangerous cargoes, and for detection of illicit movement of toxic chemicals and hazardous wastes. (50)

[(c) Channels of communication and coordination between the Secretariats of the Basel and London Dumping Conventions should be strengthen and be more open in order to prevent parties to the Basel Convention from exporting, for disposal in the ocean, substances referred to in Annexes I and II to the London Dumping Convention to States not parties to that Convention.]

43.

(a) States should develop oil and chemical spill contingency plans at local, national and regional levels and establish at the national level, government/industry collaboration mechanism on provision of oil spill response materials and equipment stockpiles, and training of clean-up personnel, together with a funding mechanism.(51)

(b) States should establish a network of regional oil/chemical spil response centres with collaboration from IMO and regional Governments.

44. Member States should agree to stop the dumping and incineration of all hazardous wastes and substances and encourage a global commitment to more assiduous application of the provisions of the London Dumping Convention and regional dumping protocols, where adopted. IMO could prepare global guidelines concerning waste audits and clean production, and lists of substances and wastes prohibited from dumping at sea and could assist States to enter into regional agreements in this regard.(52)

45. States should develop liability and compensation regimes for hazardous and noxious substances as well as other sea-based activities (e.g., dumping, offshore oil and gas and transboundary movements of hazardous substances and wastes).(53)

Data and Information

[46. [States] Countries should establish monitoring systems and regularly report information on pollutants and efforts to control and prevent them to relevant regional and international organisations.]

47. [States] Countries should identify ongoing and planned programs of monitoring of the marine environment, with a view to integrating activities and establishing priorites for further monitoring activities.

48. [States] Countries should cooperate through relevant international organisations in integrated monitoring of the marine environment by:

(a) Expanding the international mussel watch program.
(b) Relating monitoring activities to action plans and pollution control and abatement strategies.
(c) Expanding GIS mapping and information systems.

[49. Countries could:

(a) Complete, with the support of regional and national programmes, inventories and hazard assessments of marine pollution sources by 1997, and
(b) Complete national, regional and global assessments of marine environment by 1997.(37(c) and (d))
(c) [States] Countries should, with the appropriate funding support build on existing facilities, support the Global Ocean Observing System. The GOOS should include appropriate equipment to monitor pollution in coastal and open ocean areas. Data on marine pollution should be available to interested parties and stored at World Data Centres.]

Capacity Building

50. States should create a high level mechanism, within the national planning and development bodies, for policy-making and long term planning on oceans and coastal areas. The main tasks could include the following:

(a) Rationalize and/or coordinate sectoral responsibilities for oceans and coastal areas within Governments and establish a reviewing mechanism to up-date and enforce relevant national legislation to ocean management and coastal development.
(b) Establish advisory bodies for broad consultation to stimulate participation with local administrations, the business community, the academic sector, user groups and the general public.
(c) Include institutional capacity building in agreements between development aid bodies and developing country institutions.(66)

51. Coastal States should organise training and extension programmes for resource users including fishermen, women, and incorporate ocean issues and management in educational curricula and public awareness campaigns. Indigenous peoples should be supported to maintain and apply their traditional knowledge of the coastal environment and marine resources.(67)

52. Relevant regional agencies should assist developing coastal countries in improving the scientific, technological, professional and related institutional capacities.

(a) Identify existing capabilities and existing facilities within the region and potentials for expansion in regional marine and coastal areas research, training, management and technologies.
(b) Establish and maintain regional centres capable of assisting countries in analyzing information and assessing the principal environmental problems, in reinforcing surveillance and implementing environmental impact assessment and monitoring programmes with predictive capabilities.
(c) Prepare national and regional contingency and emergency plans, standard techniques for monitoring species and habitats and develop geographic information systems for spatial planning in coastal areas.
(d) Create special programmes to assist island States to integrate environment and development in the planning process for their limited areas and resources.
(e) Establish programmes on marine environmental education and enhance public awareness of the role of the marine environment for society.(68)
[(f) The development aspects should also be focussed upon to restore symmetry and balance the complementary environment and development concerns.]

International and Regional Cooperation and Coordination

[52bis While an international land-based pollution agreement is needed, as stated, support for such an agreement is conditioned upon the establishment of effective provisions for financing and development, use and transfer of environmentally sound technologies.

High priority needs to be given to the development of effective financial mechanisms at the national, regional and global levels for sewage treatment facilities, in order to ensure that developing countries have access to the necessary resources to deal in a more effective way land-based marine pollution.]

53. Countries could work with appropriate international organizations to develop comparable monitoring techniques, methodologies, and measurements for all aspects of marine pollution.

Means of Implementation/Resource Requirements

54. Provide adequate financial and technical resources to assist developing countries to prevent and solve problems associated with activities that threaten the marine environment.

55. Provide technological cooperation, technology transfer, and financial resources to support the implementation of national action programmes and regional joint comprehensive programmes of action.

56. Specific suggestions include:

(a) A funding mechanism for building sewage treatment facilities, including grants or concessional loans from international agencies, such as UNDP, UNEP, [IOC], World Bank and other appropriate regional funds.

57. Establishing of specific financing [for developing countries of] mechanisms for building port facilities, including loans or grants from international agencies, including the UNDP, UNEP, [IOC] and World Bank's Global Environmental Facility or a system of "Reception Facility Funds" of automatic charges on [non-sovereign immune] ships.(50(a))

[C. MARINE LIVING RESOURCES [SUSTAINABLE UTILIZATION ON THE HIGH SEAS AND UNDER NATIONAL JURISDICTION]
[C. MANAGEMENT OF THE HIGH SEAS: LIVING MARINE RESOURCES
D. SUSTAINABLE USE OF LIVING MARINE RESOURCES UNDER NATIONAL JURISDICTION].

Basis for action

General

58. The conservation and management of marine living resources should take place on the basis of sustainable utilization. This is of social, economic and nutritional importance, and contributes to national food security, not least to developing countries and indigenous peoples. The special status of indigenous peoples should be recognized including their rights to utilization and protection of their habitats on a sustainable basis.

[C.1 HIGH SEAS]

59. While high seas fisheries contribute to the effective utilisation of resources and to the world supply of protein, management performance on the high seas, has not infrequently been unsuccessful and many resources are overfished. [Management performance on the high seas has not always been successful and several types of resources are overfished]. In a number of high seas areas, the provisions of the United Nations Convention on the Law of the Sea (UNCLOS) are not being implemented as intended. [There are problems

of unregulated fishing, vessel reflagging to escape controls, fishing practices such as large-scale pelagic driftnetting and overfishing, lack of surveillance, control and enforcement and, in general, lack of the required cooperation with other States.]

[C.2 NATIONAL JURISDICTION]

60. World oceans yield about 80-90 million tons per year, 95% of which comes from EEZs. They provide healthy food and livelihoods to millions of people in coastal areas. However, many countries continue to face mounting problems related to implementation of their rights and obligations under UNCLOS, including local overfishing, [poor management performance] unauthorized incursions by foreign vessels, ecosystem degradation, increased stock fluctuations, overcapitalization, excessive fleet sizes, inefficient selective gear, unreliable data bases and inadequate information about their resource base, increasing competition between artisanal and industrial fishing and between fishing and other types of activities.(22)

61. Problems extend beyond fisheries. Coral reefs and other largely tropical coastal habitats such as seagrass communities, mangroves and estuaries among the most highly diverse, integrated and productive of the earth's ecosystems. They often serve important ecological functions, provide protection from hazards of the open sea, and are critical natural resources for food, energy, and economic development. In various parts of the world such coastal and marine systems are under stress or threatened due to factors ranging from local cultural practices to changes in sea temperature and or sea level.

[Objectives

General

[62. Fisheries [must] be managed through ecosystem, multi-species management approaches on the basis of sustainable ecologically sound practices consistent with the best available scientific information, and must be effectively monitored and enforced, in order to ensure conservation and promote optimum utilization of the living resources.

63. Ecosystem and multi-species approaches must be developed and implemented to preserve the biological diversity and productivity of marine species and maintain the ecological relationships among populations of such species.]

64. [States must] [States in accordance to their national legislation and policies could] ensure as far as practicable that human activities do not result in the decrease of any population of marine species with special attention to marine mammals and sea turtles, below a level at which its recruitment is stable , but preferably not below a level close to that which ensures the greatest net annual increment; populations of marine species that have been depleted by harvesting should be restored to these levels.

65. Data and information [must] [should] be obtained [by States with the cooperation of international organisations], including verifiable catch and effort statistics, on the commercial harvesting of populations of marine species, including by-catch, adequate to reliably assess and predict the effects of such harvesting.

66. Selective fishing gear and practices should be used to [avoid] [minimise] significant waste of catch of target populations of marine species and the significant bycatch of non-target species.

[66bis. The full implementation of General Assembly resolution 44/225 on large-scale pelagic drifnet fishing.]

[67. States should ensure that each population of marine species that is the target of fishing [exploitation] activities is harvested in areas and at the stage of its life cycle that ensures maximum economic efficiency, consistent with these principles.]

68. Fish [marine species] for human food, should take priority over other uses, and the amount available for human food should be increased by avoiding wasteage and improving techniques of capture [harvest], handling and transportation.]

[C.1 HIGH SEAS]

69. [On the high seas, States fishing a stock which straddles the 200 mile limit of a coastal State, [or highly migratory species which are found within that limit], [must] take all measures necessary to give effect to the special interest and responsibility of the coastal State concerning the portion of the stock outside the 200 mile limit [and in the highly migratory species while outside that limit]. High seas fishing [must] not have an adverse impact on the resources under the jurisdiction of coastal States].

70. Over the next few years, effective regional and international mechanisms and strategies should be developed and implemented where appropriate, through cooperation between high seas fishing States, coastal States and relevant international organizations and existing regional and international mechanisms should be reinforced where appropriate:

(a) To conserve and make full sustainable use of the living marine resources of the high seas, and to improve the status of those which are depleted.
(b) To define and identify management units based on large marine ecosystems concepts.
(c) To provide for the negotiation of appropriate international agreements.
d) To establish appropriate exploitation regimes for stocks whose life cycles encompass both the high seas and EEZ's.

[C.2 NATIONAL JURISDICTION]

71. The objective would be to build national capacity over the next 10 years to make full sustainable use of the EEZs.(23)

Activities

General

[72. [Assessment] [Promotion] of fishing methods to minimise adverse impacts of fishing on target and non-target species, other users and marine ecosystems;]

[72. Assessment of fishing methods and banning of unsustainable fishing techniques, such as large scale pelagic drifnet fishing in accordance with General Assembly resolution 44/225, in order to minimise adverse impacts of fishing on target and non-target species, other users and marine ecosystems.]

73. Development and sharing of analytical and predictive tools such as stock assessment and bioeconomic models to assist in risk management and decision-making;

74. [Cautious handing of] [Harmonizing with] all situations dealing with risk, uncertainty and irreversibility;

75. Integration of environmental factors in management;

76. Acquisition of all the data, current and historic, necessary for effective management of fisheries resources including data on catch and effort, by-catch and the impact of the fishing on other users and the marine environment;

77. Promotion of regional fisheries management bodies [to cover the gaps in the existing coverage of the world's oceans;]

81. [Marine mammals. Continuing consultations.]

[- Affirm the validity of the 1972 United Nations Conference on the Human Environment recommendation that there should be a 10 year moratorium on Commercial Whaling and call for its full implementation by extending the present moratorium on commercial whaling until 1995/96;

- Welcome the IWC report on small cetaceans and urge IWC to continue to strengthen this work, and Governments specifically concerned to act promptly on the recommendations of the IWC's Scientific Committee on this issue;

- Call for an international conference with the widest possible participation to be convened by 1995 to review the international machinery for the protection of all cetaceans, and to consider the most effective means for providing cetacean research, conservation and management into the twenty-first century.]

[Support the International Whaling Commission in its efforts to ensure proper and effective conservation and development of large whale stocks.

Same efforts for conservation of other depleted or endangered marine mammals should be made by countries and appropriate international bodies.]

([- Acknowledge the principles of sustainable use in all dealings with marine mammals resources, and recognize the special needs of developing countries and indigenous peoples of the marine resources of their nutritional and economic development.

- Support the IWC in its efforts to restore stocks of highly migratory species of whales and call for increased scientific research and advice to fulfil this effort.

- Support scientific research on small cetaceans with the aim of creating national and regional conservation of these species.

- Support the Bonn Convention in its efforts to promote the establishment of regional agreements on management and conservation of small cetaceans.

- Call on the Governments to review and strengthen all possible efforts to counteract pollution threats to all marine mammals.]

82. [Polar regions and specific seas]
[Delete]
[The Antarctic Treaty Parties that singling out Antarctica to be identified as a specific regional issue for consideration by UNCED is inappropriate for the following reasons:

-The Antarctica Treaty provides a tried and tested basis for managing activities in Antarctica.

-In the carefully drafted General Assembly resolution 44/228, neither Antarctica nor any other specific region has been identified as one of the UNCED priority areas.

-UNCED already has a hardly manageable workload; identifying specific regions for priority action within the proposed Agenda 21 would open the doors to unravel a carefully negotiated settlement on priority issues and areas as contained in resolution 44/228.

Consistent with this approach therefore, the Treaty Parties will oppose the inclusion in a possible Agenda 21 of specific references to Antarctica such as those contained inter alia in paragraphs 18, 20 and 34 of A/CONF.151/PC/42/Add.6, or as proposed by some distinguished delegates in the course of our debate.]

- [In the Polar regions, through United Nations involvement, to improve and introduce the anticipatory approach and adopt and implement an Antarctic Conservation Strategy, the Arctic Environment Protection Strategy and promote the Arctic Monitoring and Assessment Programme.

The following elements should be included:
-To establish a sanctuary for all cetaceans in its traditional natural habitat.

-Call upon the ATCP to protect and improve the status of living resources in the Antarctic region, including marine ecosystems and report regularly to the United Nations on its status through the General Assembly.

In relation to Maintenance of Ecosystem and Marine Biodiversity, the following elements should be included:

(a) Call for efforts to prevent overfishing including the banning of prospecting and mining in Antarctica so as to ensure the protection of its environment is for the benefit of all mankind.

(b) Call for the establishment of a nature reserve or World Park in Antarctica which constitute an integral part of the global commons.

In relation to Strengthening International Institutions and Legal Instruments, the following elements should be included:

- To establish a United Nations sponsored station in Antarctica with the view to promoting coordinated international cooperation in scientific research for the benefit of mankind, particularly the importance of Antarctica to the global environment and ecosystems, as well as an early warning system on climate change and accidents.

- Call for the widest possible participation of the international community to review and negotiate a comprehensive convention on the Conservation and Protection of Antarctica.]

Capacity Building

83. Each coastal country could establish:

(a) A unified policy framework and intergovernmental mechanisms for coastal management and marine resources management through a permanent consultation between the decision makers and the users.
(b) Procedures to involve the coastal communities the academic and private sector in the development and implementing programmes.(64)

84. Member States could create an interministerial mechanism, within the national planning and development bodies, for policy-making and long term planning on oceans and coastal areas. The main tasks could include the following:

(a) Rationalize and/or coordinate sectoral responsabilities for oceans and coastal areas within governments and establish a reviewing mechanism to update and enforce relevant national legislation to ocean management and coastal development.
(b) Establish advisory bodies for broad consultation to stimulate participation with local administrations, the business community, the academic sector, user groups and the general public.
(c) Include institutional capacity building in agreements between development aid bodies and developing country institutions.(66)

85. Relevant regional agencies could assist coastal countries in improving the scientific, technological, professional and related institutional capacities.

(a) Identify existing capabilities and existing facilities within the countries of the region; determine the needs of human resources, the scientific and technical infrastructure required and potential for expansion in regional marine and coastal areas research, training, management and technologies.
(b) Establish and maintain regional centres capable of assisting countries in analysing information and assessing the principal environmental problems, in reinforcing surveillance and implementing environmental impact assessment and monitoring programmes with predictive capabilities.
(c) Prepare national and regional contingency and emergency plans, standard techniques for monitoring species and habitats and develop geographic information systems for spatial planning in coastal areas. To establish the appropriate legislation to protect the marine and coastal ecosystems.
(d) Create special programmes to assist island States to integrate environment and development in the planning process for their limited areas and resources.
(e) Establish programmes on marine environmental education and enhance public awareness of the role of the marine environment for society.(68)

[C.1 HIGH SEAS][HIGH SEAS AND NATIONAL JURISDICTION]

Management Related

86. States [must] effectively monitor and control fishing activities of their nationals vessels and crews thereof to ensure the conservation of the resources, compliance with applicable conservation and management rules, complete and accurate reporting of catches and effort, and [avoidance][minimisation] of incidental catch.

87. States [must] ensure that vessels authorized to fly their flag comply with the [applicable] conservation and management rules adopted by competent international [or regional] organizations or, where no such organization exists, through other [international] arrangements.

88. States [must] establish penalties under domestic law, and take legal action against their nationals, vessels and crews thereof, for any violation of [applicable] rules adopted by competent international [or regional] organizations or, where no such organizations exist, through other [international] arrangements, whether such violations are committed directly or through resort to techniques such as the reflagging of vessels in foreign countries. States must take similar action for any violation of domestically instituted conservation and management rules.

89. States whose nationals or vessels fish in the same area of the high seas [must] cooperate to establish international [or regional] arrangements or organizations to ensure sustainable and optimally developed fisheries through effective conservation and management regimes, including as appropriate [reciprocal inspection and] enforcement systems and dispute settlement mechanisms.

90. [States [must] cooperate with competent international organizations or, where such organizations do not exist, through other international arrangements, and ensure that their nationals, vessels and crews thereof, do not violate rules adopted pursuant to such regimes].

91. In areas of the high seas where a management régime has been agreed within the framework of a [competent international [or regional] organization] or, where such an organization does not exist, through another [international] arrangement, States [must] ensure that high seas fishing is undertaken only in accordance with the conservation and management rules adopted under that organization or arrangement.

92. [With respect to a stock occurring both within the exclusive economic zone of a coastal State and in an area of the high seas adjacent to it, the management regime applied to the stock [must] provide for consistency of the measures applied on the high seas with those applied by the coastal State within its exclusive economic zone; [high seas fisheries [must] not be directed toward the stock when the stock is fully utilized by the coastal state within its exclusive economic zone].

93. [With respect to a highly migratory species, the management régime on the high seas [must] fully recognize the sovereign rights of the coastal State in its exclusive economic zone and, taking into account the special interest of the coastal State in the species while outside its zone, avoid adverse impact on the resource within that zone].

Data and Information

94. The transparency of high seas fishing activities [must] be ensured. States [must] make available to appropriate international [or regional] organizations all relevant data relating to catches on the high seas. The relevant international [or regional] organizations should establish appropriate monitoring programmes including the standardized collection of scientific data and the deployment of scientific observers.

Capacity Building

(see under General)

Global and Regional Cooperation and Coordination

95. The international community should strengthen capacities for collaboration between regional and global [international] fishery bodies [dealing with conservation and management of the oceans and seas. The], the United Nations Environment Programme Regional Seas Programme should be strengthened and the following action should be taken:

(a) Relevant United Nations or other international Agencies should develop guidelines for better implementation of the Law of the Sea Convention (UNCLOS). FAO should prepare technical guidelines on responsible fishing in the high seas.

(b) Countries together with relevant international fisheries organizations and United Nations Agencies should establish programmes and special agreements to protect endangered species and stocks and to establish appropriate exploitation régimes for all stocks and species including those whose life cycles encompass both the high seas and EEZs. [This should include banning unsustainable fishing techniques and practices and restriction of less sustainable techniques and practices.][Delete.](20)

96. Relevant United Nations bodies and other international agencies could develop collaborative technical and research programmes to improve understanding of species life cycles and migration, identifying critical areas and life stages.

(a) Countries with the assistance of relevant United Nations and other international Agencies and non-governmental organizations, could identify linkages between EEZs and high seas resources and could develop further the concept of large marine ecosystems and its potential for practical application in ocean management régimes.

[(b) FAO and other international agencies should assess resources potential, optimal fishing régimes and acceptable levels of exploitation and develop reliable international monitoring, control, surveillance and enforcement systems.]

(c) Regional fisheries bodies should link information systems which have part of the high seas ecosystem under their responsibility and inventory all stocks (target and non-target) in order to set up rehabilitation measures where appropriate.

(d) GATT assisted by the FAO, should strengthen international technical cooperation mechanisms in relation to high seas stock-commodities with a view to identifying and eventually eliminating inappropriate trade barriers and assisting in preventing the evasion of international management régimes.(21)

[96bis. States should develop multilateral standards dealing with the interlinkages between trade and the protection of living marine resources, taking into account concerns on sustainable development.]

[C.2 NATIONAL JURISDICTION]

Management Related

97. Coastal States could establish systems to regulate access through licensing, explicit user's rights, limited entry, space allocation, closure zones and economic instruments; and domestic and international collaborative mechanisms on issues related to migratory fish [and long range fleet monitoring and control.]

98. Coastal States could strengthen environmentally sound artisanal fishing technologies, collaborate with traditional coastal communities for the elimination of unsound ones, and strengthen training and extension services in coordination with rural agriculture services together with appropriate financing mechanisms.

99. Coastal States could ensure that, in their negotiation and implementation of international agreements on the conservation of living marine resources, indigenous peoples are represented and their interests in particular their right to subsistence, are secured.(24(b) and 28(b)

Data and Information

100. Coastal states together with United Nations and other international agencies could complete/update living resource and critical habitat inventories of EEZ's, at national and regional levels (coastal wetland, mangroves, seagrass beds, etc.) and develop legislation to protect them. FAO could develop methodologies to improve assessments in data-limited situations for the analysis of interactions between sectors and management under uncertainty.(25(a))

101. Coastal States could establish and improve data collection systems, and, when appropriate, provide the necessary data to regional and global fisheries bodies.

Capacity Building

102. National policy, legal and regulatory frameworks could be completed with the assistance of relevant international organizations looking toward improved enforcement capacity, investment and financing including joint venture agreements, regulation of access, enhancement of small-scale fisheries, the improvement of seafood quality and rationalisation of trade.(24)

103. Information systems, training and management-oriented research programmes could be implemented to provide a framework incorporating the ecosystem management approach at the national and regional level.(25)

104. Mariculture and coastal aquaculture potentials could be developed. National analyses for potential mariculture, coastal aquaculture (areas, species and methodologies) and other improvements e.g. artificial reefs, in each developing coastal country could be developed within ten years within a framework of Integrated National Planning.

105. Coastal States could take steps to enhance the productivity and utilization of their marine living resources in terms of food production and income production from food products, pharmaceutical products, and recreational, cultural and aesthetic uses.

106. Coastal states could develop systems for the recognition, recording and application of community based traditional knowledge concerning marine resources and ecosystems and incorporate them into modern management systems in collaboration with the people and community concerned.(29(d)

Global and Regional Cooperation and Coordination

107. Relevant United Nations and other international agencies should assist coastal countries to complete their legal and policy frameworks in line with UNCLOS, as well as to improve management methods including control and surveillance and provide assistance to developing countries for research and development of economic uses of marine living resources. They should prepare guidelines for [responsible] [environmentally sound]fishing with a view to reduce wastes, protect endangered species, reduce pollution [from fishing] and improve fishing gear efficiency and selectivity.(24(a)) [They should also provide for the transfer of environmentally sound technology to developing countries to develop their fisheries, and to replace fishing practices identified as harmful to marine species.][As related to fishing practices which become harmful to marine species because of significant ways of catch or significant bycatch of non-target species, in relation to the development of new technologies, new standards should be reached through international agreements. These agreements will provide for the transfer of the new environmentally sound technology to developing countries and the provision of new additional funds for its implementation.]

108. Relevant United Nations and other international agencies should prepare a set of guidelines for potential application of a precautionary approach to living resources management; the concept of the Marine Catchment Basin for enclosed seas, as well as the ecosystem management approach and "large marine ecosystems" concepts, including the practical implications and applications.(25(c))

109. FAO should prepare guidelines for [responsible and] environmentally sound intensive aquaculture to reduce environmental impacts and develop plans for basic, strategic and applied research especially on rural aquaculture.(26(b)

[109bis. States should develop multilateral standards dealing with the interlinkages between trade and the protection of living marine resources, taking into account concerns on sustainable development.]

110. The international community should develop/improve markets to promote direct human consumption of fish and to enhance the contribution of subsistence fisheries.(27(c)

111. Relevant United Nations Agencies should establish a methodology to assess the nutritional and healthimpacts of fishery policies and projects.(27(d))

112. Relevant United Nations programmes and agencies could provide to traditional coastal communities of indigenous peoples and, in developing countries, to subsistence fishermen [fisherfolk] the technical and financial assistance to organize and maintain global networks for the exchange and improvements of traditional and scientific knowledge of marine resources, their protection and environmentally sound use; and for the study and development of traditional management systems.

Means of Implementation/Resource Requirements

113. Relevant United Nations Agencies, donor community and development agencies could adopt a funding coordinating mechanism to assist all coastal States to build national and regional capacities for ocean and coastal areas management.

[C.1 HIGH SEAS]

Human Resources

(To be completed)

Scientific and Technical Infrastructure

(To be completed)

Financing and Costing

(To be completed)

[C.2 NATIONAL JURISDICTION]

Human Resources

114. The regional bodies could develop multidisciplinary training and research on marine living resources, particularly in social and economic sciences as well as in the use of geographical information systems.(25(b))

115. A framework to support artisanal fisheries and small-scale use of living marine resources and, in developing countries, subsistence fishermen could be developed at national and regional levels and encourage equitable participation of women and indigenous peoples.(29)

116. Countries could integrate small-scale fisheries development in coastal zone planning, and create and encourage representation of fishermen and communities in planning management bodies.(29(a))

117. Countries could encourage for community-based users, including traditional coastal communities, women's groups and minorities/indigenous people, increased rights and responsibilities for management and enforcement [on fishing and non-fishing concerns including eco-tourism]; allocate marine resources equitably among small-scale, large-scale and sport fisheries [providing priority for the subsistence of minorities/indigenous peoples] ; and set a system for small-scale fishworker rights.(29(b))

(B) Scientific and Technical Infrastructure

118. Countries could implement the FAO/ICES Code of Practice for Consideration of Transfer and Introduction of Marine and Freshwater Organisms and regional bodies could transfer available safe technologies and establish cooperative programmes with national centres.(26(c))

119. Improving seafood quality [and fisheries based industrialisation including deep-sea fishing for developing countries, in particular it] will be crucial for promoting trade and meeting social goals linked to nutrition and health.(27)

120. Countries could agree on global quality assurance systems in order to improve consumer confidence and maximize economic returns.(27(a))

121. Countries with the assistance of FAO could develop programmes to improve handling and processing, reducing post-harvest losses and discards.(27(b))

122. Coastal States could strengthen environmentally sound artisanal and subsistence fishing activities, collaborate with traditional coastal communities for the elimination of unsound ones and strengthen training and extension services in coordination with rural agriculture services together with appropriate financing mechanisms.(29(c))

Financing and Costing

123. Development agencies and donors should provide technical and financial support through regional organisations.(28(a))

124. Countries could utilize development funding for habitat management [and for action oriented research projects to immediately address prevailing problems].(24(c))

125. FAO should assist countries to develop a program for transfer of management methods and environmentally sound fishing technology, particularly for small scale fishing and for the protection of resources with low resilience (marine mammals, sharks), [and trade in tropical fishing for the aquarium business as well as trade in corals.](24(d))

D. ADDRESSING CRITICAL UNCERTAINTIES [FOR OCEAN MANAGEMENT] AND CLIMATE CHANGE

Basis for action

126. The cornerstone for protecting the oceans and coastal areas and for providing rational use and development of their living and non-living resources is the ability to determine the present state of systems and predict future conditions. Effective management of oceans and coastal areas is often stalled by the high degree of uncertainties in present information. This limits the ability to make predictions and assess environmental change. In order to rationally manage the marine and coastal environment and its resources in accordance with international law, we need to develop the ability to predict natural and man-induced changes in marine and coastal ecosystems. Accordingly, it is necessary to restructure the mechanisms for generating and disseminating information based on the results of research and monitoring activities. Research, systematic observation and monitoring information generated must be correctly communicated to all levels of the management structure and the public.(69)

127. There are many uncertainties about climate change and [particularly] sea level rise. Small charges in sea level rise have the potential of causing significant changes to small island States. Response strategies should be based on sound information [data] . A long-term co- operative research commitment [based on differentiated responsibilities of countries] is needed to reduce this great uncertainty. Meanwhile, precautionary measures should be initiated to diminish the risks and effects, particularly on small islands, low-lying States and coastal zones of the world.(70)

Objectives

128. States acting individually and through appropriate regional and international fora agree:

(a) To conduct scientific research on, systematic observation and monitoring of the marine environment, within and beyond the limits of national jurisdiction.
[(b) To provide full and open sharing of data and information resulting from scientific research and monitoring.]
(c) To develop standard intercalibrated procedures, measuring techniques, and data storage capabilities for scientific research on and systematic observation and monitoring of the marine environment.
(d) To provide improved forecasts of marine conditions for safety and efficiency of maritime operations, and inhabitants of coastal areas.

Activities

Management-related activities

129. Sections 1, 2, 3, and 5 of this paper address management priorities for specific resources. In conjunction with those, coastal States should adopt special measures to cope with potential climate change and sea level rise. Of utmost priority is the need to develop globally accepted methodologies for coastal vulnerability assessment, modelling and response strategies particularly for priority areas, such as small island, low-lying States and critical coastal areas.

130. Coastal countries with the cooperation of relevant United Nations Agencies could establish research priorities to address critical uncertainties for ocean and coastal area management. They could identify on-going and planned programs of systematic observation of the marine environment, with a view to integrating activities and establishing priorities. Research priorities include:

(a) Living resources potential, optimal fishing regimes and acceptable levels of exploitation including the species life cycle and migration to identify critical areas and life stages.
(b) Fate and effect of all forms of chemical pollution, toxic phytoplankton blooms in coastal ecosystems.
(c) Human health related to consumption of fishery products from marine and coastal ecosystems.

(d) Development of appropriate and new marine technologies to utilise under-exploited resources, for aquaculture, food processing and for pollution control including marine environmental accountancy as a management tool.
(e) Response of critical or sensitive marine ecosystems and rehabilitation strategies of degraded areas relevant for coastal sustainable development.(76)

Data and Information

131. Improved systems to collect, synthesize, and disseminate data and information on coastal and marine systems are essential to reduce uncertainties and improve predictability. The Global Ocean Observation System (GOOS) of the IOC is being designed to provide some of the required information. An effective system must contain more elements than GOOS. States and relevant international organizations should provide analyses into appropriate international data networks. Specifically, States should:

132.
(a) Support development of the multi-parametric cross-disciplinary global ocean systematic observation of nearshore and coastal areas to build an understanding of climate change, e.g. GOOS (Document A/CONF.151/PC/70.)(74(c))
(b) Create regional accessible and readily-transferred multi-sectorial information bases, covering the results of research and systematic observation programmes, linked to existing data and information services and mechanisms for communicating these results to decision makers (including environmental managers) and the public in general.(72)
(c) Endorse the storage and archiving of, as well as [access] [exchange of] to, data and information collected in marine scientific research and systematic observation programs through the World Data Centers.

Capacity Building

133. Recognizing the need to acquire new information on oceans to address all marine-related management topics, including climate change, nations agree to:

(a) Establish funding mechanisms for an inter-disciplinary systematic observation system through coordination among United Nations Agencies and development agencies including a programme on marine technology and engineering and to help ensure implementation of on-going and planned global and regional ocean climate-related research programmes.(73)
(b) Offer technical cooperation, with the participation of relevant international organizations, in developing the capacity of coastal States to carry out and participate in research and monitoring, as well as to assimilate its results.

(iv) International and Regional Cooperation and Coordination.

134. Relevant United Nations Agencies should develop and integrate [monitoring] and systematic observations networks and establish high-level inter-agency coordination and monitoring and systematic observation mechanisms. This would include a comprehensive review of existing national, regional and global data bases. These activities would involve as appropriate:

(a) Mechanisms to develop comparable and compatible techniques, validation of methodologies and measurements, regular scientific review, agreed formats for presentation, including Geographic Information Systems and storage, and communication of the information gathered to potential users.

(b) Systematic observation and monitoring of coastal habitats, inventories of marine pollution sources and fisheries statistics.

[(c) Assurance that the GOOS contains capability to systematic observation monitor coastal as well as deep ocean features such as sea level changes and pollution.]

(d) Better representation of agencies dealing with the marine environment (IOC, IMO) in United Nations-wide coordination efforts.

(e) Better coordination of international and coastal and marine programmes

(i) Consider the development of improved relationships among the relevant international organizations (UNEP, UNESCO, IOC, WMO, IMO, FAO, IAEA, UNLOS secretariat, IAEA), including strengthening ICSPRO, the Inter- Secretariat Committee on Scientific Programs Related to Oceanography.

135. Develop and integrate regional [monitoring] [systematic observation] programmes into the UNEP Regional Seas Programmes which would contribute to the implementation of global ocean and coastal observing systems. The long-term systems should be based on the principle of [full and open] exchange of data. Monitoring should be capable of predicting the effects of climate related emergencies on existing physical, socio-economic coastal infrastructure (e.g. human settlements, industries, tourism, communication, ports and aquaculture). Site-specific analysis of sea level rise effects and temperature elevations on sensitive coastal ecosystems and lagoons and economically important species will also be necessary.(75)

Means of Implementation/Resource Requirements

TO BE FURTHER DEVELOPED.

(i) Human Resource Development
(ii) Scientific and Technological Infrastructure Development
(iii) Costing and Financing

E. STRENGTHENING INTERNATIONAL, INCLUDING REGIONAL, COOPERATION AND COORDINATION

Basis for action

136. In order to effectuate the strategies and activities as elaborated upon in the other Programme Areas with respect to oceans [and coastal areas] and to ensure the integration of environment and development aspects, existing institutional arrangements at national, regional and global level need adjustment and strengthening. There are numerous global and regional institutions with competence in marine issues. A comprehensive convention and a number of other legal instruments deal with the various aspects of ocean [and coastal] affairs. With increasing attention to issues relating to the oceans [and coastal areas], it is important that Governments be able to consider interrelated problems as a whole, and thus identify important issues,

priorities and strategic planning needs, promote intra-and interregional cooperation, and mobilize funding building upon existing mechanisms within the United Nations system, there is a need to ensure the existence of regular and effective intergovernmental discussion and mechanisms for coordination among the relevant agencies and bodies concerned with ocean [and coastal]-related activities, particularly in environment and development aspects.

137. Similarly attention is required to intergovernmental and intersecretariat cooperation and coordination are needed at the regional level, where a number of bodies already exist both within and outside the United Nations system.

138. The United Nations Convention on the Law of the Sea contains a comprehensive global framework and lays down basic rights and duties relating to environment and development activities with respect oceans. Acceptance of these rights and duties and other relevant international agreements forms an important basis for international coordination and cooperation. Within this framework, wider acceptance of related conventions could also enhance international cooperation and ensure their coherent and harmonized development.(55)

139. Settlement of disputes, [such as on trade and environment, should be dealt with in appropriate bi-lateral, regional and international fora, e.g. GATT. In accordance with established international rules and dispute settlement agreements Exhaustive and full use of expertise available in major international organization shall be made.][should be dealt with in appropriate bilateral, regional and international forum in accordance with multilalteral standards to be agreed upon, givin due consideration to concerns on sustainable development. Exhaustive and full use of expertise available in relevan international organisations should be made. Pending enactment of such standards, States should refrain from taking unilaterally non tariff measures to protect a given marine resource.]

140. Governments participating in various international fora often represent the interests of different national sectors. In ocean-related fields, where all issues are closely interrelated it is essential that each Government integrate sectoral interest.(56)

Objectives

141.

(a) Ensure, at the regional and global level, consistency among and integration of the various sectoral activities in addressing environment and development matters with respect to oceans [and coastal areas], including those covered in the other programme areas on oceans in Agenda 21.

(b) Ensure that, within the United Nations system, there is opportunity for regular intergovernmental review and consideration of environment and development matters with respect to oceans [and coastal areas] as a whole, and the agreed principles, strategy and standards.

(c) Ensure that there is effective information exchange and, where appropriate, institutional linkage between regional institutions dealing with environment and development matters with respect to oceans [and coastal areas].

(d) Ensure the effective operation of coordinating mechanisms for the components of the United Nations system dealing with environment and development matters with respect to oceans, and other concerned organizations including links with donor and assistance agencies.

Activities

Management

142.

(a) Global

(i) [The United Nations General Assembly should] ensure regular consideration [within the United Nations System] at intergovernmental level of general ocean [and coastal] issues [environment and development matters with respect to oceans] and request the Secretary- General and Executive Heads of United Nations agencies and organizations to strengthen consultative and coordinative mechanisms for this purpose.

(ii) Introduce special arrangements to ensure the participation of all relevant international organizations, including the development and donor agencies;

(iii) Seek scientific advice and consider the use of advisory expert groups [expert groups], as needed;

(iv) Establish reporting arrangements as between the General Assembly and the governing bodies of the United Nations system;

(v) Strengthen consultative and coordinative arrangements within the United Nations system and particularly IOC, UNEP and UNDP, including their regional components, in support of the General Assembly forum and other intergovernmental meetings with broad mandates in ocean [and coastal] affairs.

Regional

143.

(i) Strengthen existing intergovernmental regional cooperation, particularly the Regional Seas Programmes of UNEP, and establish or designate regional, intergovernmental fora where needed, for consultations on questions of harmonizing policies and integrating cooperative activities taking account of environmental circumstances, regional priorities and levels of development;

(ii) Introduce arrangements for the participation of all relevant organizations and bodies, development assistance and donor agencies, as well as of the private sector;

(iii) Ensure collaboration and coordination among all relevant institutions active in a region, including adequate staff representation;

(iv) Arrange within intergovernmental regional cooperation for periodic interregional consultations in support of those conducted at the global level.

Data and Information Capacity Building

144.

(i) Provision of special assistance to States, on request, to improve their capacity to implementing the principles laid down the Law of the Sea Convention and other relevant instruments, including the implementation of the marine scientific research regime as a management tool;

(ii) Development of a central reference point for information on and access to legislation as well as for advice on legislative and related institutional measures for the implementation of legal agreements.

(iii) Preparation of overview reports, to include also identification and examination of general issues, and preparation of summary reports on all United Nations system planning in the oceans [and coastal] sector, incorporating also related activities outside the United Nations system.

(iv) Through system-wide consultations, preparation of agendas and supporting documentation on the following matters;

(a) General policies and planning and identification of priority areas for coordinated effort, with particular emphasis on promotion of integrated marine and coastal area management and national capability-building requirements;

(b) Review and assessment of impediments to implementation and enforcement of global and regional agreements, including their institutional aspects, and of all developments affecting the progressive development of relevant international law, with particular attention to the development of liability regimes and dispute settlement mechanisms;

(c) Review of assistance to developing countries and modes of facilitating collaboration with development assistance and donor agencies, non-governmental organizations and the private sector.

RESOURCES REQUIREMENTS/MEANS OF IMPLEMENTS

Human Resources Development
Scientific and Technological Infrastructure Development
Costing and Financing

(TO BE DEVELOPED)

[G. HUMAN RESOURCE DEVELOPMENT FOR OCEAN [AND COASTAL] MANAGEMENT. To be developed]

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Appropriate Water Quality Standards for Tropical Islands

Briefing Paper Synopsis

- Limited information on water quality standards exists from countries in the tropical regions of the world. Data used to establish water standards are obtained from the continental US, Canada, and Europe.

- The USEPA has mandated that water standards obtained from the continental US will be applied to all US states and jurisdictions including tropical islands such as Hawaii, Puerto Rico, Guam, Samoa and other Pacific Islands.

- Water quality standards were instituted by the USEPA to detect bacterial organisms (caused from fecal matters of man and animals) suspected of transmitting diseases in waters used for drinking, recreation and raising of shellfish for consumption.

- Dr. Roger Fujioka, University of Hawaii suggests that alternative water quality standards for tropical regions be developed due to the fact that bacteria in excess of proscribed quality standards may or may not indicate that the water is contaminated with fecal matter due to climatic and environmental conditions.

AGENCY COMMENT:

Guam Environmental Protection Agency

- GEPA supports Dr. Fujioka's analysis that alternative water quality standards must be established for tropical regions separate from the continental US. GEPA further suggests that a local program or regional cooperative project be instituted to gather the necessary data in the development of appropriate water standards for tropical regions. (comments follow)

Dept. of Public Health &
Social Services, Div. of
Environmental Health

- Upon review of the subject document, DPHSS recommends that further analysis of water standards be implemented on tropical regions before and exemption or amendment to existing federal laws is requested. DPHSS suggests that the University of Guam Water and Energy Research Institute be the lead agency to initiate this program. (comments follow)

BRIEFING PAPER
Appropriate Water Quality Standards for Tropical Islands
October 29, 1991

I. Background

Dr. Roger Fujioka, Ph.D., Research Microbiologist and Professor of Public Health, University of Hawaii, is a recognized regional authority on the subject. The Guam Environmental Protection Agency supports his assessment and contention that tropical islands like Guam may need newer, alternative water quality standards.

Currently applied water quality standards are based on data obtained from temperate, continental U.S.A.; conversely data from tropical regions have not been significantly applied nationally, internationally or regionally.

Alternative water quality standards suitable for Guam and other tropical areas must be developed and Dr. Fujioka is a good candidate to lead a meaningful effort either through a framework of a local project or a regional cooperation approach; e.g., under the PBDC or under U.S.E.P.A., Region IX.

Pacific Basin Development Council

Suite 325 • 567 South King Street • Honolulu, Hawaii 96813-3070
Telephone (808) 523-9325 Facsimile (808) 533-6336

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President

rnor John Waihee
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rnor Peter Tali Coleman
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B. Norris
cutive Director

September 4, 1991

BRIEFING MEMORANDUM #45-91

To: Mr. Russell Mechem, EQSD, CNMI
Mr. Fred Castro, EPA, Guam
Mr. Pati Faiai, EQC, AS

From: Jerry B. Norris

SUBJECT: APPROPRIATE WATER QUALITY STANDARDS FOR TROPICAL ISLANDS

Recently I received the enclosed from Dr. Roger Fujioka concerning his recent presentation at our Pacific Basin EPA Conference/Workshop.

You will note that he sent this package to the AFPI Heath Officials. I was not sure that it would necessarily be routed to you.

Please provide me with some thoughts and directions as to your feeling of the importance of this project. We might possibly put together a jointly funded package if you feel it is worthwhile.

Please advise by September 27th. Many thanks.

JBN1A/pn
WATEREPA.904
ENCLOSURE

bcc: Mr. Norm Lovelace, EPA, S.F.
Mr. Richard Poirier
Mr. Peter Leon Guerrero
Ms. Lydia Faleafine

University of Hawaii at Manoa

Water Resources Research Center
Holmes Hall 283 • 2540 Dole Street
Honolulu, Hawaii 96822

15 August 1991

Mr. Jerry B. Norris
Executive Director
Pacific Basin Development Council
567 S. King Street, Suite 325
Honolulu, Hawaii 96813-3070

Dear Mr. Norris:

It was good to have met you again at the recent EPA Region IX 10th Annual Pacific Island Conference which was held at the Pagoda Hotel in Hawaii from June 12 to 18, 1991. At that conference, Norman Lovelace placed me on the agenda to give me the opportunity to communicate with each of you about my concerns regarding the applicability of using the US EPA approved bacterial indicators to establish water quality standards for tropical islands. My conclusions should be of particular interest to you since I believe my research results are applicable to all tropicals islands.

Enclosed please find my prepared statement explaining my findings, its implication to pacific islands and my interactions with government agencies including US EPA to address this problem. In summary, I am currently working with US EPA on this matter and I would like to know whether your government shares the concerns I have. If you do, I would appreciate a letter from you so I can inform US EPA of your government's concern in establishing appropriate water quality standards for your island. In this regard, I offer you my assistance in obtaining data from your island to show that conditions there are similar to those found in Hawaii and Guam where we have conducted our studies.

Finally, since I have been appointed Director of Water Resources Research Center at the University of Hawaii, I offer our Center's expertise and assistance to you on all matters relating to water problems in tropical islands.

Sincerely,

Roger S. Fujioka, Ph.D.
Director, WRRC

RSF:jmn

Enclosure

AN EQUAL OPPORTUNITY EMPLOYER

University of Hawaii at Manoa

Water Resources Research Center

MEMORANDUM

TO: Tropical Island Health officials

FROM: Roger Fujioka, Ph.D.
Research Microbiologist and
Professor of Public Health
University of Hawaii
Honolulu, Hawaii 96822
Telephone: (808) 956-7847
FAX: (808) 956-5044

SUBJECT: Appropriate Water Quality Standards for Tropical Islands

I. Introduction to the Problem

The hygienic quality of waters to be used by man has traditionally been determined by analyzing these waters for fecal indicator bacteria such as coliforms or more recently enterococci bacteria. The use of these indicator bacteria is based on the scientific knowledge that these bacteria are present in the feces of man and most warm blooded mammals and therefore, waters containing these bacteria are assumed to be contaminated with fecal matter from man or mammals. Since feces of man are known sources of many disease producing microorganisms such as bacteria, viruses, and protozoans, USEPA has developed water quality standards limiting the number of these bacteria in waters to be used for drinking, recreation and the raising of shellfish for consumption.

The database used to establish water quality standards were obtained from the continental USA which is in the temperate region of the world. These data have been affirmed by similar data obtained from other temperate countries such as Canada and Europe. Historically, data from countries in the tropical regions of the world have not been available or have not been reliable. As a result, data from tropical regions have never been used by USEPA or WHO in establishing water quality standards. In summary, USEPA has established water quality standards based on data obtained from temperate, continental USA and has mandated that these same water quality standards, be equally applied to all US states and jurisdictions including tropical islands such as Hawaii, Puerto Rico, Guam, Samoa and the many other Pacific islands.

II. Identification of the Problem

The reliability and accurate interpretation of water quality standards are based on the assumption that the sole source of these indicator bacteria is feces of man or animal. However, this assumption, which appears to be valid in temperate countries may not be equally valid in tropical islands such as Hawaii and Guam. If this assumption cannot be

made for tropical islands, the validity of applying these same water quality standards for tropical islands is of questionable value.

In a series of studies conducted by the Water Resources Research Center at the University of Hawaii, Dr. Roger Fujioka has documented that the same indicator bacteria chosen for water quality standards are naturally present in the environment (soil, plant and stream waters) of Hawaii. Since there is no evidence that these environments are contaminated with fecal matter, the most likely explanation is that these bacteria are able to grow in the warm, tropical soil environment of Hawaii. Rainwater flowing over and through the soil is believed to be the mechanism by which soil bound bacteria are transported to the streams. Since these same findings have been confirmed in Guam, we expect that the same phenomenon must be occurring in the other Pacific islands. However, data to verify this must be obtained for each of these Pacific islands.

In summary, the problem of indicator bacteria, exceeding water quality standards in the environmental waters of tropical islands may or may not indicate that the water is contaminated with fecal matter. Therefore, the usefulness of these water quality standards to determine public health risks to people in tropical islands will always be complicated by the presence of environmental sources of these indicator bacteria. Alternative water quality standards suitable for tropical islands must be developed.

III. Likely Consequences of Applying Existing Water Quality Standards for Tropical Islands

1. Due to environmental sources of fecal indicator bacteria, most streams in tropical islands will contain fecal indicator bacteria far in excess of USEPA water quality standards. Based on these results, these waters will be restricted in their uses.

2. Health officials of tropical islands will consult textbooks and USEPA documents which are considered infallible guidelines to assess the quality of waters in their island. Information and guidelines in textbook and USEPA documents do not recognize tropical island environments as being different and interpret water quality principles using data from temperate, continental USA. Moreover, USEPA mandates that the water quality standards and principles of water quality as formulated by USEPA be equally applied to all US states and jurisdictions. Thus, there is no information in the published guidelines to alert health officials from tropical islands to believe that tropical islands are different from continental USA with regard to water quality. Using these publications, health officials from tropical island will naturally come to the conclusion that the island streams are grossly contaminated with fecal matter, most likely due to poor sanitary conditions on their island.

3. Application and interpretation of existing water quality standards to tropical islands often result in the development of low esteem and lack of pride in their island by islanders. Moreover, extraordinary and inappropriate steps may be taken by health

officials in an attempt to correct this perceived problem of water contamination. These unsuccessful attempts often lead to frustration among scientists and health officials from the island and also among external USEPA officials responsible for monitoring the programs and progress in these islands.

IV. The Solution

The solution is to convince USEPA that environmental conditions in tropical islands are different and because of this difference, the water quality standards which may be applicable for continental USA are not equally applicable to tropical islands. Recognizing this, USEPA should establish water quality standards which are applicable for tropical islands by using database from tropical islands.

V. Roadblocks and Achievements in the Implementation of Solution

1. USEPA has ruled that their water quality standards should be applied equally to all US states and jurisdictions. At the moment, there is no mechanism for a waiver from this federal law. Thus, a change in water quality standards for tropical islands will be difficult on procedural grounds.

2. The scientific basis for establishing a new set of standards for tropical islands must be totally convincing to current USEPA scientists who will initially review the data for the proposed change. A scientist of high reputation to the EPA scientists working on this problem will be a requirement to convince USEPA that the data is reputable. This scientific spokesman must be a strong advocate for this change and he will be asked to debate the scientific issues involved. In this regard, I have taken on this role and have already presented my argument and case at several scientific conferences and have also published our results in journals. In these endeavors, I have received favorable comments from peer scientists, including those from USEPA. Although I am pleased with this phase of my progress, convincing scientists is only the first step.

3. The USEPA regulatory office is located in Washington, D.C. It is this office which is responsible for changes in water quality standards. This office will not respond to scientific merit alone but is responsive to political pressure or needs of government agencies. In this regard, the best approach is to unify the efforts of as many tropical island governments as we can to present a concern which addresses a regional area rather than individual island governments.

VI. Request for Support

If you are convinced that my above assessment may be applicable to your island and you are supportive of my attempts to convince USEPA that tropical islands may need newer, alternative water quality standards, I request an official letter of support from your agency so I can determine who I may be representing what I talk to USEPA.

☎ 6717345910 DPHSS DO 10/29/91 17:09 P01

DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES

GOVERNMENT OF GUAM
P. O. BOX 2816
AGANA, GUAM 96910

Terry

Telephone Number: (671)734-2083
Telecopier Number: (671) 734-5910

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TELECOPIER INFORMATION PAGE

PLEASE DELIVER TO: Terry Perez
Bureau of Planning

FROM: Dr. O.V. NATARAJAN, DEH Administrator O.V.N.

TELECOPIER NUMBER: 477-1812

Total pages including this page: 3

NOTICE !!! If you do not receive legible copies of all the pages, please call back as soon as possible: (671) 734-2083 and ask for sender.

SENT BY: _____ ON: _____

TIME SENT: _____

RE: Appropriate Water Quality Standards for Tropical Islands

COMMENTS

This is an advance copy being sent to you ~~for your~~ review. pending

the official transmittal via the Director DPHSS.

GOVERNMENT OF GUAM
AGANA, GUAM 96910

OCT 29 1991

Memorandum

To: Director, Bureau of Planning

Via: Director, Department of Public Health and Social Services

From: Administrator, Division of Environmental Health

Subject: Appropriate Water Quality Standards for Tropical Islands

This is in reference to your Routing and Transmittal Slip dated October 25, 1991 on the above subject. Since all aspects of water quality standards - formulation, monitoring and implementation - are the primary responsibility of Guam EPA, it would be appropriate if Guam EPA prepares a briefing paper for the Governor. However, we have a few comments which are given below.

We are not familiar with the studies conducted by Dr. Roger S. Fujioka of the University of Hawaii. It is quite interesting to note his statement that these findings "have been confirmed in Guam". We are not sure who in Guam conducted those studies - it may be Guam EPA or the Water and Energy Research Institute of UOG.

In the latter part of 70's, the # of coliform bacteria at Tumon Bay - it is remembered - was well below limits established by the Guam Water Quality Standards. This may contradict Dr. Fujioka's findings. If Dr. Fujioka's finding, that indicator bacteria are naturally present in the environment is confirmed, then we have to definitely reevaluate the situation. Before we make any attempts to get an exemption from the Federal Water Quality Standards or to get an amendment to the existing federal laws, we must make sure that this fundamental hypothesis is unchallengeably true. It is suggested that the UOG's Water and Energy Research Institute take this project as a research topic-if it is not already done in Guam whether it is applicable to Guam.

Commonwealth Now!

The regional office of USEPA at San Francisco is historically symphathetic to Guam's Pollution Control programs and the staff handling these programs are friendly and familiar with the Guam situation. As you may know, one of the ex-administrator of Guam EPA is currently working as a staff member at the San Francisco EPA Office.

Finally, with these comments which are copied to Guam EPA, it is once again suggested that Guam EPA be the lead agency on this project.

Thank you for the opportunity to comment.

O.V. Natarajan

DR. O.V. NATARAJAN

cc: Guam EPA
Water and Energy Research Institute-UOG
San Francisco EPA

Pacific Basin Development Council

Suite 325 ◦ 567 South King Street ◦ Honolulu, Hawaii 96813-3070
Telephone (808) 523-9325 Facsimile (808) 533-6336

Governor Lorenzo I. DeLeon Guerrero
Commonwealth of the Northern Mariana Islands
President

Governor Joseph F. Ada
Guam
Vice President

Governor John Waihee
Hawaii
Secretary

Governor Peter Tali Coleman
American Samoa
Treasurer

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October 1, 1991

BRIEFING MEMORANDUM #50-91

To: Mr. Eloy Inos, CNMI
Mr. Frank Rosario, CNMI
Mr. Tim Bruce, CNMI
Ms. Lourdes Pangelinan, GU
Mr. Peter Leon Guerrero, GU/BOP
Mr. Muliufi F. Hannemann, HI/OIR
Mr. Charles Freedman, HI
Mr. Fred Radawagen, AS/DC
Mr. William "Dyke" Coleman, AS

From: Jerry B. Norris

SUBJECT: TRIP REPORT - COASTAL OCEAN POLICY ROUNDTABLE, WASHINGTON, D.C.

As you will recall, Dr. Micahel Hamnnet sits on the NOAA Coastal Ocean Policy Roundtable (COPR). They recently met in Washington, D.C.

A copy of his trip report is attached for your information. If you wish more detailed information, please feel free to contact us.

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ENCLOSURE

cc's w/enc: Mr. Joaquin Villagomez, CNMI/CZM
Mr. Michael Ham, GU/CZM
Mr. Lelei Peau, AS/CZM
Mr. Doug Tom, HI/CZM

Jerry B. Norris
Executive Director

CZM MEETINGS FROM TRIP REPORT

MICHAEL P. HAMNETT

9/14/91 TO 9/23/91: WASHINGTON, DC

9/15 Arrived at National Airport

9/16 Attended the Coastal Ocean Policy Roundtable (COPR) meeting all day. Major topics for discussion included the future role of COPR, a status report on the FY92 budget, the Section 309 enhancement program, OCRM's outreach and communications activities, the marine sanctuary program, the coastal ocean program, and COPR organizational issues.

Bob Knecht indicated that a major question for NOS and OCRM was whether they saw a role for the Roundtable now that the "new" management team was in place. It was clear that John Carey and Trudy Coxe do. Members of the COPR indicated interest in having the group formally constituted, but John and others indicated that Knauss had recently done that for another advisory group. It took a year, and there is a danger that the group would have to cease functioning until that approval came from OMB and other administration offices.

Jim Lawless gave an update on the NOS/OCRM budget (see attached). In both the House and Senate versions of the budget, there appears to be enough money to fund 306/309 such that "core programs" will be protected. This has been possible partly because they have allocated $6 million from the Coastal Zone Management Fund to meet shortfalls in other program areas including 306/309.

Trudy and OCRM staff gave an update on the Section 309 program. Several states have completed their assessment, and OCRM has been fielding lots of questions from CZM program managers. They seemed pretty pleased with some of the assessments they were getting. The current plan for 309 grants is to take 10% to 15% of the section 306/309 funding for section 309. Fifty percent will be allocated on a formula basis and the other 50% will go for outstanding efforts on a competitive basis. Gary Magnuson and I raised what we see as problems with the competitive approach, but many of the COPR members saw advantages to it. There was some discussion on the issue to peer review--apparently OCRM staff are not hot on the idea because state and territorial managers have not been.

Trudy opened the discussion on OCRM outreach and said that she would like help from the Roundtable in thinking through a strategy. She is concerned about the lack of a constituency for OCRM and CZM programs. Several members felt there was considerable public sentiment in the country for effective coastal zone management. Trudy said if it was there it was not resulting in the prevention of resource degradation. Trudy again asked if we thought a coastal management "report card" would be feasible. Several of us cautioned against forcing state and territorial programs to gather a lot of data that were not there. This is another area that Trudy would like help on.

We got an update on the non-point source pollution effort. There is concern that neither the House or the Senate have set aside much funding for the NPSP program. They have been getting "public" input from a range of national organizations including CSO. Some states and territories have expressed concern that the requirements for state programs are too stringent. Some environmental groups feel the program does not go far enough. State and territorial governments as well as federal agency input will continue to be sought on the guidance. PBDC should write and get on the list to receive drafts of the guidance as they are developed. COPR members will receive copies.

Paige Gill gave a slide briefing on the Florida Keys National Marine Sanctuary. This included general information on the Marine Sanctuary Program which was supplemented with remarks by Joe Uravitch. The Hawaii sanctuary is definitely on the docket with funding set aside for the assessment process. Apparently, NOAA folks are very pleased with the public interest in the Hawaii sanctuary.

Don Scavia gave a brief overview of the Coastal Ocean Program. Some concern was raised about COP priorities being driven by scientific as opposed to management interest. Don asked for input on a social and economic research component about which they are running workshops to get input. We suggested that in addition to the topics which they have already identified (social and economic valuation, cumulative impact methods, growth management, and multiple use conflict analysis), some attention should be given to methods for identifying management research needs of real managers and the translation of research into policy and management measures.

The meeting closed with a discussion of the future of the Coastal Ocean Policy Roundtable. Two sub-groups will be formed. One will focus on the outreach and

communications question. The other will help think about a national evaluation of CZM and Trudy's "report card." The sub-groups will probably meet on their own with the whole group coming together twice a year. No meetings were actually scheduled, but my guess is that the "outreach" group will try and meet before the end of the year.

On the Hawaii Sanctuary, the House has it noted as a hump back whale sanctuary. The Senate has it designated as a Kahoolawe sanctuary. NOAA expects to have the results of the scoping meetings by December 1. NOAA does not seem to have any preconceptions about what this sanctuary will involve and are depending on the results of the scoping effort.

9/17 Met with David Honness, Oversight and Enforcement Sub-committee staff for the House Merchant Marine and Fisheries Committee as well as Jennifer Casey of Congressman Abercrombe's staff. Jennifer said letters had gone from both the Congressman as well as Senator Inouye's staff trying to shake loose the executive order. David indicated that he would follow-up with a letter from the Chairman of the Sub-committee if nothing happened soon. David and Jennifer asked if we could provide names of people to be invited to testify at the Honolulu hearing and perhaps some questions to be considered taken up by sub-committee members during the hearing. Apparently an initial hearing will be held in Washington in October. If we don't get some movement on the regs, the Sub-committee will ask the administration to submit testimony on that issue for the DC hearing.

9/18 Met Eileen Shea of NOAA's Global Climate Change Program. Apparently they are in the throws of trying to get agreement on their budget with OMB. The current effort is to try and get the Program accepted as a "mature program" as opposed to a limited term initiative. Eileen gave some insights on the UN Conference on the Environment and Development (Brazil 1992). There will likely not be a convention on CO/2 emissions adopted, but an agreement on general principles. The White House is working on a new US initiative that may be the thrust of the US's stand--this is not public and they don't want it to be, yet. A government private sector partnership is apparently being ginned up with big name industry types and funding from both industry and the feds. All this is hush hush right now, but we may see some movement on it soon.

9/19 Met with John Carey and Ben Mieremet to discuss the case studies that are being done for UNCED. John had wanted some more background on the RMI case study--we wanted an up-date on the progress. I raised the concern about the over-emphasis on sea level rise as opposed to changes in storm patterns, coastal erosions, and rainfall. I indicated that our approach in RMI had been to look at current coastal zone and development problems that could addressed now and help prepare for changes in the future. John said he favored our approach, but Knauss has wanted to stay away from anything that was "management" as opposed to science. I said we would send a copy of Chris Jones's video to him.

Had lunch with Trudy Cox. We talked about the OCRM outreach effort for which she is hungry for ideas. I suggested that part of the reason OCRM had problems with State program managers was the tone with which people in OCRM address their concerns to state and territorial program managers. I suggested that on the outreach and other issues, OCRM should take a "helpmate" (to use Trudy's term) approach rather than an overseer.

Met with Margaret Cominski in Senator Inouye's Office. Brought her up to date on the OPA '90 regulations question. I said we would keep her informed. We talked a little about funding for the fisheries activity. I reiterated our desire for support on CZMA funding. Margaret had received a statement on Hawaii's stand on the Section 309 program from Phil Schimer and would pursue that stand in Conference Committee. Margaret said there may be some movement on seabed minerals. We are to call George Steuer at Inouye's office in Honolulu about a briefing they had from someone in MMS.

9/21 Met again with Eileen Shea of NOAA. We talked about the Global Climate Change Program and how we might get involved. Apparently there is an economics focus that has not been fully developed. Two areas may be of interest to us: economic impacts of climate change and decision-making in the face of uncertainty. The White House is most interested in the economic impacts focus. They want climate change research to be justifiable on economic grounds. One possible project we discussed was on the potential impacts of climate change on tuna fisheries. We could probably work with SPC and WESTPAC and look at the impact El Nino has on catch and effort, get a line several scenarios for increased or decreased El Nino, and come up with some numbers. On the uncertainty focus, we might be able to build on what we have done in RMI. We could look at it from a

state/territorial government perspective. This might also involve some of the results of the Guam comparative risk analysis. Eileen is going to sketch some stuff out. We also talked about doing something on El Nino/ENSO effects and providing warnings to government. This might be most appropriate for Hawaii because of the impact on agriculture.

Pacific Basin Development Council
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August 28, 1991

BRIEFING MEMORANDUM #42-91

To: Mr. Joaquin Vidlagomez, CNMI/CZM
Mr. Michael Ham, GU/CZM
Mr. Lelei Peau, AS/CZM
Mr. Douglas Tom, HI/CZM

From: Jerry B. Norris

SUBJECT: UNIQUE ISLAND STATUS - A REVISIT"

As I noted in my introductive comments at the recent Pacific Basin EEZ Conference, we have come a long way since the first meeting was hosted by American Samoa in 1982.

I though you might enjoy [illegible] so far so I have enclosed a copy of the Proceedings that were done by ASG folks.

Hope you enjoy the reading.

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y B. Norris
cutive Director

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BDC

PACIFIC BASIN DEVELOPMENT COUNCIL
567 South King St., Suite 620
Honolulu, Hawaii 96813

"UNIQUE ISLAND STATUS"

Proceedings of

PACIFIC BASIN

COASTAL ZONE MANAGEMENT

CONFERENCE (1982. American Samoa).

AMERICAN SAMOA . JULY 26, 27, 28, 29, 1982

Sponsored by: ECONOMIC DEVELOPMENT & PLANNING/TOURISM OFFICE

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AMERICAN SAMOA GOVERNMENT

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A G E N D A

MONDAY - JULY 26, 1982:

8:00 a.m	REGISTRATION (Coffee and pasteries)	CONVENTION CENTER
8:30 a.m	Introduction	Joseph M. Pereira Director, DPO Tourism
	° Governor's Welcome	Lyle Richmond Executive Assistant to the Governor of American Samoa
	° Legislature's Welcome	Tuana'itau Tuia Speaker of the House of Representatives
	° Goals and Organization of Conference	Tini Lam Yuen, Jr. ASCMP Manager
	THEME INTRODUCTION 'Big Picture'	Joseph M. Pereira
	'Unique Island Status'	Jerry Norris Executive Director, PBDC
	'National Politics '82'	Fred Radewagen, Director Federal & State Relations Washington, Pacific Group
	'Resource Management as a Balance Between Environmental Protection and Economic Development	Joseph M. Pereira
	THEME INTRODUCTION 'Problem Solving Exercise'	Lewis Wolman Program Assistant, OCZM
10:30 a.m.	COFFEE BREAK	

MONDAY - July 26, 1982 - Agenda continued

10:45 a.m.	Regroup in Discussion Groups (Problem Solving Exercises, Part I)	
12:15 p.m.	LUNCH	
1:00 p.m.	INTRODUCTION TO PACIFIC BASIN COASTAL ZONE MANAGEMENT PROGRAMS AND THEIR ACCOMPLISHMENT	James Murley, Director Coastal Programs Office

- Guam
- Northern Marianas
- Hawaii
- American Samoa

COFFEE BREAK

Problem Solving Exercises, Part II

3:30 p.m. END-OF-FIRST-DAY

TUESDAY - JULY 27, 1982:

8:15 a.m.	Coffee & Pastries	Convention Center
8:30 a.m.	THEME INTRODUCTION "Practical Techniques to Manage Resources in the Pacific"	Dr. Paul Templet Consultant
	° Relevancies of Development	Brownie Tuiasosopo Special Assistant to the Governor American Samoa
	° Cultural Obstacles to Conventional Resources Management	Dr. F. K. Sutter Cultural Anthropologist
	COFFEE BREAK	
	° Practical Management of Limited Resources	Dr. Arthur Dahl Regional Ecologist, SPC
	° Technical Information Needs for Resources Management	Dr. Everett Wingert Associate Professor of Geography University of Hawaii
		and
		Dr. Paul Templet - Consultant
	° Staff Training Needs	
12:00 p.m.	LUNCH BREAK	
1:30 p.m.	° Physical Infrastructure	Nancy Tuor Planning Department Manager CH2M Hill, Oregon
	° Planning	Michael Cruz Chief Planner, Guam
	° Permit System	Ivan Groom Resource Planning Coordinator Northern Marianas

TUESDAY - JULY 27, 1982 - Continued

° Special Area Management	Richard Wass Marine Biologist Office Marine Resources "and island CZM staffers"
° Dredge and Filling	James Maragos Fellow, Environment & Policy Institute, East-West Center

WEDNESDAY - JULY 28, 1982

8:15 a.m.	Coffee & Pastries	Convention Center
	THEME INTRODUCTION 'How the Federal Government can Assist Pacific Island Governments'.	Jerry Norris, PBDC
	° Senate Energy & National Resources Committee	James Beirne Washington, D. C.
	° Housing Urban Department	Claire Freeman Deputy Assistant Secretary/HUD
	° Fisheries Development	Peter Milone/Robin Wasman
	° OCZM	James Murley
	° Local U.S. Coast Guard	Jerry Norris
11:30 a.m.	LUNCH (Port O' Call - Hotel)	
	THEME INTRODUCTION 'Public/Private Relates"	Alfonso 'Pete' Galea'i Deputy Director, DPO/Tourism American Samoa Government
	° Private Sector	Abe Malae Assistant Manager Marlex Petroleum
1:30 p.m.	Field Trips	Meet at Hotel Lobby
	Harbor Tour & Cable Car Western District Tour	

THURSDAY - JULY 29, 1982

8:15 a.m.	Coffee and Pasteries	Convention Center
8:30 a.m.	THEME INTRODUCTION 'Re-visit the Big Picture'	Joseph M. Pereira
10:30 a.m.	End of the Coastal Zone Management 'Unique Island Status Conference'	

LIST OF PARTICIPANTS

AMERICAN SAMOA

Mr. Lyle L. Richmond
Executive Assistant to the Governor/Acting Governor
Office of the Governor
Pago Pago, American Samoa 96799

Honrable Tuana'itau F. Tuia
Speaker, House of Representatives
Pago Pago, American Samoa 96799

Honorable Fa'asuka Lutu
Legislator
House of Representatives
Pago Pago, American Samoa 196799

Honorable Lealaifuaneva P. Reid
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COASTAL ZONE MANAGEMENT CONFERENCE

"PACIFIC ISLAND STATES"

AMERICAN SAMOA

MONDAY - 1st day - JULY 26, 1982

1. Lyle Richmond - Acting Governor, American Samoa Government (main points)

. Coastal Management is a comprehensive and sophisticated process;

. Public Awareness and Education, technical competence, patience, realistic goals and a desire for maintaining not only the integrity of the Coastal Resources, but of the society to which they belong. (see detail in Exhibit I)

2. Honorable Tuana'itau Tuia - Speaker of the House - ASG Fono

. Fono support the Coastal Resources Management Program.

3. Theme Introduction

"Big Picture" by Joe M. Pereira

. Itemized Problems of why the Pacific Islands are unique.

. Benefits of Coastal Zone Management Program for the islands.

. To identify Scarce Resources in the Islands.

. To maximize utilization of Scarce Resources in the islands.

4. Jerry Norris

"Unique Island Status" (see Exhibit II)

The Pacific Basin consists of nearly one-half of its surface water. Atolls and oceanic islands totals are than one million square miles. Also, within this immediate region are several long and deep trenches.

The Basin measures 9,000 statute miles along its polar axis from the Bearing Sea to the Antartica Circle and nearly 10,000 miles at the equator.

American presence and influence in the Pacific, resulted in statehood and acquisition of territories favoring U.S. protection from foreign intervention.

Problems in the Pacific Basin are attributed to vast distance separating the islands and development of isolated island population that subsequently resulted.

Problems common in the Pacific Basin related to population growth resulted in demands and some problems are:

. a growing desire for [illegible] and consumer goods with its attendant drift towards a cash economy;

. negative trade balances;

. high employment [illegible] increasing numbers entering the job market;

. a growth dependency [illegible] on imported foods and subsidies;

. "urban drift" [illegible] in the traditional extended family relationship;

. dependence [illegible] capital, technical assistance and skilled labor.

5. <u>Joseph M. Pereira - Resource Management as a Balance between Environmental Preservation & Economic Development</u>

Emphasized Coastal Zone Consistency of Policy regulations and the need of continued funding from Federal, Regional or Local sources to meet an adaptation of the uniqueness of the island Governments as indicated from his speech in Exhibit III.

Problem solving exercise by Lewis Wolman - in Exhibit IV.

EXHIBIT I

Lyle L. Richmond's Speech at the Opening of the Coastal Zone Management Conference at the Convention Center on July 26, 1982

Secretary Freeman, Speaker of the House of Representatives, Distinquished Guests and Members of this Conference, Assisting staff, Ladies and Gentlemen - GOOD MORNING.

Since this winter is so severe in the South Pacific, I thought I'd wear my best San Francisco Suit for the occasion.

I'd like to take this opportunity to welcome you on behalf of Governor Coleman and Lt. Governor Tufele. We are pleased that you have chosen American Samoa as the site of this Coastal Zone Management Conference and happy to hear that it is one of the best attended conferences that has been held in the region. We hope that your stay here is pleasant and productive.

It is also good to see some old friends from both the Federal Government and our fellow territories in the Northern Pacific. During my professional experience as an Attorney Practicing in the Pacific islands, going on 12 years now, I have witnessed and participated in many issues of far-reaching effect in American Samoa, the Trust Territory of the Pacific Islands and regionally. When the Coastal Zone Management Program was developed in American Samoa, I reviewed the plan partly from a general legal point of view and partly as the Chairman of the Territorial Environmental Quality Commission.

I admit to reservations regarding the practical implementation of the program in a developing or "Third World" (if you will) atmosphere. I am pleased to see that serious consideration is being given to the difficulties inherit in the task. This conference, because it recognizes and seeks to truly understand the importance of the "Uniqueness" of the island situation, is a crucial step in achieving the program goals.

While we do not want to overwork our "Uniqueness", it is real, islands in the Pacific, because of their size, location, population base, culture, land tenure systems, statutes and traditional law, and other factors too numerous to mention, often do not fit into the model for which federal programs are designed. When such programs are successful, it is frequently due to the adaptability and flexibility of the programs and the individuals who administer them.

Because Coastal Management is so comprehensive when applied to an island situation, the pressures on the persons responsible for the program are sometimes greater than in the U.S. Mainland. On a small island, you may often know all parties to a particular action personally. They may even be members of your own family. It is extremely difficult to be an anonymous public servant on a small island.

Pressures can come from so many directions in the islands. As an example, consider American Samoa. Topographically, American Samoa has very little usable land. The greatest part is clustered along the coastline, with a big portion of the flat land reserved for the airport and other Government related uses. Hence, there are many competing uses. The land tenure system itself and the culture of which it is a product are definitely unique. The economy and society are both in the process of enormous change, and change is always difficult.

A sophisticated concept such as resource management, in this environment, only gains acceptance as it is understandable and sensible. It can be incorporated into the island situation, but it must be done with a strong emphasis on public awareness and education, technical competence, patience, realistic goals and a desire for maintaining not only the integrity of the Coastal Resources, but of the society to which they belong.

Coastal Management, if successful in our islands could well become a model for other developing areas within the region and outside. In short, whatever learning experience this conference brings to each participant, whatever problems you are able to solve, and even merely to define well, will assist both ourselves and peoples of similar areas in the significant struggle with resource allocation.

In closing, on behalf of the American Samoa Government, I want to simply thank each of you for coming. You are welcome here and have our best wishes for a successful conference.

Soifua.

DEVELOPING AN OCZM STRATEGY FOR THE PACIFIC BASIN - JERRY NORRIS

The Pacific Basin accounts for nearly one-third of the earth's surface area and almost one-half of its surface water. Within the basin, which is ringed by volcanically active continental landforms, are found approximately 7,500 oceanic islands and atolls totalling more than one million square miles of land area. Closely associated with these feature are long and deep trenches. The 1,250-mile long Marianas Trench, for example, at over 36,000 feet is the deepest point in the world's oceans.

The Basin measures 9,000 statute miles along its polar axis from the Bering Sea to the Antarctic circle and nearly 10,000 miles at the equator. Distances to the continental United States range from 2,100 miles between Honolulu and San Francisco to over 9,000 miles from Denver to Washington, D. C.

The island archipelagoes of the Pacific Basin are classically viewed as parts of the three major island groups, each identified according to ethnic groups and its geographic location. The islands of Melanesia from the (Greek, mela-black, neso-island) which include Solomons, Fiji and New Guinea, for example, are inhabited by dark-skinned peoples alike those found elsewhere in the Pacific. While society, Cook, Hawaiian, and the islands of Samoa comprise member groups of Polynesia. Furthest north lie the islands of Micronesia, to which group the Northern Marianas, Guam, the Marshalls and the Caroline islands belong. These islands, in addition to the State of Hawaii and the Territory of American Samoa, comprise what has been referred to in the literature as the 'U.S. Pacific Basin'.

American presence and influence in the Pacific resulted from a series of monarchy and the subsequent annexation of Hawaii in the late 1980's, the acquisitions of Guam in 1898 following the Spanish-American War and, during the same period, of Eastern Samoa through bilateral agreements with European powers and deeds of cession with Samoan chiefs or matai. At the conclusion of WWII, the United States entered into a trusteeship agreement with the Security Council of the United Nations, giving the U.S. administrative authority over the Trust Territory of the Pacific Islands (T.T.P.I.), which, with the exception of Guam, included all, of the islands of Micronesia.

Hawaii, in 1959, became the 50th State of the Union, capping efforts initiated in the mid-19th century by American economic interests, missionaries and expansionists in the U.S. Congress to protect and ensure their exclusive presence in remaining 14 islands of the Marianas Archipelago (of which Guam is a part) broke with the other five districts within the T.T.P.I. to enter into a Covenant and agreement with the U.S. to establish the Commonwealth of the Northern Mariana Islands. The status of the Commonwealth, however, will not be finalized until such time that the United States submits a proposal to the U.N. Security Council to terminate the trusteeship, which it had planned to do in 1981. Technically, therefore, the Northern Marianas still form a part of the Trust Territory of the Pacific Islands.

As mentioned previously, there are five remaining district within the T.T. P.I. - Yap, Truk, Kosrae, Ponape the Marshall Islands, and Palau in the western Carolines. These districts have formed three district political federations, i.e., the Republic of Palau, the Marshall Islands, and the Federated States of Micronesia, and are currently engaged in negotiation to establish their future relationships with the U. S. The outcome of these negotiations too, must be presented in the proposal to terminate the trusteeship agreement submitted by the U.S. to the U.N. Security Council.

Regional Problems

Many of the current problems associated with the U.S. Pacific Basin can be traced to the vast distances separating the islands and the development of isolated island populations that subsequently resulted. The contribution of geographic distance to this occurrence and its ultimate effects on the development of language and culture, travel and trade, and on the shaping of political attitudes and institutions, is clear. To some extent, modern technology has overcome the constraints to travel and, consequently, the barriers to trade and communication among the Pacific islands, however, cultural and political dissimilarities still remain. Common to many of the islands has been the evolution of a unique political hierarchy which draws much of its support from cultural traditions and values. In several areas within the Pacific Basin (particularly American Samoa), for example, where native-traditions and cultural observances have been preserved and adopted in existing political thought and institutions, those who would have been titled or elevated to high rank because of birthright or deed in the past, today still serve as political leaders in their island communities. Where a strong sense of moral commitment and traditional responsibility for serving and protecting the people (commoners) has also survived, these "chiefs" also have served effectively as guardians of the public trust. They serve as the spokesmen for their people and, certainly to a large extent, shape the kinds of relationships between their islands, people, the island environment and the outside world. Still, even in areas where the old ways persist, there are ever increasing signs that the system is deteriorate.

As island economies evolve, moving from subsistence to a cash economics, and contacts with foreign cultures and values increase, an increasing number of islanders, desiring a higher standard of living or a break from tradition, will leave their islands. With their departure and the rejection of values characteristic of island cultures will occur the loss of the "island ethic".

The relatively small size of the islands in the Pacific also serve as a major impediment to their economic growth and self-sufficiency. Unlike continental land masses bordering the Pacific Rim, most of the islands do not possess large recoverable land-based mineral resources or an expansive agricultural base for acquiring the necessary food and fiber to support their local populations. Although phosphate mining has played

an important role in developing the economy of Nauru, the islands are being wasted-away in the process. Within the next several years, Nauru's resource will be played-out rendering the majority of its population island-less and heavily dependent on a crash economy. The ultimate wealth of the islands lie, as we shall discuss later, in the waters and seabeds surrounding them.

Population pressures also plague the islands. Related demands for government services such as health care, education and public works projects as well as demands for better housing and employment, place increasing burdens on local economies. These demands further compete with agriculture and the need for open-space preservation for the limited land that is available. Unfortunately, in many developing areas, a pattern of land and water use is evolving that promotes economic growth at the expense of the islands' delicately balanced traditional socio-cultural and natural environments. Also related to population growth are a most of other demands and problems which appear to be common to most of the islands, such as:

- a growing desire for cash and consumer goods with its attendent drift towards a cash economy;
- negative trade balances;
- high unemployment reflecting the increasing numbers entering the job market;
- a growing dependence on government jobs and subsidies;
- "urban drift" and breakdown in the traditional extended family relationship; and,
- dependence on outside economic aid, technical assistance and skilled labor.

JOSEPH M. PEREIRA'S SPEECH

I am honored to have this opportunity to share with you my growing concerns as island governments continue their quests to achieve economic self-sufficiency.

I am greatly concerned that our abilities to taylor our plans to reflect island conditions are constrained by economic pressures dictated by external circumstances beyond our control and our own peoples increasing expectations for a better and improved quality of life.

I am greatly concerned that political pressures brought to bear on island leaders because of factors aforestated will generate economic plans and programs void of any sensitivities for the protection of resources preservation of the environment and perpetuation of our cultures.

I am equally concerned that island residents, because of their increasing demands for improved social amenities, cloud their objectivity and thus--loose sight of their role respecting evaluation of Government actions to ensure that consideration has been given to the social, environmental and preservation of resources impacts of economic decisions.

I am concerned that pressures on islands to catch up with economic progress experienced elsewhere in the world, force immediate decisions void of proper time allocation to review the ramifications upon which a decision is based.

I am concerned that competition for foreign investment among islands has fostered environment and resource exploitation.

I am concerned that allocation of scarce resources favor economic development void of equal recognition for preservation and protection of limited natural resources.

I am very concerned that our pursuit of economic progress is slowly but surely eroding the very essence of our uniqueness--"Our Cultures".

Islands are in a very precarious position. They are almost totally dependent on the outside for their livelihood. We have very little land to enjoy the advantages offered through "Economies of Scale". We have inadequate air and surface transportation systems although this is the bloodline of our economic existence. Our vast distance from major markets for our final products and sources of raw materials magnifies our dilemna. Our inability to generate venture capital as all available resources are committed to infrastructural development. Our inadequate infrastructural systems force dependence on foreign investment, and Federal support. We have very narrow Economic Bases.

This means that if our only main industry encounters economic problems the entire economic system faulters. We lack the incentives to retain our

skilled and technical workers which forces us to depend on foreign labor which will ultimately upset the political balance of an island nation. One can only look within the Pacific to find examples of this point.

The current cry in the Pacific for political independence and the chance to shape one's destiny magnifies the influence of the foregoing factors on the decisions reached by island countries. These factors also limit our options and forces feelings of absolute capitalization on any opppor-tunity available to an island.

In your own respective islands, you have witnessed examples of this point. For us, you only need to look across the bay from the hotel and see the largest industry in American Samoa. It has generated economic benefits for the territory. Equally, it has created problems for the territory. It has contributed to the air and water pollution of our harbor. It depends largely on alien labor for the supply and processing of tuna. It is the major user of our infrastructural system. Increase in its produc-tion capacity means a corresponding increase in commitment of financial resources to infrastructural improvements.

Island leaders will continue to make decision clearly favoring economic progress over resource management. High interest rates precluding reloca-tion of investment into the islands; dwindling federal support; high energy costs; and inflation are factors perpetuating the edge of development over preservation and force the desi res of islands to attain economic self-sufficiency quickly. Advanced economic powers of the world are quickly enacting laws to preserve and rectify environmental and social mistakes made as they climb the ladder of economic supremecy. We have the chance to avoid those mistakes before they are duplicated.

Enactment and passage by Congress of Public Law 92-583 on Coastal Zone Management manifests Congress's concern for a proper balance between development and coastal resource management. For islands like us, it means a comprehensive resource management program because we are totally sur-rounded by ocean. Coastal Zone Management Program means more to us then even coastal states of the Union. Coastal Management for islands encompasses management of marine, land, water, air, cultural and human resources. Coastal Management, therefore, means the entire islands. It provides the check and balance system to maintain the equilibrium between development and resource management.

Limited availability of land, coupled with our mountainous terrain makes land use management for American Samoa very important. Flat lands are sought after by companies for business development, leaving land with steep elevation for residential development. In our Bay Area, you can see homes being constructed on 40 degrees slopes. Major excavation work is under-taken. In many instances, erosion takes place, washing soil into the ocean. These sediments are slowly but surely killing our reefs. Reefs minimize wave surge and correspondingly prevents shore erosion. Reefs also produce food for small marine life from which the fish feed upon. Many Samoan families depend on fresh fish for their diets. There is already evidence of our reefs slowly dying. You have often heard the phrase that, "you do not need money to survive on the islands because one can always fish and cul-

tivate the land".

Economic Development pressures will perpetuate this trend causing destruction and over exploitation of our limited resources. Coastal Zone Management programs has brought these issues into the limelight and given proper consideration.

Coastal Zone or resource management programs ought not be developed as a tool to rid resource exploitation, but as means of bringing into focus economic issues for proper evaluation on their impacts on the resources of an island. Resource management programs must be flexible enough to meet and complement the Economic Development Plans of the islands. Stringent resource management plans will fall by the wayside, as leaders will view them as counter-productive and acting only to frustrate the islands development efforts. It must be noted also that resource management is meaningless to islands striving to attain economic progress. Resource management benefits are intangible and accruing mostly to the future generation. Identification therefore with these benefits by island residents is very difficult as compated with benefits derived from establishing economic projects. The concept of resource management is an alien concept to island people who are used to living each day at a time;--to take and use what is there now for the Lord will provide equally for the future generations. Even our cultures are contradictory to resource management. For example, a family may have toiled for years to cultivate the land and raise animals, and with one family activity---such as a wedding or a funeral--depletes the family of all the fruits of their labor. At times, they borrow on their future resources.

These circumstances make resource management a difficult concept to sell to our people. Resource management plans therefore, must be flexible and realistic. It must contain strategies for detail evaluation of trade-offs between economic benefits and resource preservation.

Funds made available by Congress under the Coastal Zone Management Act has allowed Territorial Governments and the state of Hawaii to develop resource management plans to ensure maintenance of an equilibrium between economic development and resource management. It has allowed island governments to prepare strategies permitting full examination of economic actions and the trade offs that are to be made. Only through this process will our efforts meet with any success in striving to strike a balance between economic development and resource management. Coastal Zone Management in the islands is really comprehensive planning and resource management as they do not really exist separate from the Coastal Zone programs like in the mainland. When we speak of coastal zone management in the islands we mean the entire island. In this respect economic progress directly impacts island's resources. For example, development on the slopes must be closely-scrutinized for its impact on drinking water system and erosion. Erosion pollutes the bay and smothers our reefs.

Samoa's coastal zone management program is designed to accomodate and complement other planning efforts which will quide the socio-economic development of the Territory. The resource protection thrust of American Samoa's

programs dovetails with the Economic Development Plan objectives. The Policies and priorities promulgated in our economics development plan are compatible with the goals of coastal management. Our Economic Development Plan also served as the basis for the development-related policies of our coastal zone management plan which are designed to manage development to minimize and mitigate adverse environmental impacts from economic development. Our coastal management program recognizes that the islands' first and foremost priority is to satisfy the economic aspirations and needs of its residents. As such we believe that resource management or protection can only be possible when islands have just begun with their journeys towards economic self-sufficiency. This means therefore that the continued existence of Coastal Zone Management is vital, if we are to maintain a balance between development and resource management. Our efforts to create a balance between the two is reflected in our special areas designation on our management plan. Because our Harbor is the Territory's most valuable asset it has been designated special area for development. The Pala Lagoon, from where we get our clams and crabs, is designated as a special area of concern for resource protection. It doesn't mean that fishing for subsistence in the area is prohibited, but rather ensuring its existence by improving water quality in the area. Because of limited land area, some are beginning to fill in the mangroves which has high value as a fish and wildlife habitant area. To these people, protection of these marine resources is meaningless when they need land to build as most of their land has eroded away. They cannot identify with the benefits of protecting the mangroves and the Pala Lagoon in general.

Designation of the harbor as a special area for development recognizes the value of the harbor to the territory's economic development efforts, but also recognizes the limited availability of land. Siting of facilities in the harbor area to ensure maximum utilization of the limited land area becomes a compelling reality.

For example, a refinery has indicated interest to establish facilities on island. Because of economic reasons, the most feasible site is the harbor area. Locating this facility anywhere in the harbor area will cause great concern both from environmental and social standpoint. A boat building operation is frantically seeking space in the harbor area for its operation. As proximity to the water is paramount; it makes sense to find space; but where?? The logical place is the Marine Railway; however, there isn't enough area for Marine Railway itself. If it's placed anywhere near to the town area, aesthetically it will not complement the existing activities.

The village people are applying tremendous pressure on the Government to relocate the tank farm. This move is economically unfeasible, because the major user of the oil products are the canneries.

Promotion of Transshipment by the American Samoa Government means greater utilization of the Harbor area. There is already pressure to open up alternate port sites to alleviate the pressure on our harbor.

More businesses locating at the Industrial Park and the Tafuna Area threatens the integrity of our well-fields acrifers.

Increase development means more importation of alien labor, hence threatens the political stability of an island.

Blind pursuance of Economic Development can only lead to the destruction of ones valuable resources unless concurrent efforts are invested to ensure that these assets are preserved and managed properly for our future generations.

To succeed in accomplishing this balance, programs designed to create this balance ought to be continued. Unfortunately, priorities have to be set. As pointed out earlier, the limitations on local revenues necessitate continuation of external funding to assure continuity of programs such as COASTAL ZONE MANAGEMENT. If its left to the territories it will not be funded, given the long list of demands made on local resources. For island governments; satisfaction of needs receives most of the attention. As resource management benefits are intangible and accruing mostly to the future generation, it receives very little consideration.

Congress enacted the COASTAL ZONE MANAGEMENT law because it recognizes and has witnessed the adverse effects of blind pursuance of economic development. The United States has gone through the process; we have just only begun.

Tell me how to explain to a family that the filling of the lagoon will rob the future generation of the chance to enjoy its resources when he desperately needs land to build the home, because the ocean waves has eaten most of his land.

Tell me how to explain to the village chiefs that the filling of reefs will destroy the fishing grounds for them and the future generations and enhances the potential of shore erosion when they need land for playgrounds because there is no other land available.

Tell me how to explain to some of the Samoan fishermen that the use of clorox and dynamite for fishing destroy future marine resource stock.

Tell me how to explain to families not to build on steep slopes to avoid pollution because of its impact on marine life, when that is the only land available to build on and it's his land.

Tell me how to explain to villages that placement of the refinery in the harbor is the only option available and its good for the economy when it is obvious the water quality will further deteriorate and the fear of their lives will be a daily burden.

Tell me how to strike a balance between Development and resource management when Federal and Territorial resources are not available.

Our only success lies in a major Public educational and awareness Program.

WE NEED FUNDS TO DO IT ... .

SOIFUA

EXHIBIT IV

GROUPS	PROBLEM/NEEDS	SOLUTION/ASSISTANCE
I	1. Federal Problems . Lack of funding . Flexibility/sensitivity both goals and regulations . Two way communication . Regulations tied to funding . Lack of understanding of condition . Negative impact on local culture . Forced application of federal laws	. Improve communication flow establish liaison offices . Transportation assistance . Evaluate local conditions before assistance thru funds . Work with locals to evaluate impacts of regulations . Establish Pacific Commission on Federal laws, decide which laws and how . Regional operations . Examination of funding approaches. . Travel funding for federal employees - must be available more than once a year . Travel funding for island staff to fed. government centers . Delegation of final regulatory authority to island governments
	2. Demands/problems created by impacts of metopolitan culture on island culture . Self-sufficiency/dependency . Land tenure system	. Redirect funding away from dependency - spur private sector growth . Incorporate traditional and patterns into resource management systems . Cultural organization that serves review function . Extend more assistance to farmers and fisheries coops - tech money assistance (Universities, agencies) . Continue cultural education programs . Must understand where dependencies occur (canned tuna) . Maximize use of existing land resources
	3. Public Education/Involvement . Information on resources . Identification of markets . Need to identify short-term problems . How to solve destructive resource practices . Phase-out of CZM funding . Identification of natural resources . How to develop credible regulations . Need money to train people to administer regulations	. Expand community outreach (schools, small groups) . Increased use of available media with close coordination with village chiefs and elected officials . Know local problems well before attempt education . Use local high school students in gov't intern program . Must describe relationship of resources to lifestyle in meaningful terms

GROUP	PROBLEM/NEEDS	SOLUTION/ASSISTANCE
II	2. Resource Management - as it relates to culture . Maintenance of Natural resources . Public awareness - local and off- island . Increase self-sufficiency . Coastal Zone Management & Land Tenure system . Erosion of reefs & lands . Limitations on local revenue base, dependence of imported foods and fuels . Cultural aspects that conflict with resource management . Extreme pressure for economic development	. Establishment of inter Fed. Agency Task Force . Assist Local Government in Developing Comprehensive Plans
	3. Training Programs for staff . Exposure on and off-islanders to federal programs . Limitations on Manpower Resources . Assuming greater responsibilities from Federal . Lack of involvement of local population in identifying goals and program development	. Specific Identification of Resources Available . Need to know resources before goals & objectives can be developed. . Established Special Management Plans - for areas subject to Economic Development pressures and/or cultural conflicts . Village leaders and Mid Management people should receive a continuing education
III	1. Population Pressures, include immigration	. Land Use planning & Zoning at local level . Family Planning . Review and modification of Immigration laws . Revise Tax Rules re-exemptions . Maintain integrity of cultural Heritage re migration
	2. Coordination of Federal agencies (include the Congress)	. Clarification of role of Office of Territorial & International Affairs (DOI) . Encourage bipartisan cooperation of Territory/ Congress delegations with local leaders . Designation of lead agency within NOAA for Pacific Basin . Continue CZM as coordination mechanism

Note Pg. 29 missing from our book.

GROUPS	PROBLEM/NEEDS	SOLUTION/ASSISTANCE
	3. Manpower Development	. Local training programs using contract personnel . Develop projection of needed skills . Designate & support needed skills . Regional Training using all island locations and PBDC . Educate for specific needed skills and provide that they return
IV	1. Problems: Uniqueness of Island Situation . Inherent changes in individual lifestyle . Federal misconception of island needs . Cultural factors . Loss of traditional means of management and conservation lack of understanding of replacement management . Failure of Federal Program to motivate and pursuade islands to utilize all elements of program . Perception that money is an answer to any problem . Difficulty of administering program in a small society/personnel pressures	GENERAL SOLUTIONS TO PROBLEMS AND NEEDS 1. Improve communication to Washington and within the local community on program objectives and policy implementation. 2. Federal adaptation to accomodate island uniqueness (time frame, level of sophistication, technical assistance constraints, traditional perspective etc.) "Rome wasn't built in a fiscal year! -Pete Galea'i, July 26, 1982 (16:15) 3. Consurrent resolution developed by Conference participants of CZM Coordinators for signature of respective island Governors on unique status and need for Federal adaptation.
	2. Awareness/Knowledge/Education . Lack of community awareness/public education and public participation . Lack of Awareness of accumulative effects . Lack of technical knowledge and lack of emphasis in manpower development on technical training interpretation and implementation . Brain drain lack of higher education opportunity . Does this contribute?	4. Increased program emphasis on public education to enable more public participation in planning. 5. Additional emphasis on incentive programs at the village level (county or local muncipality)

GROUP	PROBLEM/NEEDS
IV	3. Education Administration and Enforcement . Need for Legislative support and Government support . Enforcement of existing rules . Unsuitability of existing regulator and inadequate citizen participation in development . Tendency toward problem avoidance rather than solution.
	4. Perception of Conflict between Economic and Natural Resources . Lack of space for essential needs/sacrafice/ competing needs. . Subjectivity of cost benefit analysis . Direct confrontation between economic development and resource development . Preoccupation with economic development
	5. Inadequate Inventories of Resources and their Uses to Assist in Coastal Management

JULY 27th - SECOND DAY

SUMMARY

Paul Templet commenced on the day's theme on Practical Techniques to manage resources in the Pacific which hinged on the elements so vital to Coastal Zone Resources Management: VIZ:

(1) Dr. Sutter (Exhibit V) discussed cultural ramifications such that cultural obstacles are really opportunities to develop for Economic production.

Brownie Tuiasosopo spoke on Relevancies of Development as an important consideration in Coastal Resources planning and Management.

(2) Management Techniques covered by various speakers including Dr. Arthur Dahl (see Exhibit VI).

Dr. Dahl stressed the disadvantages of coastal Pacific Islands due to their:

- low level of specialization
- lack of scientific institutions
- Inappropriate Technology transfers

Dr. Everett Wingert of University of Hawaii discussed the mapping tool and its importance to planning and information network -- under Coastal Resource Management.

Nancy Tuor - touched on factors which contribute to efficient public facility system, and these are: (Exhibit .X.)

- use of appropriate technology
- maintenance issue
- reliability of technology used
- energy costs and
- resource management objectives

Land Use Planning Complex process by Michael Cruz utilized in Guam is an example of a Comprehensive Planning concept which consolidated the regulatory development activities of Coastal Zone Resource Management.

Ivan Groom - Elaborated on the Uniqueness of adaptation of Coastal Zone Policies and regulation in the implementation of a comprehensive review of impacts on the environment precedent to a non-existence procedure.

With implementation of a Coastal Zone , safe guards and impacts have been identified to be consistent with CZ's local and federal regulation. (See Exhibit VII)

Dick Wass Ph. D. - Office of Marine Resources - presented management efforts of Special Area representatives from the Pacific Island Government under the U. S. Eng . Dick Wass mainly concentrated on the unique status of protection for the Marine Life and the ecological environment that poses a threat to its extinction and preservation of limited resource for the future generations to come. (See Exhibit VIII)

James Maragos PH. D . - Environment and Policy Institute East-West Center - Identified the impacts and ramifications from the past dredging and filling. Dr. Maragos indicated that to this date, questions remain to be answered on the unique status of life supporting growth in one area but depletes in other although the nature of dredging or filling have been very similar in achieving the end product. (Exhibit IX)

EXHIBIT .V.

INTRODUCTION
Dr. Sutter

At the beginning I would like to thank the organizers of the Conference for the work in putting the meeting together and for all the expressions of Samoan hospitality which have been shown. And, I would like to pay my respects to the participants from the Northern Marianas, Guam, Hawaii and the Mainland as well, to especially thank our hosts from American Samoa.

At the outset, I would like to make two apologies. The first is to the women of the conference . It seems that I still feel more comfortable using the masuline pronoun-so in my examples when I refer to men, please be assured that I am referring to both men and women. Secondly, while my examples are primarily drawn from Samoa they are meant to strike a chord of familiarity in the other participants. Finally rather than refer to a foreigner as an American or European I will use the Samoan expression PALAGI.

My talk which will be brief is divided into four parts.

1. A short description of the Palagi culture its roots and some of its values;

2. Followed by a description of an island culture, specifically Samoa, and what its roots and traditional values are.

3. With that juxtaposition I will offer some examples of cross cultural problems that exist when two cultures meet and how within the structure of the problems there are cultural opportunities, possible solutions.

4. Finally I will briefly outline an approach to sorting out cross cultural problems and hope that at the conclusion the participants will participate by sharing some examples they have had and where possible, give some solutions they've experienced.

CULTURAL OBSTACLES AND WESTERN MANAGEMENT by Dr. Sutter

I have thought a long time about this topic and it seems to me that we had better have a closer look at what we mean by cultural obstacles and Western Management. As I understand the topic, we are faced with the interface between two cultures each adapted to different environments, each having developed its own values and priorities.

Western or Palagi culture and by this I mean the culture which developed in Northern Europe and moved across the Atlantic. That culture has its own goals, motivations and approaches to life. Deeply imbedded in its foundation is a focus on the individual and the belief that he is the basic unit of society and is responsible for his destiny.

In the temperate climate where this culture arose nature dictated the necessity of producing in 3 to 6 months all that would be needed for the other half of the year. The rigors of that environment required a whole series of technological developments for survival. Anyone who has experienced a northern European or North American winter can understand why those inhabitants are the ancestors of all time and motion experts. Since man couldn't lengthen the growing season, he intensified and streamlined what he could do during the limited time he had. He made one invention after the other to multiply what he could extract from his gardens, developing innumerable ways to preserve the produce. It became evident that some people were able to produce more than they could consume. This they bartered with others who were skilled at other tasks. It was an unwieldly process and didn't always solve the problem. In time money has introduced. It could be used in payment for goods, labor, whatever. In a sense it was the ultimate preservative. One's produce, labor skills, possessions all could be converted to money.

If you produced enough cash you could cease working altogether if that was your desire. By the conversion of goods and services to money the Palagi; found his solution to the seasons of life. One could in the Spring-time and summer of youth and adulthood produce enough, earn enough money so that in the Winter of old age or illness there would be sufficient to see one through.

With the tremendous success of production that resulted from the labor saving devices the Palagi invested, fewer and fewer people were needed to produce a given amount. A large family became a liability not an asset. Searching for the job which paid the best required frequent movement. More distant relational ties were difficult to maintain and were unnecessary for with sufficient income one could theoretically support himself in his old age. Especially with the many labor saving devices a family of 3 or 5 could manage what previously required 6 or 7.

Thousands of miles throughout the Pacific were groups of islands. Year round the climate was warm, the rainfall ample, the soil fertile and the seas abundant. There was no great need for a technology for harvesting the sea or gathering the fruits of the land.

Given the food resources that were readily at hand, the people pushed their technology as far as they needed it to go. They turned their attention to producing a remarkable cultural and sociological technology. They developed what for them was their ultimate preservative, it was called "care and share". Aside from a few breadfruit pits little could be done to preserve food against shortage. One could only consume so much. A surplus couldn't be preserved in the ordinary sense of the word.

The Palagi developed money as his preservative and capital accumulation as his economic generator. The Pacific Islander - the Samoan, took another route, his was sociological accumulation. A bank account of reciprocal relationships that he developed to a very high degree.

In Samoa, the basic unit of society was, and is, the family, not the individual. One's strength comes from being a member of a large and extended family. A member in the same sense that an arm is a member of the body and increases its strength because of its connection to the torso.

Within the Palagi family, a major strength, a major resource is the capital, and the possessions it accumulates. For the Samoan, the major resource is the network of mutual obligations that he creates and embroiders with other family members. A large and extended family is tied together even more closely by the adoption of relatives. A brother will give one of his children to his sister or a young family will give their parents a child to raise. On this particular point the different approaches of the two cultures is clearly illuminated. In the West, and by that I am specifically referred to mainland America, adoption absolutely separates the biological and adoptive parents. There are innumerable percautions to ensure that neither knows who the other is. Until quite recently it was virtually impossible for an adopted child to find out who its biological parents were. In Samoa adoption is quite the opposite it is not a means of cutting ties but of adding to relationships. The adopted child doesn't lose one set of parents but gains two. It is interesting to note that the first time that the 4 high titles of Western Samoa were held by a single person that person was an adopted child. She was able to bring it off for she could draw on the resources of her adoptive parents and their extended families as well as her biological parents and their relatives.

It is the large extended family and the opportunity it affords for innumerable reciprocities that provides the Samoan with his sociological bank account. "E pala le ma'a ae le pala le upu". "Stones rot but words (and I might add deeds) last forever". An American works hard converting labour to cash which he can redeem when he purchases a piece of land, builds a house or retires. In traditional Samoan culture, there was no cash. In a very real sense, the Samoans bank account is the contribution he makes to relatives in their time of need. Building a house, assuming a

title, the formalization of a marriage are all events for which the family pulls together and lends its support.

These occassions and the opportunities they provide for sociological bank deposits are far from a waste of time. Beyond the inherent pleasures inherent in a feast or celebration each event provides an opportunity for everyone to assess their support system, to learn who they are related to and who they can count on when they need help. This alone gives a Samoan a tremendous feeling of self worth and strength.

The support system starts at birth. The new infant is fondled and fostered by a semmingly endless supply of relatives. He is almost constantly carried a method of socialization which conveys the message that he is part of a very large group which will literally support him. He is almost never left alone. A child reared with the almost continuous attendance of others develops a strong sense of security. Within this framework, he comes to identify not only with his biological parents but also with the many relatives who nurture and care for him.

In Samoa, where the members of a household function as a group a very important virtue is the ability to share; the sharing of privacy, sharing of possessions sharing ones self-determination by functioning obediently for the good of the family, are all necessary.

A child who fails to share is criticized. The virtue of sharing is imbedded in the language itself; to eat alone is to be greedy and not to share is to be without love. A pastor elaborated on this theme while discussion his own upbringing.

As a child he caught a turtle which he kept tied in the lagoon and fed for years. His father noticed his son's delight and attention to his possession and used this as the basis for a never-to-be forgotten lesson. One day, the father announced that the time had come to kill the turtle and share it with the village for there was an impending feast. Attaching one's self to a material item or the buttressing of self by the possession of personal property is discouraged. People and one's connection to them is much more important. Property is to be shared. Within the traditional framework land is not owned, it is a trust passed on to future generations. It is not a commodity that can be converted to cash and disippated. No Samoan is landless. Whether he exercise his rights or not he knows that he still has rights in family land. Even a Samoan living in the middle of Los Angeles has this knowledge and can draw strength from it.

Traditionally a child was socialized to be communal in his outlook and behavior. He demonstrated his closeness to others by literally staying in touch through frequent physical contact, by announcing what he is doing or about to do, by laughing at himself with others for his mistakes or clumsiness, by sharing, imitating, echoing orders, acting for an adult by

enforcing appropriate behavior, cooperating or volunteering without being told what needs to be done. His socialization emphasizes the family and its needs. This type of upbringing produces a child who acts as an integral member of his family helping it to function successfully.

It is not in the individual and his possessions where a families strength is found but in the interconnection, the network of mutual dependence, obligation and support between members of the extended family where strength lies. In the traditional culture,having a possession wasn't the goal. It was by the act of sharing that possession, giving it away that value and strength lies. In the traditional culture having a possession wasn't the goal. It was by the act of sharing that possession, giving it away that value and strength were produced. It is that act which validates and re-enforces relationships. The most valuable material possession in Samoa is a truly fine, fine mat. The mat itself has no intrinsic value. It isn't hung on the wall or displayed in any way. Fine mats for the most part are hidden under mattresses or stored in a chest until used. And what is the use? Its use is to give it away to support a relative who needs it for the validation of his title, as part of his payment for a new house or whatever. From the preceding it is obvious that there are some very basic differences in the way a Westerner and a Samoan look at life and what each considers important. For a Samoan his culture, religion and his family with its whole network of relationships is what gives purpose, meaning, and direction to life. Where the two cultures interface the values of one often appear as obstacles to the other.

But what appear to be obstacles, when viewed thru the values of another culture might in fact represent opportunities. Opportunities to pursue a new course of action which may well prove to be more productive and satisfying for everyone.

An area of concern results from the different behaviors and goals generated by individually and family oriented societies. America is basically an individually focussed culture. We put great stock in the man who did it on his own. The lyrics of a popular song are "I did it my way". But there are enormous strengths to be found in a communally oriented system a social system which values a large and extended family. Whether we see a glass as half empty or half full depends on our orientation..

Instead of seeing such a social system as a problem, why not try to see the full part of the glass?

On the flight coming down from Honolulu, I had the good fortune to sit next to a Samoan gentleman who owns a small canning factory. He pointed out that for a long time he had a real problem with his workers - either they came late or more frequently they didn't show up at all. He was unable to meet production quotas and his whole project was going under. In desperation he turned to his major resource - his extended family. Each morning rather than waiting for people to show up, he sent his pickup around and collected the relatives who had started working in the factory. He said that in that way he was sure they were coming and he found that they really enjoyed coming together. Unlike the previous workers they feel

a real committment to him and he to them. I suppose such a hiring practice can be viewed as nepotism - a word which sets off all kinds of alarms in a Palagi head, but in this case such would literally be an unproductive viewpoint.

On a relatively small island with an intimate culture an individual might have a problem balancing a need of his family with a deadline for a report. Rather than anatagonize or be disrespectful to someone whom he needs to honor, someone whose relationship is important to him and his family, it might be necessary to delay completing a report, if he has a family obligation. Compared to the anger of someone in Washington, who he has never met and with whom he has no relationship-fulfilling his obligation to a close personal friend or relative with whom he has to interact on a daily basis will most likely win out. This can be seen as a cultural obstacle. I think its a cultural reality which again has the potential of a cultural asset.

Perhaps if when a Palagi visits the island if he takes the time to get to really know who he is interacting with. Get to know him in the very real sense of meeting the man's family, he might find that rather than let him down his Samoan counterpart or project worker might bend over backwards to insure success where there is a human relationship.

I think all too frequently we have a problem about becoming involved - we want it all very "clean" - I put that in quotation marks - we're afraid that we are going to be taken advantage of. When I taught in Samoa, I found that when I accepted a student's invitation to visit his home, even staying for the weekend, or during a long holiday, that a real bond developed between us and that I wasn't taken advantage of. Quite to the contrary, I was accorded the kind of respect and support which is given to members of the extended family.

At times a criticism levelled against the nurses and their work is that they lavish care on relatives and too often give other patients indifferent attention. If we can look at this Behavior as an opportunity rather than an obstacle and focus on the exemplary nursing care given to relatives perhaps we can devise a training system and method of supervision which will encourage nurses to sublimate their concern for their relatives well-being and try to see other patient in the same light. The point I am making is that there are real positive cultural behaviors that can serve as models.

I lived for 4 years in Sri Lanka, the island previously called Ceylon which lies below India. The problem with nursing care there was that there was no culturally sanctioned pattern of compassionate attentive care. Sri Lanka is primarily a Bhuddist nation. There is a religious and philosophical orientation of accepting ones destiny. Relief of suffering is not a primary concern. On the contrary there is a tendency not to interfere with what is seen as an individual's Karma or destiny.

If an individual is suffering now it is because of some action in a previous existence. Unduly relieving his suffering isn't really helping his spiritual profession. In that setting, without an indigenous model for concerned nursing care trying to improve, nursing is very difficult.

In a communal or semi-communal society collective responsibility is a reality. For the Palagi dealing with people who are more than individuals, can be a complicated matter for each person is part of an intricate network of social and cultural ties. But these same functioning kinship ties also absolve society of having to provide a whole range of services-from orphanages to old peoples homes.

Samoans, and I also refer to Micronesians, think alot about their families. There are very strong bonds and loyalties. Why not utilize these characteristics and use an island culture, Samoa, for a pilot project for home care. Families frequently prefer to have their elderly at home rather than in the hospital. It would be cheaper and more satisfying for both the patient and his family if support were provided to do that. Of course there would have to be a system of checks and balances and rules that are explained and enforced but it is an opportunity to convert an obstacle into an asset.

Such an innovative possibility leads into the area of Federal programming. At times, there seen to be many problems with Federal programs. Some of the problems however, may not be with the culture so much as with the scope, size, or flexibility of the programs. It might very well be that some of the less well functioning programs aren't suited to an island with a small population but were designed for a larger society with an extensive infrastructure.

But that is a whole other issue or is it? Perhaps now with the new federalism there is the real possibility of adapting programs to local conditions.

An area which is repeatedly given as a barrier to productive management in the Pacific is the whole concept of traditional land tenure. Communal ownership of land is seen as an obstacle to be overcome. If it were, only all freehold runs the litasy.

There are innovative examples of managing communal land--wedding it to Western commercial ventures. At a recent Pacific Island Conference at the East-West Center in Honolulu, Dr. Salato of Fiji described how an extended family on a particular island negotiated a lease with a hotel corporation which not only brought in rent but acknowledged their unique relationship to their land, a relationship far beyond a mere monetary interest. Under the agreement negotiated first priority for hiring as well as training for managerial positions is given to the family members wherever possible. In this way the people's interest in their land is not simply converted into cash payments but continues to supply a whole spectrum of meaningful satisfactions.

It is interesting to note that in areas in the States where land is at a permium and the population dense American culture has moved towards a communal system of land tenure as a viable solution. I live in another American Paradise of the Pacific-Hawaii. The relatively new and highly successful system of land tenure and the one that makes it possible for landless native like myself to own a house and land is the condominium concept. I have a townhouse and share ownership in 7 acres of common grounds with 220 other owners. This is an advanced concept of land tenure in Hawaii-elements of it have existed in the islands for centuries.

The point I have been trying to make is that whether or not a particular cultural trait is seen as an obstacle depends on who is looking at it and the value system from which it is being judged. Today in Asia, according to a Cornell study, there are between 200 and 250 million landless, there is no one in Samoa who doesn't have an interest and rights to land.

In conclusion, I would like to outline an approach to sorting out some solutions to cross-cultural problems and hope that the participants at the conference will take this opportunity to participate with examples drawn from their own experience-examples of cross cultural problems they've had and where possible to give solutions they've experienced. In going thru the steps look for cultural opportunities and the ways that cultural strengths can be utilized.

1. In a real working session each side identifies their basic premises, and major values. This is usually a written exercise-we will be satisfied to go through the process in our imaginations.

2. Each side then articulates their purposes in the particular project, what they want the outcome to be. Perhaps it is a way of taking care of the elderly, or handicapped.

3. Each side puts down all the ways of trying to accomplish this which is within their experience. Again referring to the example of care for the elderly or handicapped the Samoan might say "We take care of our family at home-someone in the family brings them their meals etc." The Westerner acknowledges the small size of his family and the necessity for both parents to work his solution is to find an institution.

4. Each side then chooses the best way to handle that situation and are clear about what they will try and what they will not try at all.

5. Finally, they agree ahead of time when to review and reassess the results and what to do from there on.

I hope these few remarks have generated some thoughts which will be helpful in dealing with cultural obstacles. These are cultural obstacles but there are also many cultural opportunities.

PRACTICAL MANAGEMENT OF LIMITED RESOURCES by Arthur Lyon Dahl
Regional Ecological Adviser - South Pacific Commission

The Pacific Islands region is unique in the world for the large size of the ocean area, the many islands within that area, and the small population (about 5 million people) divided among 22 countries and territories.

THE ISLAND SYSTEM

Islands have inherent characteristcs that make them very different from continental areas. Their small size gives them a high coastal zone to area ratio (comparable to a surface: volume ratio), and infact the entire islands are generally considered coastal zones. Island resources are inherently limited and are therefore particularly vulnerable both to development projects and to natural disasters. Even a small impact can involved a significant percentage at a resource. Some resources such as reef fisheries may already have been exploited at or near their sustainable limit even under traditional subsistence use. In such cases, an attempt to develop the resource will depress some other use or simply degrade the resource.

Islands suffer from isolation, which contributes to the biological uniqueness, but which creates many difficulties for management. The advantage of this isolation is that the surrounding ocean and air can be considered as relatively unlimited resources. The biological populations of islands reflect the principles of island biography, with immigrations and extinctions related to island size and the distance from other land areas. The initially reduced fauna and flora can lead to rapid specation and the development of endamic forms, producing distinctive terrestrial communities. There is, however, a frequent loss of competitiveness which leaves many species vulnerable to more aggressive species often introduced by man. In contrast to terrrestiral species, marine species tend to be more widely distributed.

The Regional Ecosystems Survey[1] estimated that these are about 2000 ecosystem types in the 20 biogeographic provinces of the South Pacific and Micronesia.

The small size of the island system means that there are frequent interactions between the different parts because of the spatical proximity. Fish may migrate all around the island. Seabirds may recyle nutrients from sea to land areas. Outbreaks of the crown-of-thorns starfish, Acanthaster, may be related to heavy run-off of nutrients from the land. Coral reefs can build coastlines and protect from erosion, but since reefs are themselves the product of biological activity, they can easily be disturbed or degraded by activities on the land and in coastal waters.

The fact that the Pacific Islands are in the tropics further distinguishes them from temperate continental areas and makes the application of temperate standards more difficult. Ecosystem such as the tropical forest and coral reefs are ancient and highly evolved, with high levels of complexity and species interaction. Where temperate marine organisms may be able to tolerate a slight increase in temperature, tropical marine life may be living

very close to upper lethal temperature limits.

MANAGEMENT PROBLEMS IN ISLAND AREAS

The small scale and isolation of island territories create serious disadvantages for the establishment of resource management programs. Staffs are so small that it is not possible to develop much specialist expertise, and managers must be generalists able to synthesize many kinds of information. There is in general a lack of local scientific institutions and other sources of information. This means that the territories are dependent on outside expertise, but such expertise is too often inappropriate, and experience does not accumulate locally.

Island government offices have very limited man-power, and are easily overloaded by detailed and on workable requirements, reports, and visits which leave no time for substantive action. Administrative procedures and requirements need to be scaled down to the size of the executing office, where several levels of administration in a large government may be reduced to a single person. The operation of small offices is much more vulnerable to staff turn-over and absences on leave, when work may come to a halt, or have to short all over. The sectoral approach to government is less effective on islands because of the close inter relation of government activities and weakness in other government services. Even basic service cannot always be assured in the island context.

Another problem is the difficulty in scaling down technology to the size of island needs. Certain waste treatment technologies, for instance, may be neither available nor cost-effective for the requirements of small island communities. The remoteness of islands and their lack of local maintenance skills also limit the types of technology which can be effectively and reliably operated.

PRACTICAL RESOURCE MANAGEMENT APPROACHES

The following guidelines may help to design resource and coastal zone management approaches suited to island conditions.

- Administrative requirements and procedures should be simplified and minimized to leave local personnel free for substantive actions.

- Data collecting techniques need to be simple and adapted to the level of locally-available manpower. The Coral Reef Monitoring Handbook[2] is an example of such an approach.

- Planning techniques and decision-making procedures must also suit island cultural conditions. Information must be presented in forms which island decision-makers can understand.

- Technology and equipment should be appropriate to tropical island conditions and the limited maintenance capability.

- Islands should have ready access to appropriate outside expertise and technical assistance, with emphasis on continuity of advise and an understanding of island cultures and special conditions.

- Responsibility and decision-making should be decentralized as far as possible to the village level within the framework of territorial plans and priorities. Pacific Island peoples were traditionally responsible for the management of their resources, and this responsibility should be reinforced rather than transferred to government. Local people are in the best position to observe resource changes and to respond to them.

- Public education is therefore an important management approach, and is infact more practical with small island populations.

In the Pacific, the island countries and territories have recognized that they have a common environment and experiences, and have developed regional approach to their environment and resource management problems through the South Pacific Regional Environment Programme, one of the UNEP Regional Seas Programmes, which is executed through the South Pacifi Commission[3]. The programme will improve island government access to and analysis of environmental information, and is facilitating exchanges of experience and expert between islands. These are publications and educational materials suited to the region and organises training courses. This developing regional activities in coastal ecosystem conservation and management, pesticide and fertilizer impacts on islands, oil spill contingency planning, strengthening traditional resource management, and other areas. These regional activities can reinforce national and territorial action in coastal resource management.

REFERENCE

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NATIONAL MARINE SANCTUARY PROGRAM PACIFIC ISLANDS by Richard C. Wass

The 1972 Marine Protection, Research and Sanctuaries Act authorizes the destination of national marine sanctuaries for the purpose of preserving or restoring their conservation, recreational, ecological and esthetic values. The goals of the sanctuary program are:

- Enhance resource protection through the implementation of comprehensive, long-term management plans tailored to the specific resources.

- Provide the optimum compatible public and private use of these special marine areas.

- Enhance public awareness, understanding, and wise use of the marine environment through interpretive and recreational programs.

- Promote and coordinate research to expand scientific knowledge of significant marine resources, and improve management decision-making.

Two major changes have been made within the program since its inception. Eight regional resource evaluation teams have been established to nominate potential sanctuary sites through objective evaluation based on the merits of the resources, the human use values and the public benefits to be derived from sanctuary status. NOAA selects active candidates for sanctuary status from the lists submitted by these teams rather than from the old List of Recommended Areas which included sites nominated by a variety of sources. The second change involves the development of the site specific Management Plan during the EIS phase as opposed to preparing the Plan following designation as a National Sanctuary. This change allows a more thorough discussion and analysis of the implications of sanctuary designation during the public review process.

Two sites within the Western Pacific are currently being considered by NOAA as active candidates for sanctuary designation -- a Humpback Whale Sanctuary within the Hawaiian Islands and Fagatele Bay in American Samoa. Seven other areas within the region are currently receiving preliminary consideration by the Western Pacific Resource Evaluation Team for placement on the list of recommended sites to be submitted to NBAA. The team will meet again in September to consider public comments regarding their preliminary recommendations and additional sites nominated by the public. At this time about three sites will be selected and recommended to NOAA for further consideration.

DREDGING, FILLING & LANDCLEARING by Dr. James E. Maragos, Fellow East-West Environment and Policy Institute

Most dredging and filling in tropical Pacific resulted from World War II construction, development of transportation facilities, and urban development. Landclearing from urban and agricultural development has also caused soil erosion. Collectively, filling, dredging and land clearing have resulted in sedimentation, destruction of habitat, water quality problems, shoreline erosion, and possibly ciguatera fish poisoning. Wetlands, mangroves, beaches and coral reefs are some of the valuable econosystems that have been adversely affected.

Dredging, filling and landclearing are to some extent necessary activities to promote public facility and economic development. However, coastal zone management can assist in the reduction or elimination of impacts from these activities. Some of the specific actions that can be taken to minimize the impact include the following:

1) Avoid the use of coastal sources of construction materials if suitable upland sources are available.

2) Inventory coastal resources and their uses so that necessary dredging and filling sites can avoid valuable resources.

3) Utilize dredging and filling procedures that minimize sedimentation and confine the area of impact (e.g., berms, sheetpiling, armor rock around dredge and fill sites)

4) Promote the use of culverts, trestles, and pilings instead of fill causeways in order to avoid disruption of water quality and circulation and loss of aquatic habitat.

5) Replant cleared lands or utilize other techniques to control soil erosion and sedimentation.

6) Employ better road and landfill designs to avoid the need for costly repairs and additional construction materials.

7) Minimize the need for dredging and filling by careful consideration of alternative sites, measures, and minimize the size of project dimensions.

8) Locate projects such as airfields at upland sites if they don't require coastal siting.

PHYSICAL INFRASTRUCTURE DEVELOPMENT by Nancy R. Tuor - CH2M Hill

Infrastructure development, that is the construction of major public facilities such as power, sewer and water, is one of the first significant steps in change. While building public facilities won't make economic development happen, in many areas you can't have economic growth without adequate, reliable public facilities.

In many instances you will be looking off-island for both funding and technical assistance. It seems to me there are some actions you can take to assure that you get what you need and want -- not what a federal agency or project designer think you need.

Public facilities can meet many needs:

Public health --- clean water
Public Safety - fire protection
Public Convenience -- roads, power
Economic Development -- support to businesses, transportation links, etc.

In order to build facilities that are truly worth the large sums you pay for them, you must be clear about your objectives. What are you really trying to accomplish:

-- trying to meet current local demand
-- trying to meet future local demand
-- to accomodate new business, tourists or other economic objectives.

What you want to achieve will be instrumental in determining what you need. If you clearly understand what objectives are, your negotiations with funding sources and designers will be more productive. Hopefully you will also be in a better position to require flexibility in federal programs and regulations if you are armed with that information.

There are a number of issues related to public facilities development that I would like to discuss for your consideration. The first of which is the use of appropriate technology. In most areas of public facilities, with the possible exception of power, the technology exists to meet the needs.

The question is how effective are we in tayloring the technology to meet the needs. In many instances in developing areas you don't need advanced technology to solve the problem. Unfortunately, advanced systems have been built needlessly because high tech design took precedence over real needs.

It is important to solve the problems at hand without over building the solution. I'm not suggesting that you discourage innovation, just be sure that it is really necessary.

Along the same line we must ensure that the system that is built is one that can be maintained. This is particularly true in island communities where access to spare parts and trained repair people may be limited. Good design will place significant emphasis on realistic operation and maintenance of the facility. In some areas you must build complicated systems to meet your objectives. In Maui, for example, water quality concerns required the construction of advanced waste treatment systems. Maui went from limited treatment to 3 tertiary treatment plants within 5 years. That was too fast for local government to acquire skills to maintain the facilities. The solution was to hire a firm with training capabilities to maintain the facility while they were training local technicians. One of the objectives of the contract is to phase out the dependence on outside management once trained local technicians are available.

When creating public facilities plans, it is also important to understand your reliability factor. How reliable does the system need to be? This can have significant impacts on cost. In some areas you may not need a power or water supply that is in full operation 24 hours a day. However, if you are trying to meet objectives other than local service -- objectives such as economic d development -- you will need increased reliability of service to attract the growth that you want.

Energy costs are a significant factor that must be evaluated in your review of alternatives because they are a long - term price that you will be left with. In many island communities, energy cost has become the single most important factor in choosing one type of sewage treatment over another.

Lastly, you should try where possible to tie together resource management objectives and public facilities development. Public facilities construction can be first significant step in economic development. As such it sets the stage for change. In order to maximize resource management goals you may want to ask two questions when you set up public facilities projects:

-- does the actual construction and operation minimize impacts on island resources, and if possible, does it enhance resource management objectives, and

-- have we adequately considered the costs (financial, cultural political) of the change that will results from these new public facilities.

The answers to these questions should help you build the public facilities that you need, while furthering your long range resource management goals.

(1) THEME INTRODUCTION - Jerry Norris, PBDC

'How the Federal Government can Assist Pacific Island Governments'

. Summarized 1st and 2nd days of Conference as indicated in Summaries of Monday and Tuesday respectively.

. Need Resolution to Federal Government of where we go from here.

(2) James Beirne - Washington, D. C. on Senate Energy and National Resources Committee

SUMMARY

. Political and Financial Relationship with Federal Government;

. Scope of authorities is comprehensive;

. Social/cultural resources and scarce limited natural resources;

. CZM Planning is Comprehensive Planning;

. Comprehensive Planning is the essence of Federal Government policy, and justification of needs;

. On Financial side, Flag territories are categorized as extremely dependable on Federal transfer payments - both direct and indirect.

. Level of local governmental revenues which are derived from transfer payments varies from:

- 60% for Virgin Island
- 93+% for Trust Territories
- American Samoa the Entire Budget goes annually to Congress for yearly appropriation
- CMNI similar to American Samoa
- Guam & Virgin Island receive transfer payments indirectly local taxes derive from given Federal Taxes.

(3) HOUSING URBAN DEVELOPMENT by Claire Freeman -
Assistant Secretary - HUD

I THEME - WHAT CAN THE FEDERAL GOVERNMENT DO?

. Before getting into what I think we can do in regard helping to plan and train/state and Flag Territories personnel.

Run down on what is currently going on at HUD

1. Current
2. New
3. Inter-agency TA

II HUD - NOW

Eligible Activities - UDAG - New Housing, Public/Private jobs

$3.4 billion - CDBG) Define
$500 million - UDAG) greatest economic development tool

Will continue funding level through '84 -

*Insular Areas & Trust Territories Secretary's Descretionary Fund

$8-10 million Total

*Guam historically gets bulk - WHY? - Because they spend it all and spend it well.

-HUD success criteria - draw down rate.

*Guam has applied for UDAG -

We feel other Insular areas should be eligible -

*Constraints' - land tenure sys-private money - bantable COLLATERAL -

*But hotels popular - successful UDAGs - Job creation - private capital - Goodanchor

-Federal agencies looking to deregulate

-CPD proposed to Sec't to waive C.P. & E.V. for certain insular areas .. no go

-PHA - waive insulation requirements and other non-safety related activities.

III. NEW INITIATION

Enterprise Zones - Basic Concept

All stops out - mini Hong Kongs - purpose to create jobs and redev. & reutilize

. Hearings being held - moving slowly *held up in Ways and Means and Finance

* Major Controvercial issues -

. up front set aside for job training

- up front start up capital

-Admin Wants Clean bill - leave off site training to states and localities - concentrate on -

ON JOB TRAINING through

Tax incentives to employers and wage earners - 10% tax credit for wages paid to new employees

5% income tax credit to employees in EZ Area.

*On Job more valuable no placement problems Upfront capitol ques.

1. CURRENT FED'L PROGRAMS CDBG, UDAG, EDA-CDC

IRB - will continue in EZ even if - expensing concept -

being negotiated as upfront capitol basically int. free gov't loan -

Person is 50% tax Bracket - 100,000 Buys $10,000 stock in EZ Business -

Can deduct 10,000 from ordinary income from taxes

Must add to ordinary income if sells

IV STATES - 12 have passed

Kansas - 50% income tax credit for employees

No state sales tax -

Mission - 50% income tax credit

Credit of $400 of each new employee

Investment tax credit at least 16 states with legislation pending -

V NEW EFFORTS

Comforting that working group Monday -

Comprehensive planning and Training or TA as major solutions.

-March - My staff - developing TA alternations with Calvin Lew and Jim Shumar - Need to inventory range and types of needs.

Problems

Remoteness, Communal land laws - lumping to get by Bureaucrates - not looked at us individual culture

Looking to build inter agency TA Plan that focuses on -

-Coordination
-Capacity building
-Regulation reform informal meetings on going

SUMMARY

-HUD is assisting Insular Areas in a small way-

-FED can be leveraged with other agencies for maximum. Congratulate Joe and the Economic Development staff and CZM staff for creatively linking Planning CZM and Impt. CDBG like CZM and CDBG example - work with Jim Beirne back in D.C. to work out Cong. problems.

- Need to over come - Out of sight out of mind syndrome - more direct contact with secretaries from Governors & Congressional representatives -

- Would like to encourage Pacific Basin Territories - State of Hawaii to work together as a coalition to gain more attention and thus seek funds from federal agencies.

4. PETER MALONE ON FISHERIES DEVELOPMENT

° Such of the conference to date has focused on the problems of:

1. limited resources that are available to Pacific Island communities for economic development

2. managing these limited resources to meet present and future needs

° Recognizing that the resources available on land are limited the natural tendency is to look to the oceans where further opportunities for economic development can be found - particularly in the fisheries resources of the region.

° Although plentiful, these resources are not unlimited as experiences elsewhere have demonstrated.

° As with all growth industries in an island community, the development of offshore fisheries resources will make demands on the use of coastal areas for such purposes as - vessel support facilities, fisheries docks, fuel facilities, ice and cold storage facilities, marketing outlets, processing facilities, etc.

° Each island area will have to make some very difficult decisions with respect to the direction and magnitude it wants to encourage fisheries development.

For example:

1. To what extent are the islands willing to dedicate specific use of coastal areas for fisheries support?

2. What level of environmental degradation is acceptable to the community from shoreside fish processing, increased vessel traffic, shoreside fueling facilities, etc.?

3. What are the acceptable social and cultural impacts of an expanded fishing industry?

4. What is an acceptable level of exploitation of the fisheries resource itself?

And there are others.

- In general terms, nearshore and reef fisheries are now being utilized to their maximum such that commercial development of any kind is not practical. Goal should be to manage these resources to allow continued use for traditional and subsistence purposes.

- In most cases development potential can be found in the offshore pelagic fisheries - primarily tuna.

- Will not go into an in-depth discussion of the fisheries development potential for the islands since this has been the subject of an ongoing planning project of the PBDC to identify.

    1. opportunities for development of a variety of fish species
    2. constraints to developing these fisheries
    3. steps needed to overcome these constraints

- Understand that each of the island Governors has reviewed these plans and signed off on their respective island plans with the exception of Governor Tenorio who is expected to approve the CNMI plan in the very near future.

- Plans will also identify the desired roles of the island governments, the Federal Government, private sector and various regional organizations to implement these plans.

- The role of the Federal Government in all economic development activities is undergoing major changes under the Reagen Administration.

- In recent years much of the Federal effort to develop fisheries in the Pacific islands has been through the funding of various development projects - e.g. FADs, fishermen's training programs, exploratory fishing surveys, A&E design of fishery support facilities, fisheries marketing assistance and others.

- As with all funding programs there has been successes and failures.

- This approach to fisheries development has been proposed for phase out in the Administration's current budget plans. The Saltonstall-Kennedy funding program and the fisheries grant-in-aid programs to State and Territorial governments have been identified for zero funding. Last year Congress reinstated partial funding for each of these programs but has yet to act on funding for the next fiscal year.

- There is a new initiative under way which is directly related to the theme of this conference (unique island status) and which addresses a concern that has been expressed a number of times in our discussion groups and before the group as a whole.

- Island fisheries interests have long argued that there are a large number of Federal laws and regulations that are either inappropriate or unresponsible to the special needs and conditions of island fisheries.

- Accordingly, the NMFS has agreed to establish a task force to review Federal laws and regulations and to develop a package of legislative amendments to remove legal impediments to fisheries development in the Pacific islands.

- This project is consistent with the overall thrust of the Reagen Administration to eliminate Federal laws and regulations that hinder economic growth.

- The task force will be comprised of 3 members - Robin Waxman, Assistant to the Director; Doyle Gates, Administrator of Western Pacific Programs, and Jay Johnson, General Counsel for fisheries.

- Meetings will be held in each of the island areas to obtain direct input from island representatives on specific issues of concern. Likely that this effort will require time and energy on part of island planners in attendance at this conference.

- Project was presented and explained to the Governors at the last meeting of the PBDC in Honolulu. Particular concern is that Federal laws may affect each island differently. Thus, proposed changes in the law should consider the likely impacts of such changes on each island area.

- We had originally planned to begin our review project at this time, however, as we began the process of coordinating this effort with other agencies in Washington, D. C., we found out that a very similar project was already under way at the Department of the Interior.

- After several meetings between Interior and NOAA officials it was agreed that a combined approach to coordinate these two efforts would be most effective.

- As Robin (Waxman) was very close to these discussions back in Washington, I'll ask her to fill you in on the background of this arrangement and the schedule we have worked out to pursue this project in the fall.

(5) JAMES MURLEY - OCZM

. CZM Funds can be used as matching tool.

. NOAA New Organization

. SPC role on Coastal Zone Management

. Continue with Existing Program - CZM & Marine Sanctuary

CZM Merge with ORM

Ocean Resource Managment

- Continuity in providing assistance under 3 different statute
- Increase tech role to exist program
- Management of Activities in method areas.
- Arrange Visual Means
- Count to moderate Fed. Consist with Fed. Govt. receives from outer Cont. Shelf to all C. states and Territories
- Minimum Sharing for App. CZM

CHANGES

- Increase tech. Assistance
- Fed. Consistency - sharing the proper implementation of Fed. Consist. Agency
- Agency for Int. Develop. - Transfer experience to CRM, C. States and Territorial to other Coastal country.

(6) JIM HATASHIMA - CORPS OF ENGINEERS, HI

I am going to give an overview of the Civil Works Program. Corps of Engineers gets involve in planning and constructing boat harbors,beach erosion, shoreline erosion, and flood control projects. Section 107 takes care navigation projects, Section 103 takes care beach erosion/shoreline erosion, and Section 205 takes care flood control projects. All these projects involve the Coastal Zone and we comply with the local objectives and goals of the CZM. We issue permits for any activities in the navigateable waters of the United States. Before we issue permits, we make sure that the applicant has met the local CZM program.

Comprehensive studies in Hawaii on the Island of Oahu, we have completed Kaneohe Bay Study, completed American Samoa Water Resources Study.

On the big island of Hawaii, we have an on-going Hilo Comprehensive Study.

- Guam Comprehensive Study
- CNM as soon as authorized
- Name studies completed under CZM

Technical capabilities:

- We have section 22 planning assistant to the states.

Under section 55, we can provide technical assistance.

We conduct flood hazard study to delineate flood prone areas.

Also, under the Federal Insurance Administration, we are conducting Guam typhoon surge study. We have conducted tsunami predictation elevation study for American Samoa.

We have the capability to write EA & EIS.

CONFERENCE S UMMARY

by JOSEPH M. PEREIRA

1. We have heard from Islands representatives on their efforts in trying to manage their coastal resources, and the unique island condition's which have exacerbated these efforts.

2. We have heard and acknowledged that the satisfaction of the economic need of island residents will also be the first priority of only island country.

   This trend will continue to apply pressure on hapzard exploitation of our natural resources. The potential of over exploitation is becoming more acute as our economic short-comings become more pronounced with dwindling federal support, high interest rates, inflation, and our internal limited financial resources.

3. We have ventured to identify forces applying pressure on over use of our natural resources. We have been held by striving to provide meaningful and practical solutions to the problems.

We are grateful to the Scientists for the presentation of various practical technique which will hopeful assist us in our management efforts.

We have heard the Federal Representatives explain their initiatives in trying to adjust present programs to meet island needs, and formulate future program sensitive to island needs.

We all recognize and acknowledge that the Territories must develop public awareness programs to enhance the perception of the Territories and the State of Hawaii in Washington, D. C. if we are to count on their support. Our Governors have also recognized the need for a Pacific Basin United Front specific to get our shet heard in Washington D. C. They have formed the Pacific Basin Development Council as the tool to foster joined coordination.

CONFERENCE'S RESOLUTION

WHEREAS, the representative of the Coastal Zone Management Programs of the Territories of Guam and American Samoa, the C _____ N _____ M _____ I _____ and the State of Hawaii have met in Pago Pago, July 26-29 to discuss the U _____ I _____ S _____, and

WHEREAS, the partcipants have discussed in detail the importance of CZM as a tool that, while only recently fully implemented in the U.S. Pacific Basin, has had a major position impact; and

WHEREAS, although each island government has adopted the general purposes of CZM goals and objectives, the program has provided the opportunity for recognizing the unique island status of each entity, and

WHEREAS, the individual CZM programs have allowed for a comprehensive planning program to be implemented in each island; and

WHEREAS, the participants have explored and realized the impat of CZM related, activities in the areas of economic development, ocean development, transportation, air & water quality, housing, communications and a meriad of other areas to include a coordinating of federal government activities through he federal consistency provision of the National Coastal Zone Management Act.

NOW, THEREFORE, be it resolved that the Governors of the U.S. Pacific Flag Islands which make up the Board of Director of the Pacific Basin Development Council, realizing the importance and significance of the CZM program hereby strongly support the recent consideration by the U.S. Congress of legislation which would make available to all coastal states and Territories, a modest share of the revenues derived by the federal activities on the outer continental shelf; and BE IT FURTHER RESOLVED funding should be made available with flexibility that will provide the means to the coastal states & Territories to manage their coastal marine resources, provide for economic development and medicate the impacts of coastal energy activities including but not limited to oil, gas, coal and alternative ocean energy activities BE IT FURTHER RESOLVED that the federal government give serious consideration to exploring the recognization of their unique and national responsibility to the American flag governments in the Pacific by examining alternative methods of funding for coastal resource management on both an individual island and regional level.

Copies of the resolution shall be provided to Senator Bob Pockwood, chairman of the Commerce, Science and Transportation; Senator Jim McClure, Chairman of the committee on Energy and

National Resources, the Speaker of the House, Congressman Walter Jones, Chairman of the Committee on Merchant Marine and Fisheries, the Delegates from American Samoa, Guam, the Commonwealth of the Northern Marianas and the congressional delegate state of Hawaii, the Coastal States Organization of National Governors Association.