Ocean Governance

A New Vision

THE OCEAN GOVERNANCE STUDY GROUP

Analyses for Improved, Integrated
Governance of Oceans and Coasts

The Ocean Governance Study Group

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THE WORK PROGRAM OF THE OCEAN GOVERNANCE STUDY GROUP

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Special thanks are due to Dean Carolyn Thoroughgood, Graduate College of Marine Studies, University of Delaware, and Richard Tarpley, Executive Director, Delaware Sea Grant College Program, for their continued support of all aspects of this effort; to James J. Sullivan, California Sea Grant College Program Director for his support of the California-based efforts, and to Jack Davidson, Hawaii Sea Grant College Program for his support of the Hawaii-based organizational efforts.

Many thanks are due to various state-based agencies and associations which have lent strong moral support to our central idea of the need for improvement in our national ocean policy. These include: the Coastal States Organization, the Western Legislative Conference, the Western Governors' Association, the Pacific Basin Development Council and representatives from the Governments of Guam and the Commonwealth of the Northern Mariana Islands, and the Hawaii Governor's Office of State Planning (which also funded the initial work on the policy implications of the extended territorial sea, which ultimately led to the current effort).

Last, but certainly not least, we thank all members of the Study Group, Policy Advisors, International Advisors, and the Ocean Governance Policy Network, for their willingness to engage their own intellectual and financial resources and influence on behalf of this collective enterprise.

FOREWORD: FORGING A NEW VISION FOR OCEAN GOVERNANCE

At the historic Earth Summit held in Rio de Janeiro in June 1992, agreement was reached on two major points that have particular relevance to the oceans:

- that environment and development are part of an indivisible whole and consequently must be dealt with together
- that governance of ocean and coastal areas must be "integrated in content, and precautionary and anticipatory in ambit"– nations cannot rely solely on traditional approaches that govern one ocean use at a time, but must also consider the effects of one resource or use on other resources, uses, and the environment

Among the nations of the world, the United States was a pioneer in the enactment of ocean legislation over twenty years ago, in the early 1970s. A number of landmark laws were passed during this time, including the Coastal Zone Management Act, the Marine Mammal Protection Act, the Magnuson Fishery Conservation and Management Act, the Outer Continental Shelf Lands Act Amendments. With the exception of the coastal act, however, virtually all of the ocean laws enacted during this period were single-purpose in nature and addressed only single aspects of the ocean, largely ignoring interrelationships and possible conflicts among uses and resources.

As human use of the ocean and coastal areas increased significantly around the world, in the 1980s, nations began experimenting with methods of integrating and harmonizing management of the multiple uses of their oceans and coasts. But little action was seen in the U.S. on this score, caught as the nation was in a downward period of retrenchment and, in the ocean area, often paralyzed through single-issue politics promoting different values of the ocean, often at the expense of other values, resources, and uses.

In its two-hundred mile Exclusive Economic Zone, the United States has the largest and probably the richest ocean area under national control in the world. This "wet America"— larger in size than the terrestrial U.S.— is home to bountiful living and non-living ocean resources: fisheries, marine mammals, minerals, other energy resources. It is an area greatly valued by the American people— for its many uses and for the awe it evokes. Marine transportation, commercial and recreational fishing, development of offshore oil and gas and other mineral resources, energy generation, swimming and beaching, protecting and viewing marine mammals, military operations, waste disposal, aesthetic enjoyment— these are among the many values which Americans seek to obtain from their ocean.

To achieve full benefits for the American public from its ocean and coasts and to protect the interests and choices of future generations, it is time for a **new vision of ocean governance— a vision which looks at our ocean as a whole and not solely at its discrete parts**— a vision which, when fulfilled, will enable the U.S., once again, to lead internationally on ocean management through the example of how we manage our own waters.

ORGANIZING THE OCEAN GOVERNANCE STUDY GROUP

In 1991, a group of ocean policy experts came together to begin to develop this new vision— to analyze the status of ocean governance in the U.S. and to develop management options for achieving responsible stewardship of our ocean. The newly formed group— the **Ocean Governance Study Group**— is composed of **31 ocean policy experts** from academic institutions around the country and is led by a **six-member Steering Committee.** The Steering Committee consists of faculty members from three institutions strategically located on the East and West coasts and in the Pacific: The **Graduate College of Marine Studies, University of Delaware, the Boalt Hall School of Law, University of California, Berkeley, and the William S. Richardson School of Law at the**

University of Hawaii. Members of the Study Group have agreed to join their intellectual resources in this collective research and analysis enterprise. *(Participants in the Ocean Governance Study Group are listed in the inside of the report cover.)*

To insure that the work of the Study Group is useful to decision-makers, a group of **28 Policy Advisors** from Congress, federal agencies, state governments, regional organizations, and national interest groups representing industry and environmental concerns was invited and agreed to provide advice to the group on an ongoing basis. Similarly, to avoid parochialism and to ensure that other models, perspectives and experiences are explored, the Study Group is also assisted by a group of **5 International Advisors**, all highly expert in ocean governance issues. *(These names are also listed in the inside of the report cover. The map on page 4 notes the geographical locations of participants).*

The Ocean Governance Policy Network incorporates other individuals and groups who are interested in assisting the Study Group effort and in receiving information on its activities. *(See map on page 4.)*

PURPOSES

The major purposes of the Ocean Governance Study Group are twofold: 1) to promote the scholarly analysis of management options for achieving responsible stewardship of the oceans offshore the United States (including relevant international law aspects), and 2) to present, on the basis of such analyses, policy options that can contribute to the consideration in Congress, in the Administration, and in the states/territories, of alternative, improved ocean management frameworks.

Emphasis will be placed on assessing how well the extensive body of ocean law and policy promulgated in the United States since the late 1960s is working, focusing, in particular, on **cross-sectorial issues**, issues that cut across various ocean sectors (such as fisheries, marine mammal protection, oil and gas development). While the effectiveness of single laws and programs (such as the Magnuson Act) will need to be evaluated in cases where no adequate information is available, the primary focus of the study effort will be to examine the **interconnections** among various ocean uses and ocean laws, to assess how well they are working, and how they can be improved.

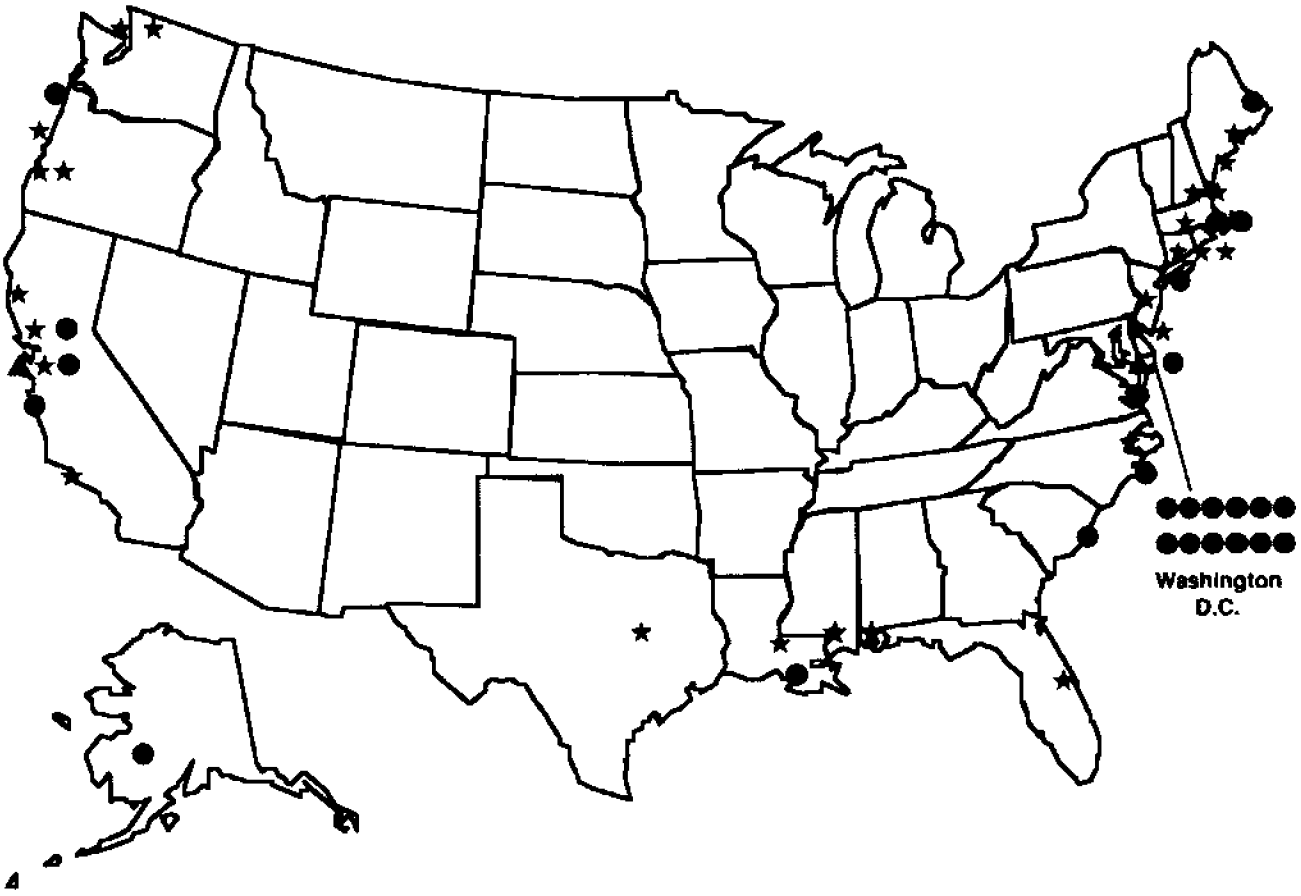
The Ocean Governance Study Group will, in effect, be undertaking an immensely challenging task— not unlike that faced by the **Stratton Commission** in the late 1960s. As noted by Scheiber later in this report, this Study Group cannot pretend to be a Stratton II given its unofficial status and relative lack of resources, but it can at least **begin** the analytical work that decision makers must have in hand to enact needed ocean policy reform.

Characterizing the effort

- The **scope of work** includes the entire ocean area under the jurisdiction of the United States, from the shoreline to the outer edge of the 200-mile Exclusive Economic Zone, including relevant land management and high seas management aspects
- **The orientation is analytical and long-range oriented but practical as well.** With the assistance of its Policy Advisors providing periodic "groundtruth checks," and the international advisors providing advice on management methods and ideas that have worked well in other countries, the Study Group aims to produce analyses that are both innovative and forward-looking and subject to implementation in the short term
- Substantively, the **orientation of the Group is to achieve sustainable development** of our oceans and coasts with due regard for preserving environmental integrity and watchful of the rights and interests of future generations.
- Similarly, while privatization approaches may be useful management tools for specific resources in specific areas, the overall thrust of this effort is directed toward maintaining and enhancing the "**public**" **character** of our

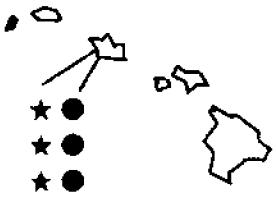
continued on page 5

The Ocean Governance Study Group



▲ Steering Committee
● Policy Advisors
★ Members
International Advisors: United Kingdom, Australia, Peru, Italy

● Guam



oceans and toward maximizing benefits for the American public.

- It should be noted, too, that while the Group is concerned with achieving better integration among multiple uses, that the focus of attention will only be on those conflicts that pose serious problems, i.e., not everything needs to be "harmonized" or "integrated". In the same vein, mindful of the possible costs of integration efforts, policy integration should not be attempted, unless the marginal gain is sufficient to be worth the cost of the effort.
- There is diversity in the perspectives of the Study Group. While members of the Study Group all adhere to the overall purposes and operation of the Study Group, there exists a healthy diversity of perspectives–in part related to varying disciplinary backgrounds–which will make for healthy debate on the important ocean issues facing the U.S.
- The effort is open— The Ocean Governance Study Group welcomes the participation of other ocean policy experts, policy makers, administrators, interest group representatives, and of other individuals and groups with commitment to the collective enterprise defined in this report. Persons interested in assisting the effort, should contact the Steering Committee.
- Funding of the effort— So far, the effort has been self-started as an initiative of the academic marine policy community with seed funding from a number of Sea Grant programs. The Study Group is in the process of seeking the needed funding, from both public and private sources, to enable it to meet, in conjunction with others, the significant challenge it has set forth.

Organizational Steps

The steps followed in the organization of the Ocean Governance Study Group are noted in the next column.

January 1991	Initial decision to form the Study Group
November-December 1991	Group is organized Draft research agenda is prepared Comments received on draft agenda
January 14-17, 1992	Planning workshop to define a research agenda for U.S. ocean governance, held in Honolulu
December 14, 1992	Congressional meeting in Washington, D.C. to solicit input
January 11-14, 1993	Conference at University of California, Berkeley (presentation of results of initial analytical studies)
Starting in 1993	Ad hoc working groups will prepare policy commentaries on several current legislative and administrative issues (*marine sanctuaries, OCS revenue sharing, extended territorial sea, depletion of fishery resources*)

The decision to create the Ocean Governance Study Group was made 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 9-11, 1991.[1] After considerable discussion of policy alternatives for managing the newly extended territorial sea area (from 3 to 12 miles offshore), participants agreed that in addition to examining policy options for specific areas of the ocean, it was imperative to re-examine the overall governance regime for the entire ocean area from the shoreline to 200 miles.

The second step in the organization of the Study Group was the preparation of a draft overall research agenda for ocean governance[2] (found elsewhere in this report) and the organization and conduct of a planning workshop to discuss, refine, and adopt an overall research agenda for the Study Group *(U.S. Ocean Governance: The Next Steps: Planning Workshop to Define a Research Agenda for U.S. Ocean Governance, January 14-17, 1992, Honolulu, Hawaii).*[3]

In preparation for the workshop, 3 volumes of material were prepared. Volume 1 contains comments received on the draft research agenda, volume 2 contains a collection of 20 papers on ocean governance issues, and volume 3 contains 9 additional papers and commentaries on ocean governance.[4]

At the planning workshop, attended by over 50 individuals, the Study Group adopted the following work program:

- **the conduct of a number of analytical studies** by the Study Group **on seven major topics** in ocean governance, to be presented at the first annual conference of the Study Group to be held at the University of California, Berkeley, in January 1993.[5] The major categories are:
  1. Implications of changes in the domestic and international context for future U.S. ocean policy
  2. The meaning of stewardship for the U.S. ocean
  3. Ocean use conflicts: Assessing costs, benefits, outcomes
  4. Institutional and policy fragmentation in national ocean policy
  5. Governing ocean space: models, methods and comparative experience
  6. Improving intergovernmental relations in ocean governance
  7. The need for adaptive management in the face of uncertainty

  (Please see the section on "Research Agenda on Ocean Governance" for further information on the content of these categories.)
- the holding of a congressional meeting on December 14, 1992 with Congressional staff to solicit their perspectives on salient issues in U.S. ocean governance and analytical needs connected with these, and to review the initial work of the Study Group; and
- **formation of four ad hoc working groups to prepare**, beginning in 1993, **policy commentaries** analyzing policy options on several forthcoming legislative and administrative issues (i.e., **marine sanctuaries, fisheries depletion, sharing of revenues from the outer continental shelf, and issues associated with the extended territorial sea**). In contrast to the overall research agenda which is focused on long-term multi-use ocean management questions, these ad hoc groups are designed to focus on more short-term issues likely to come up in the next year for attention in the Congress or Administration. The choice of topics is subject to change following consultation with congressional staff in December 1992. *(Membership of these groups is found at the end of this volume.)*

Working with others

The formation of the Ocean Governance Study Group has been received enthusiastically by the academic community, as demonstrated both by the unanimous willingness of scholars around the country and elsewhere to participate in the project as well as by the intellectual "engagement" and excitement that pervaded discussions at the planning workshop. The Ocean Governance Study Group has so far also elicited a great deal of interest on the part of the practitioner community. This interest has been evidenced in a number of ways— by the willingness of the Policy Advisors to work with the group on an ongoing basis to achieve useful results; by the statements of support the Study Group has received (e.g., from **Hawaii Governor Waihee** in January 1992

and from the Coastal States Organization (CSO) in October 1991)*; by the media coverage the effort has received (see, e.g., *Ocean Science News*, November 12, 1991); and by the invitations which the group has received to connect with the activities of other relevant entities.

In particular, the Ocean Governance Study Group has been invited to assist the **Western States Ocean Governance Task Force**, currently being formed as a joint effort of the **Western Governors' Association (WGA)** (representing the executive branch of government in 20 western states and territories) and the **Western Legislative Conference (WLC)** (representing the legislative branch of government in 16 western states and territories). The aim of the Task Force is to develop innovative governance arrangements to meet increasing demands on Pacific ocean resources, building on the significant work on ocean governance which the WLC and the WGA have already done in the past decade.

ORGANIZATION OF THE REPORT

This report brings together first the research agenda on ocean governance drafted in December 1991 and later revised to take into account comments received as well as important intervening events, such as the June 1992 Earth Summit. Following the research agenda are found several "mini-papers" or commentaries illustrating various aspects of the research agenda which were presented either as oral commentaries at the January 1992 planning workshop or as written commentaries on the draft agenda. The reader should note that these are informal presentations meant to illustrate the various dimensions of the Study Group's work program. The report also includes the program for the January 1993 conference, a list of the ad hoc groups on salient policy issues, biographical information on members of the Ocean Governance Study Group, and a list of other materials available from the Study Group.

In closing, we hope that our initiative to bring the intellectual resources of the academic marine policy community to examine how well we are managing our oceans and coasts and how we can do it better will be joined with the actions of other groups and individuals committed to achieving responsible stewardship of ocean and coastal areas. The magnitude and importance of this governance challenge demands the concerted attention of all parts of the ocean policy community.

Steering Committee Members

Biliana Cicin-Sain and Robert W. Knecht, University of Delaware

David D. Caron and Harry N. Scheiber, University of California, Berkeley

M. Casey Jarman and Jon M. Van Dyke, University of Hawaii

1. The conference was 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 other Sea Grant Programs including those of California, Delaware, Florida, Louisiana, Maine, Massachusetts, Mississippi/Alabama, Oregon and Washington.
2. Prepared by Steering Committee members Biliana Cicin-Sain and Robert W. Knecht, Graduate College of Marine Studies, University of Delaware.
3. Professors Cicin-Sain and Knecht (Delaware) had overall responsibility for organizing the workshop; Professors Jarman and Van Dyke (Hawaii) were in charge of local arrangements. Financial support for the organization of the workshop came from the Hawaii, Delaware, and California Sea Grant programs and the Office of State Planning, Office of the Governor, State of Hawaii. Financial support to fund the travel of workshop participants was provided by the following Sea Grant programs: Florida, Louisiana, Maine, North Carolina, Oregon, Rhode Island, and Texas.

*CSO resolution adopted on October 30, 1991: " . . . The CSO supports the formation of an Ocean Governance Study Group –an outgrowth of the Territorial Sea Workshop held in January, 1991, in Honolulu–whose purpose will be to analyze, develop, and recommend policy alternatives on matters relating to ocean governance in consultation with the several coastal states, territories, and commonwealths."

4. Comments were received from the following people:

Lee Anderson, University of Delaware
Jack Archer, University of Massachusetts
Joan Bondareff/Tom Kitsos, U.S. Congress
John Briscoe, Esq., San Francisco
Donald Connors, Choate, Hall, and Stewart, Boston
Alastair Couper, World Maritime University, Sweden
Donna Christie, Florida State University
Tim Eichenberg, University of Maine
Susan Hanna, Oregon State University
Marc Hershman, University of Washington
Richard Hildreth, University of Oregon
Eldon Hout, Ocean Policy Council, Coastal States Organization
Jon Jacobson, University of Oregon
Lawrence Juda and Richard Burroughs, University of Rhode Island
Richard Kenchington, Coastal Zone Inquiry, Australia
Ed Miles, University of Washington
Ann Notthoff and Sarah Chasis, Natural Resources Defense Council
Mike Orbach, East Carolina University
Andy Palmer, American Oceans Campaign
Mel Peterson, Ocean Policy Institute, Honolulu
Alison Rieser, University of Maine
Jim Rote, California State Legislature
Gerry E. Studds, Representative, Chairman Subcommittee on Fisheries and Wildlife Conservation and the Environment, U.S. House of Representatives
Adalberto Vallega, Italy
Jim Wilkins, Louisiana State University Sea Grant Legal Program

Press Comments on Ocean Governance Study Group

Ocean Science News articles on
November 12, 1991,
November 23, 1991

Coastal States Organization Expression of Support of Study Group Formation in October 1991 CSO Resolution

5. Organized by Steering Committee members David D. Caron and Harry N. Scheiber, Boalt Hall School of Law, University of California, Berkeley.

RESEARCH AGENDA ON OCEAN GOVERNANCE

by Biliana Cicin-Sain and Robert W. Knecht
University of Delaware

BACKGROUND: THE CHALLENGE OF OCEAN GOVERNANCE AND THE NEED TO REEXAMINE U.S. POLICY TOWARD THE OCEAN

This section sets forth a research agenda on ocean governance which the Ocean Governance Study Group will undertake. The research agenda is focused on achieving responsible stewardship of the ocean under U.S. jurisdiction–from the shoreline to 200 miles offshore.

The Challenge of Ocean Governance

The 1983 presidential proclamation creating a new 200-mile Exclusive Economic Zone (EEZ) around the U.S. and its territories, and the 1988 presidential proclamation expanding the territorial sea of the United States from 3 to 12 miles in width changed significantly the relationship between the U.S. and the surrounding ocean. The territorial sea expansion quadrupled the ocean area over which the U.S. has total sovereignty, while the EEZ proclamation declared U.S. "sovereign rights" over all living and non-living resources in the EEZ— an area exceeding in size the land area of the United States.

Although the U.S. has many laws dealing with the ocean, these laws are largely single-purpose in nature (they only address single resources or uses such as fisheries) and do not offer an overall strategy— or vision— for the sustainable development of the ocean under the control of the U.S.

While proclaiming a higher level of involvement by the U.S. with the surrounding ocean, these proclamations, however, provided only the bare bones of a framework for governing these new areas. Neither proclamation spelled out how the ocean space and resources in these areas are to be governed. Significant questions remain, e.g.,: (1) Do U.S. governments (federal, state, local) have duties and responsibilities toward the ocean areas newly under the jurisdiction of the United States above and beyond those spelled out in existing statutes (such as the Fishery Conservation and Management Act)? (2) What are the duties/obligations of government toward: the resources found in the ocean? the ocean environment in which these resources are found? the American public? the international community? adjacent state and local communities? private leaseholders? future generations (inter-generational equity)? past generations who may have some special claim over marine resources (such as Native Americans)?

Although the U.S. has many laws dealing with the ocean, these laws are largely single-purpose in nature (they only address single resources or uses such as fisheries) and do not offer an overall strategy— or vision— for the sustainable development of the ocean under the control of the U.S. The only multi-purpose law, the Coastal Zone Management Act, has so far dealt mainly with state waters (0 to 3 miles offshore), and coastal states vary considerably on the extent to which they have established management measures to deal with ocean use questions. The majority of state actions under the Coastal Zone Management Act have been concerned, to date, with land management and the management of the land/sea interface.

Moreover, U.S. ocean policy making has often been dominated by single-issue interests; policy has, consequently, often oscillated between unmitigated development thrusts followed by the adoption of total conservation measures (a case in point here is offshore oil development where the U.S. has made a 180 degree shift in policy from unprecedented rapid development to almost total prohibition of development activity in new areas).

The "either/or" view of development and conservation which has in some cases characterized U.S. ocean policy is costly and prevents the U.S. from achieving sustainable development of

its ocean, maximizing multi-faceted benefits for the American public. As the Rio Earth Summit underlined, environment and development should not be viewed as "either/or" propositions, but rather must be dealt with together as part of an indivisible whole. Too, given the interdependence of ocean resources and processes (and consequently interdependence in the uses of the ocean), governance of coastal areas must be "integrated in content and precautionary and anticipatory in ambit" (Agenda 21, Earth Summit).

Forging a sustainable development strategy for the U.S. Territorial Sea and Exclusive Economic Zone will require a proactive, anticipatory look at current and potential uses of these ocean areas, an evaluation of management measures in place, and the ultimate modification of existing approaches or the crafting of new management frameworks where needed. To accomplish this, a fundamental reexamination of U.S. ocean policy is needed. Many important changes have occurred since U.S. ocean policy was last assessed in a comprehensive manner over twenty years ago.

The Last Major Examination of U.S. Ocean Policy was in 1969

The last time that a comprehensive examination was made of U.S. interests and policies vis-a-vis its ocean was in 1969 in the Stratton Commission report ***Our Nation and the Sea*** (COMSER, 1969). The ocean situation of the United States, however, has changed dramatically since that time. Major changes that have taken place include the following:

- **The radical changes in the international legal framework** (i.e., the 1982 Law of the Sea Convention which triggered the two extensions in U.S. ocean jurisdiction [the 1983 declaration of the Exclusive Economic Zone and the 1987 extension of the territorial sea from 3 to 12 miles];
- **The remarkable rise in environmental consciousness** which was largely absent in the mid-60s when the Stratton Commission started its work;
- **The emergence of energy use and energy supply** as a major national and global concern;
- **The great increase in ocean use and conflict** as we seek to both develop and protect the ocean environment and ocean resources;
- **The enactment in the 1970s and subsequent implementation of a dozen major federal laws** to manage different aspects of the ocean under U.S. jurisdiction (e.g., Coastal Zone Management Act, Marine Mammal Protection Act, Fishery Conservation and Management Act, Marine Protection, Research, and Sanctuaries Act, Outer Continental Shelf Lands Act Amendments);
- **The growth in the capacity of coastal states and territories** to plan and manage their coastal zones more wisely through active participation in the coastal management, fishery management, and other programs;
- And, within the last half dozen years, evidence that anthropogenically produced change is occurring in the global environment, with **potentially significant impacts on the earth's climate and the coastal ocean,** and an attendant rise in international awareness of global issues (as expressed, for example, in the United Nations Conference on Environment and Development)

While several pieces of legislation have been proposed to create a new high-level study commission to evaluate problems and assess new elements in our current ocean governance scheme, however, to date, none have been enacted into law. In view of this policy gap, the ocean policy academic community itself is launching an initiative, in the form of the Ocean Governance Study

Group, to begin to undertake the necessary analytical work for a re-examination of U.S. policy. As explained in the Foreword, the Ocean Governance Study Group will work through a multi-university consortium and conduct systematic policy analyses on the full spectrum of governance questions.

Emphasis of the Study Group will be on assessing how well the extensive body of ocean law and policy promulgated in the United States since the late 1960s is working, focusing special attention on **cross-sectoral** issues or issues that cut across various ocean sectors (such as fisheries, marine mammal protection, oil and gas development, etc.). While the effectiveness of single laws and programs (such as, for example, the Magnuson Act) may need to be evaluated in cases where no adequate evaluative information is available, the primary focus of the study effort will be to examine the **interconnections** among various ocean laws and ocean sectors to assess how well they are working and how they can be improved.

There is growing consensus that current management frameworks which rely on single-purpose approaches to the management of ocean resources and space (e.g., a separate management framework for each resource such as fish or oil) can pose a number of problems. Possible problems include:

- few opportunities exist for examining the ramifications of decisions in one ocean sector (such as oil development) on other ocean sectors (such as fisheries);
- few opportunities exist for rational and long-range planning for the protection, enhancement and use of ocean resources in particular regions;
- because resources are managed on a use-by-use basis, few opportunities exist for the interested public to debate overall priorities and goals for a particular resource or region or contribute to making trade-off decisions among different uses of the ocean;
- conflicts among different ocean sectors, including conflicts among different users and different government agencies are difficult to solve through public means because no agency or other authoritative source has jurisdiction over such conflicts; and,
- single-purpose management also means that there are a variety of federal and state agencies with limited and partial authority over the management of ocean and coastal resources, whose actions must be harmonized for effective management to take place (Knecht, Cicin-Sain, and Archer, 1988).

There is growing consensus, too, that ocean governance ought to, at least in part, be focused on **ocean areas**, and not solely on resources, and that new methods of **integrating** various perspectives — those of diverse and often conflicting federal agencies, those of state, local and federal authorities, and those of different disciplines, are needed.

The role of the public in ocean decision-making also needs to be better understood and ultimately enhanced. Analysis is needed on the range of public and private values that are at stake in the management of the ocean and on means of realizing such values. The distribution of benefits and costs from the utilization of public ocean resources also needs to be critically examined.

Major Problems in Ocean Governance

Some of the current problems in ocean governance which prompted the formation of the Ocean Governance Study Group are listed below:

- **With regard to the regime for governing oil and gas activities on the U.S. outer continental shelf** (under the OCSLAA),
  - in many regions of the country, the offshore oil and gas program is at a virtual standstill due to major disagreements between the federal government, on the one hand, and state and local governments, on the other;

- Concerning the **fisheries management regime** (under the Magnuson Fishery Conservation and Management Act),
  - increasing concerns are being expressed about the effectiveness of present governance arrangements given the fact that a growing number of commercial fish stocks are seriously depleted (and a number are being considered for listing as endangered species);
  - **conflicts between commercial fishing and marine mammals are increasing.** In recent years, these conflicts have taken on international connotations, as well as domestic ones, through the imposition of trade sanctions by the U.S. on nations not having similar standards as the U.S. regarding marine mammals in their national fishing fleet operations;
  - **current governance arrangements are not well suited for dealing with transboundary stocks;**
- As discussed earlier, while the United States proclaimed a **200-mile Exclusive Economic Zone** in 1983, little has been done to establish a coherent governance effort in this vast and important zone.
  - there is no overall plan or strategy for development of marine industries in the EEZ;
  - there is no agreed role for coastal states and territories within the zone;
  - there is no agreed regulatory framework for hard minerals within the EEZ;
- With regard to the **newly expanded U.S. territorial sea,**
  - no effort has been undertaken at the federal level to determine the appropriate governance regime for this critically important ocean zone where much of the wealth in ocean resources is concentrated;
  - no effort is underway to explore concepts of shared governance with the coastal states in this zone;
- **Important new activities such as offshore aquaculture are emerging, in a policy and regulatory vacuum**, occasioning significant conflicts with other users.
- By and large, it appears that **many marine industries (ranging from fisheries to marine aquaculture to offshore oil and gas are not faring as well as their foreign competitors operating in other offshore settings.** Although there are no readily available data on this question, it appears that the research and development expenditures of the U.S. vis-a-vis ocean-related products and activities are proportionately smaller than those of other nations which have developed effective offshore operations.
- Although in recent years there has been much progress in understanding the **special management problems of nearshore estuarine areas through the National Estuary Program,** it is not clear to what extent advances in understanding made through this program will be ultimately implemented at the state and local levels. Part of the reason for this uncertainty **is the lack of connection, in many cases, between the National Estuary Program and the state coastal management programs.**
- Little systematic attention has been paid by federal authorities of the implications for coastal management and policy of impacts from global climate change on the coastal ocean (such as sea level rise);
- While the United States has excelled (among other nations) in the development, conduct, and training in coastal ocean physical sciences as well as in the development of the marine social sciences, there has been little thought given to how this human resources capacity can be built further, especially in relation to the developing world which is in need of developing such capacity. More needs to be done, too, it would seem, in linking our national capacity in the coastal ocean sciences with problem-solving of important issues facing coastal ocean decision makers.

AN INITIAL RESEARCH AGENDA ON OCEAN GOVERNANCE

At the Planning Workshop held in January 1992 in Honolulu, Hawaii, members of the Ocean Governance Study Group agreed to begin work on the following seven-point agenda on cross-cutting ocean governance issues. The agenda is to be revised and updated each year during the annual meeting of the group.

1. **Implications of Changes in the Domestic and International Context for the Future of U.S. Ocean Policy**

   Domestic changes such as:

   - changing patterns of ocean use
   - growth in coastal areas
   - increase in coastal state capacity to manage ocean and coastal resources
   - changes in administrative law system
   - decline in U.S. competitiveness in world markets

   Internationally-driven changes such as:

   - new legal framework for the law of the sea
   - reduction of East-West tensions
   - attendant changes in the role of the U.S. Navy
   - significant environment/development agreements coming out of the Earth Summit (United Nations Conference on Environment and Development)
   - increased attention on needs of developing nations
   - emergence of important trade vs. environment conflicts

2. **The Meaning of Stewardship for the U.S. Ocean**

   How should the concept of stewardship be defined and incorporated into U.S. governance?

   - Is an overall new framework for the territorial sea and EEZ [a type of "constitution"] needed?
   - Does a set of governing principles for managing the ocean under U.S. jurisdiction need to be developed to guide the conduct of public and private activities in the ocean?
   - What, if any, are the responsibilities of public agencies toward the ocean and coast above and beyond those contained n specific legislative mandates? How can these be operationalized?
   - What is the potential role of the public trust doctrine in the management of ocean areas?
   - What is the proper role of subnational levels of government (state and local) in defining stewardship?
   - What about the stewardship responsibilities of the nation to the broader international community?
   - What can traditional indigenous conceptions of stewardship offer in the crafting of an overall ocean "ethic"?
   - Given the generally public nature of ocean areas and the importance of public concerns in the management of the coastal zone (some of which is public, some of which is private,) what are the appropriate boundaries between public and private action?)

3. **Ocean Use Conflicts: Assessing Costs, Benefits, Outcomes**

   The challenge here is in understanding and addressing multiple use ocean conflicts. Increasingly, conflicts about ocean and coastal space resolve around issues which are rooted in differences about what is public and what is private (for example, recent controversies over the proposed siting of mariculture facilities 35 miles offshore Masachusetts).

- What types of conflicts occur, where, and how?
- Who conflicts with whom?
- How does the type and distribution of conflicts vary according to location (coastal/marine, as well as region of the country?)
- What are the causes of conflicts?
- What are the costs and the benefits of conflicts?
- Which relationships among ocean uses are conflictive, neutral, or mutually beneficial?
- Which "clusters" of multiple use relationships are most problematic?
- In the case of conflictual relationships, what are the causes, costs, and consequences of these conflicts?
- How can multiple conflicts be resolved, by whom, and with what effectiveness?
- What are the pros and cons of public versus private approaches to conflict resolution?
- Under what conditions is public intervention necessary in multiple use coflicts?
- Reactive vs. proactive (anticipatory) approaches to conflict resolution

4. **Institutional and Policy Fragmentation in National Ocean Policy**

   How serious a problem is such fragmentation? Is this one of the fundamental problems in ocean governance?

   - How well are the interconnections between different federal laws and agencies working?
   - Which problems among which ocean laws pose the most serious kinds of problems? [i.e, what are the most serious "problem clusters?"] What are the costs of these problems? Do any benefits accrue?
   - What are the costs, benefits, outcomes of fragmentation in the federal agencies' approaches to ocean governance?
   - What are the costs and benefits of single sector approaches to ocean governance versus more integrative approaches?
   - In what cases are more integrative approaches needed?
   - How can integration and "harmonization" among laws and agencies be achieved? Through what strategies and methods?
   - A number of nations around the world [e.g., Japan, Netherlands, France] have been experimenting with various ways of integrating the actions of national-level bureaucracies on ocean and coastal issues, such as through the formation of inter-agency committees, high-level ocean policy councils, the naming of lead agencies, etc. How well have these experiences worked out? What is the potential relevance of this range of experiences to U.S. ocean governance?

5. **Governing Ocean Space: Models, Methods, and Comparative Experiences**

   As we begin to think that, in addition to ocean resources, ocean space itself needs to be managed, what methods and concepts do we have available for such management?

   - What are the similarities and differences in marine and terrestrial realms? What are the management implications of these similarities/differences?
   - How can ecosystem management approaches be incorporated into a multiple use management scheme?
   - What can we learn from looking at the experience of other nations with mul-

tiple use ocean management (such as the experience with ocean zoning in Australia's Great Barrier Reef or the extensive ocean zoning adopted to manage the ocean area offshore the Netherlands?)

- Can methodologies and approaches for assessing cumulative impacts be employed to order the use of ocean space? What is the state of the art in assessing cumulative impacts? What do we know? What do we need to know?
- How well are existing approaches to waterbody management taking place in the U.S. in smaller areas of the coastal ocean (such as under EPA's national estuary program and under NOAA's marine sanctuary program) working out? Can the approaches/techniques developed in these cases be applied to the EEZ and territorial sea?
- What can be learned from the application of multiple use ocean management techniques in other settings, such as marine protected areas in other nations and the Regional Seas program of the United Nations Environment Programme (UNEP)?

6. **Understanding and Improving Intergovernmental Relations in Ocean Governance**

Intergovernmental tensions on ocean and coastal management have been endemic in U.S. ocean policy for a long time. Sometimes relations between levels of government on ocean management have been quite cooperative and productive, sometimes quite conflict-ridden. Some think that a fundamental reexamination of the power and authority of the federal and state governments vis-a-vis the Territorial Sea and the EEZ needs to take place to reach a more equitable distribution of the costs and benefits associated with offshore resource development and protection.

It is at the state and regional levels, too, that in the past ten years or so, much of the innovation on multiple use ocean management has occurred. What are the results and implications of these experiences?

Finally, the nature of a federal system like the U.S. is that there tends to be significant diversity in conditions and circumstances in different regions of the U.S. which ought to be accommodated in crafting new approaches to ocean governance.

- What are the manifestations, causes, costs/benefits of intergovernmental tensions and conflicts over ocean governance?
- What forms might a fundamental reexamination of state/federal authorities in the Territorial Sea and EEZ take and with what implications?
- What opportunities for "Creative Federalism" and some sharing of management responsibilities among the various levels of government are available and what forms might it take?
- In the 1980s and 1990s, we have seen significant work on the part of the coastal states to achieve policy integration on ocean and coastal issues in areas under state jurisdicion (e.g., Oregon, Hawaii). How do we assess the effectiveness of these efforts? Can they be replicated elsewhere?
- What is the current status of state capacity for ocean management? What can the states learn from one another? What can the federal government do to assist the states to continually enhance their capacity for ocean management?
- In the last several years, too, states in various regions of the U.S. have come together to create new regional arrangements for joint action regarding ocean

areas, ranging from the creation of interstate compacts to new arrangements for information exchange. The status and effectiveness of these efforts and the relation between such regional arrangements and federal agencies needs to be assessed.

- In the past decade, too, some of the states and the federal government have developed some innovative mechanisms to promote state/federal cooperation in the management of specific ocean resources (e.g., Hawaii/Department of Interior task force on ocean minerals, Oregon/Washington/Indian Tribes/Department of Interior task force on oil and gas development). What lessons can be learned from these experiences? Should these approaches be applied to other areas of intergovernmental relations?
- Revenue sharing between the states and the federal government of royalties from offshore exploitation has long been a contentious issue. What options are available on this question to reach an appropriate compromise?

7. **The Need for Adaptive Management in the Face of Uncertainty**

   How can ocean governance be fashioned in such a way as to be functional in the face of uncertainty— uncertainty associated with possibility of climate change, uncertainty with regard to the lack of full scientific understanding of ocean behavior?

   Can governance schemes include the concepts of "learning" and "adaptive management"?

   [Please note: comments on the initial agenda of the Ocean Governance Study Group, illustrated above, are welcome. Please contact the Steering Committee for any comments.]

References

1. COMSER, Our Nation an the Sea: A Plan for National Action, (Washington, D.C., 1969).
2. Robert W. Knecht, Biliana Cicin-Sain, and Jack H. Archer, "National Ocean Policy: A Window of Opportunity," Ocean Development and International Law (1988) 19: 113-142.

IMPLICATIONS OF THE EARTH SUMMIT (UNCED) FOR OCEAN GOVERNANCE

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The Earth Summit, more formally called the United Nations Conference on Environment and Development, held in Rio de Janeiro in June 1992 was a singular event. More than 170 nations and 114 heads of state gathered to "ratify" a remarkable set of agreements. In addition to two international conventions—the Convention on Climate Change and the Convention on Biological Diversity—a Declaration of Principles (the Rio Declaration) and a comprehensive action plan ("Agenda 21") were also adopted. The Rio Principles embody a set of norms, ideals, and goals for national, international, and even individual behavior if the goal of an equitable and sustainable future is to be achieved.

> . . . new approaches to marine and coastal area management and development, at the national, subregional, regional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit . . .

Agenda 21 is an ambitious action plan consisting of 40 chapters and 800 pages devoted to the full range of environmental and development-related problems. Chapter 17 entitled "Protection of the 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" is the longest and most comprehensive section in Agenda 21. The opening paragraph of the chapter underscores the importance of the ocean and coasts as a part of the global life support system and the urgent need for new approaches to the management and development of these resources.

17.1 The marine environment—including the oceans and all seas and adjacent coastal areas—form an integrated whole that is an essential component of the global life support system and a positive asset that presents opportunities for sustainable development. International law, as reflected in the provisions of the United Nations Convention on the Law of the Sea referred to in this chapter of Agenda 21, sets forth rights and obligations of States and provides the international basis upon which to pursue the protection and sustainable development of the marine and coastal environment and its resources. This requires new approaches to marine and coastal area management and development, at the national, subregional, regional and global levels, approaches that are integrated in content and are precautionary and anticipatory in ambit, as reflected in the following program areas:

Integrated Management and Sustainable Development of Coastal Areas, including Exclusive Economic Zone;

Marine Environmental Protection;

Sustainable Use and Conservation of Marine Living Resources of the High Seas;

Sustainable Use and Conservation of Marine Living Resources under National Jurisdiction;

Addressing Critical Uncertainties for the Management of the Marine Environment and Climate Change;

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* *The authors participated in the Earth Summit and in the preparatory process leading up to Rio as NGO representatives for the International Coastal and Ocean Organization.*

Strengthening International (Including Regional) Cooperation and Coordination;

Sustainable Development of Small Islands.

As can be seen from the above, this Agenda 21 language provides a powerful mandate for precisely the kind of work that the Ocean Governance Study Group is undertaking. In a more detailed description of program area A (integrated management), "coastal states commit themselves to integrated management and sustainable development of coastal areas and the marine environment under their national jurisdiction." Furthermore, Principles 1, 3 and 4 of the Rio Declaration relate to the need for conservation and stewardship as elements of sustainable development.

> . . . "coastal states commit themselves to integrated management and sustainable development of coastal areas and the marine environment under their national jurisdiction."

Principle 1–Human beings are at the center of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.

Principle 3–The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.

Principle 4 –In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

It is likely that the next several years will see a considerable amount of activity at the international level involving integrated ocean and coastal management. At Rio, for example, the Netherlands Minister for the Environment announced the intention of his government to host an intergovernmental conference on integrated coastal management in the Netherlands in November 1993. Also, the World Bank is in the process of developing guidelines for integrated coastal management for use in connection with its funding programs. Similarly, the United Nations Environment Program is likely to be developing international training programs in the field of integrated coastal management.

The Research Agenda of the Ocean Governance Study Group clearly fits very well with the mandates coming out of the Rio Earth Summit. Efforts by the Study Group to provide policy options for reform of the U.S. ocean governance system are consistent with the recommendations to national governments to move toward better integrated and more equitable ocean management schemes. Furthermore, it seems likely that results coming out of the studies of the Ocean Governance Study Group will also be of interest to an increasing number of developing countries and donor financial institutions as they, together, accelerate the process of implementing integrated coastal management programs in these countries.

SINCE THE STRATTON COMMISSION REPORT: POLICY STUDIES IN OCEAN GOVERNANCE, 1969 AND 1992

Harry N. Scheiber, University of California, Berkeley

Nearly a quarter century ago, the White House received a massive document, ***Our Nation and the Sea***—the famous "Stratton Commission Report," the final report of the Commission on Marine Science, Engineering, and Resources, established under an act of Congress two and a half years earlier.[1] The influence of the Stratton Commission Report on U.S. policy proved to be uneven, though certainly of great importance overall. Some of its most notable recommendations were almost immediately translated into law and policy; in other respects, however, while the Report gave new clarity of focus to continuing debates, it was without the resolution of issues on lines the Commission had wanted. Predictably enough, there were other areas of policy in which a succession of Presidents, the Congress, and the various ocean constituencies and interest groups either resisted the Commission's recommendations or else fell far short of agreement on how to respond.[2]

> ... the Stratton Commission Report still stands, these many years later, as the last such major official enterprise charged with taking a full and comprehensive view of ocean policy and national needs.

Most significant for our purposes is the fact that the Stratton Commission Report still stands, these many years later, as the last such major official enterprise charged with taking a full and comprehensive view of ocean policy and national needs. The Commission was able to argue persuasively in 1969 that it spoke at a "time for decision." This was an accurate claim, if for no other reason than that Presidents Kennedy, Johnson, and Nixon all had given some significant priority to ocean policy questions; and the White House during both the Johnson and Nixon administrations was willing to endorse reforms in U.S. marine policy and in governmental organization in the realm of marine affairs. The Report thus dealt with issues of high political visibility, assured of attention at the highest levels of policy and lawmaking; the national government was primed to listen, and was poised to act.

The example in the 1960s of the U.S. space program—which was regularly cited by proponents of reform in ocean policy as a model for the exploration of the "inner space" of the oceans"—lent force and some useful glamour to the effort to force reconsideration of oceans issues. More generally, the imperatives of the Cold War, especially with an increasingly emphasis in naval planning on nuclear warfare based upon submarine operations, lent great urgency to the focus on the oceans.[3]

And finally, the hopes for a more effective global cooperation in marine affairs over the long run, within or beyond a Cold War context, were in 1969 fastened on the nascent movement for a comprehensive Law of the Sea Convention that might establish a new global regime for the oceans—a regime, as the reformers hoped, which might fundamentally redefine the obligations and rights of nations in relation to ocean space and resources. The Law of the Sea negotiations meant that U.S. policy initiatives (and adaptations) were driven in considerable measure by a need to keep abreast of, and if possible influence the basic direction of, the reformation of international law. Indeed, the Stratton Commission Report repeatedly called for assessment of U.S. policy options with a view toward preparation for, or eventual alignment with, changes in the legal order of global marine relationships.[4]

The alluring concept of a "comprehensive policy": One of the most controversial reforms proposed by the Stratton Commission did not go to substantive policy at all, but rather was its

proposal for a new National Ocean and Atmospheric Agency (NOAA). The new agency, designed as an independent one that would assume supervision and coordination of numerous agencies formerly scattered throughout the government, was intended (as the Report argued) "to mobilize and impart energy to the total undertaking" of a plan for national action. Among the many functions that were recommended for assignment to NOAA were ocean exploration and support of basic science, development and management of the U.S. marine fisheries, promotion of education, administrative coordination for reduction of conflicts in multiple-use management areas, provision of essential services such as mapping and weather reporting to marine users and the general public, and the development of a marine minerals program.[5]

Not today any more than in 1969, however, does comprehensive administration in itself overcome, nor even necessarily address with certain effectiveness, the perdurable issue of segmentation in ocean affairs. There continues to be, of course, very considerable—and understandable—enthusiasm among policy analysts and reformers today for achieving greater coherence and comprehensiveness of ocean policy; and they tend to hark back to the Stratton Commission's approach as an ideal. Seldom remembered is the fact that the Commission Report itself recognized in explicit language the intractable realities of segmentation, declaring:

> It is impossible to deal with development and management issues in terms of marine resources as a whole, although general policy considerations must be accommodated....
>
> There is no single national policy uniformly applicable to all resources, just as there is no single defense, economic, or foreign policy. Rather, there is only a body of experience and general objectives which guide decisions on specific issues at specific times.[6]

In revisiting the wide-ranging series of issues explored by the Commission, it is important to keep the realities of segmentation in mind. Some room for play at the joints—even zones of contradiction and a certain incoherence—will very likely need to be taken, now as in 1969, as a political requirement of success in achieving policy reform and adjustment. The ideal of "coherence" will not always be attainable; some of the problems before us in 1992 will have to be taken on their own terms, not only for political reasons but very likely because the optimal approach to policy, by one "objective" non-political standard or another, e.g., one dictated by scientific analysis, may indicate the desirability of segmented, single-sector solutions rather subordination of policy goals to the imperatives of "comprehensiveness."[7]

To elevate comprehensiveness in the abstract to the status of the single controlling and determinative objective is an alluring option, but it will probably need to be resisted in several important segments of marine policy evaluation and any efforts at reform. It may be found that the objective of attaining *coherence* will be much better served by accepting single-sector solutions when the evidence indicates their appropriateness, than by dashing headlong on a perhaps-quixotic course toward attaining comprehensive, wholly integrated policy.

The Commission as model for a renewed study process: A caveat is in order, also, with respect to the prospects of replicating the scope or intensity of the Stratton Commission investigations and reporting. The fifteen commissioners were assisted by 15 professional staff and another 10 support personnel—and what staff! Lewis Alexander, for example, as deputy director—and heard 126 witnesses, in addition to interviewing or corresponding with another 600 individuals in government, academia, and industry. The Commission itself met monthly, holding a total of 19 plenary meetings, from two to four days each, in addition to drawing upon a set of panels with assigned area responsibilities.

Absent anything remotely like such an array of personnel and support, what are the prospects for a significant product from the Ocean Governance Study Group effort? First, it has to be conceded that the Stratton Report, for all its historic significance, was predictably uneven in

quality. Some sections probed in an original and searching way the policy issues at question; others—on fisheries management—for example, did little more than serve as a vehicle, and a lightweight one at that, for expressing in near-polemical terms the preferences of one school of thinkers or a even a single dominating individual member or staffer. To match or exceed the quality of this report in some aspects, at least, is by no means beyond the reach of a small group of expert researchers.

Especially so as the latter, today, have the advantage of a much richer and more useful research literature—by scientists and technology or management specialists as well as by social scientists—than the Stratton Commission had at its disposal. That the roster of Ocean Governance Study Group volunteers includes most of the key individuals who have contributed to that literature most prominently in the last decade is an even more hopeful feature of this effort.

If 1969 was clearly "a time for decision," as the Stratton Commission asserted, so too are there elements in the present political climate that suggest the timeliness of ocean policy reform efforts.

The hopefulness of a new context: If 1969 was clearly "a time for decision," as the Stratton Commission asserted, so too are there elements in the present political climate that suggest the timeliness of ocean policy reform efforts. In them one can find some counterweight, in public discourse, for the apathy, ennui, and ignorance that Edward Miles vividly and accurately (if rather depressingly) has described; and a counterweight to the ostensible "stall" in marine policy debate in Congress, even after the shock treatment administered when the Reagan Administration suddenly declared a 12-mile territorial sea, thus spreading confusion over a wide range of issues in law and administration of coastal and ocean affairs.[8]

These hopeful elements include, for example, the more settled situation with regard to restructuring of the Law of the Sea (and the concomitant easing of uncertainties that had surrounded domestic marine policy making, generated by the protracted international talks for a new convention); the new activism and manifestly increased competence of state governments with respect to coastal and ocean resources development and management; the continuing intensity of debate with respect to environmental issues more generally, with recent highlighting of ocean-related policy questions as the result of the debate over global weather change; and, not least, the energy and promise that is found in the academic marine-affairs and marine-policy community today. The challenge to the researchers in this field, then, lies in their ability to frame issues and policy options in a compelling enough way to capture public attention, or at least snag some of the time and interest of the technocrats and legislators; and therein lies the test for the Ocean Governance Study Group. We begin, at least, with confidence that with a good plan, well executed, in hand, such an outcome is not beyond our collective reach.

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1. Our Nation and the Sea: A Plan for National Action (Washington, 1969).
2. See Edward Wenk, Jr., The Politics of the Oceans (Seattle, 1972), passim; and Anne Hollick, U.S. Foreign Policy and the Law of the Sea (Princeton, 1981), 186-90.
3. See, e.g., Our Nation and the Sea, 84-86; Wenk, Politics of the Oceans, passim.
4. Cf. Our Nation and the Sea, pp. 141-55, 198-2.
5. Ibid, pp. 231.
6. Ibid., p.
7. This is the place in policy evaluation in which we badly need a more rigorous approach to the uses of scientific information and analysis in relation to social and political analysis–a vexed topic which finally obtained a long-overdue fresh look from a National Academy of Sciences Ocean Studies Board workshop. See Biliana Cicin-Sain and Catherine McFaddin, "Planning Workshop on Improving Coastal Science and Policy Interactions," (Irvine, California, October 12-12, 1991). On some relevant aspects of one state's experience in science advising, see Scheiber, "Scientists and the Oceans Policy Process: The California Experience, 1945-75," in that report volume, at pp. 20-23
8. See Edward Miles letter to Cicin-Sain and Knecht, in the Ocean Governance Study Group background materials for the workshop on "U.S. Ocean Governance: The Next Steps" (Honolulu, Hawaii, January 15-17, 1992). On the territorial sea and stalemate in Congress since 1989 on efforts to create a second Stratton Commission, see H. Scheiber and C. Carr, "Constitutionalism and the Territorial Sea," forthcoming (1992) in *Territorial Sea Journal*.

SUBSTANTIVE PRINCIPLES FOR A CONSTITUTION FOR THE U.S. OCEANS*

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1. **The Precautionary Principle must govern decisionmaking**. This principle requires that when scientific information is in doubt, the party that wishes to develop a new project or change the existing system has the burden of demonstrating that the proposed changes will not produce unacceptable adverse impacts on existing resources and species. This principle is central to ensuring that decisionmakers are guided by an environmental protection policy designed to improve ocean resource management over time.
2. Government agencies and private parties must prepare **environmental impact statements** prior to actions that are likely to affect the marine environment substantially. The process of preparing these environmental impact statements should include active public participation and should draw upon interdisciplinary perspectives so that decisionmakers can understand fully the implications of each development.
3. **Special protection must be provided to rare and fragile ecosystems and endangered and threatened species**, in order to ensure that the biodiversity of the ecosystem is not reduced.
4. **When conflicts arise, protecting living resources should in general be given priority over exploiting nonliving resources**, nonexclusive uses should be preferred over exclusive uses, and reversible exclusive uses should be preferred over nonreversible exclusive uses. Potential conflicts should be identified early and in an orderly fashion, and equitable solutions should be developed by processes that protect and enhance public order.
5. The **Public Trust Doctrine** should govern decisions in order to protect the interests of the whole community and the interests of intergenerational equity. This doctrine requires that conflicts must be resolved in favor of keeping the oceans whole and protecting the interests of the public today and in the future. **Managing resources as a commons should be preferred over privatizing such resources**. If private developments are allowed, the public should receive financial benefits from such developments. The **costs and benefits of each ocean development should be understood** before a project is undertaken, and the **benefits should be distributed fairly**. All costs arising from a development should be internalized, under the **"polluter pays"** principle. The public must be able to protect public trust interests in the courts and administrative agencies, either through broad **public interest standing** or through an adequately funded **ombudsman** or guardian designated to protect the oceans, its natural objects, and its living creatures.
6. The resources of the oceans should be utilized in a manner that promotes **sustainable development**, but resource exploitation should not be the dominating factor in ocean resource management decisionmaking. The **cumulative effects** of resource exploitation should be examined and understood before new development are undertaken.
7. The governance of the U.S. oceans should be undertaken through a system in which the **states, territories, and commonwealths are full partners with the federal government** in ocean decisions that affect their economic or environmental interests.
8. The historically-based claims of **indigenous peoples** to ocean space and ocean resources should be recognized, and their traditional practices of dealing with ocean resources from a perspective of kinship and harmony should be followed whenever possible.
9. **Developed countries should assist developing countries** financially to enable them to undertake the responsibilities outlined in these principles.

**While these principles are partially based on ideas from Jack Archer, Biliana Cicin-Sain, Clifton Curtis, Richard Hildreth, Casey Jarman, Robert Knecht, and many others, they have not been adopted by the Study Group as a whole.*

LESSONS FOR OCEAN GOVERNANCE FROM HISTORY, ECOLOGY AND ECONOMICS

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Twentieth century ocean governance problems may benefit from resource management experience in the fields of history, ecology, and economics. Observation in these three related, but separately pursued fields, offers common insights into problems of sustaining ocean resources.

Lessons from History

The history of management of other commons offers insights into the necessary conditions for governing ocean systems. The British agricultural commons, a land governance system widespread between the 1300s and 1800s, provides an example of a multiple resource management system sustained over several centuries. Despite regional and temporal variation in structure, the agricultural commons conformed to several essential attributes (Hanna 1990). These attributes are consistent with seven "design principles" for long enduring common property resource institutions listed by Ostrom (1990).

Clearly defined boundaries: each resource management system-the village-was distinct. Land uses were well-defined. Rights of access were unambiguous.

Congruence between appropriation and provision rules and local conditions: Rules governing rights of access and degree of access were tailored to each village and changed with changing environmental conditions.

Collective choice arrangements: Individuals affected by commons governance, i.e. all village members—participated in some way in the design and implementation of rules for management.

Monitoring: Monitoring of resource use was endogenous to the village, the governance unit. A good deal of the monitoring was informal; responsibility for formal monitoring rotated among resource users. Courts were local.

Graduated sanctions: Enforcement of rules, designed to prevent overuse of the commons, proceeded by common consent. Offenses were punished by fines which reflected the seriousness and frequency of the offence.

Conflict resolution mechanism: Conflicts were resolved directly and swiftly in local courts. Local courts reflected immediate knowledge of the behavior and resources in question.

Minimal recognition of rights to organize: The rights of villagers to develop their own systems were developed to reflect local conditions and needs.

As a result of the above attributes, land use governance was well adapted to the sustainability requirements of each political-ecosystem. Incentives to develop effective governance institutions were strong because the penalty for failing to maintain the resource base was unacceptably high.

Lessons from Ecology

The development of knowledge from ecological systems offers insight into requirements for sustained governance of the ocean regime. The following are some examples of ecological "truths" embedded in sustainable natural resource systems.

Ecological scale dictates management scale. The system, rather than its component parts, is what is managed and sustained.

Variability of system components is the rule rather than the exception. Long term equilibria do not exist. Sustained use arrangements are adaptable to change and do not sustain fixed yields. System management and yields "roll with the punches."

Maintaining system diversity reduces the risk of variability in total system yields.

Growth really does have limits. We have managed to temporarily avoid this truth in our use of natural resources through the infusion of fossil fuel energy and creation of substitutes. When ecological systems reach a certain threshold of population to resource base they become vulnerable to pressures for overuse.

The economy of resource users must ultimately adapt to the ecological system rather than vice - versa. The "natural order" philosophy of man at nature's apex has obvious limits in its application.

Lessons from Economics

The economic theory of natural resource use has made both positive and negative contributions to the development understanding requirements for ocean governance.

On the positive side, the theory of property rights has contributed powerful concepts to the understanding of the relation of ownership systems to resource use behavior. The power of private incentives for gain are well understood. When the distribution of benefits from resources use cannot be controlled, free riders may undermine systems of regulation. Transactions costs are critical to the development of consensus about resource use; once transactions costs reach too high a level, incentives for compliance with regulation break down. Controlling the number of resource users is critical, because scarcity plays an important role in behavior. Scarcity may result in a rate of time preference on the part of resource users which is too high to get a general consensus on resource sustainability. As scarcity increases, the transactions costs of cooperation increase and cooperation is changed to competition.

On the negative side, the general separation of resource economics from institutional economics has often led to economic analyses and policy proposals for natural resource use which are empty of institutional context. Despite its development of theory tying the behavior of resource users to the nature of the incentive structure, the overall understanding of the range of property rights remains unsophisticated in economics, leading economists to recommend naive schemes for "privatization" to solve complex problems of resource degradation. Economists have a tendency to rely on the benefits of private gain to ensure rational sustainable resource use, despite evidence to the contrary.

Common Insights for Sustainable Governance

Similar lessons from history, ecology, and economics suggest directions for sustained ocean governance. In the historical commons, in ecological systems, and in economic theory common properties of sustainable governance systems emerge.

The scale of effective governance is consistent with ecological scale. Ecosystem partitions for governance are consistent with biological and physical partitions to the extent possible.

Sustainable governance systems are explicitly multiple resource based.

Governance systems are adaptable to ecological variation.

The absolute value of access rights varies in accordance with environmental productivity.

Economic incentives are powerful behavior-shaping mechanisms, but other incentives are equally powerful. Internal feedback mechanisms work well. Sanctions of community-based enforcement systems tend to have lower enforcement costs. Context-specific behavioral rules work best.

A governance system can be effectively sustained only up to a threshold ratio of population to resource base.

Consistency of Experience and Current Ocean Management

In the development of ocean governance systems based on historical interests and long-established patterns of resource use, we have moved away from the coordinated ecosystem management suggested by our knowledge of the historical commons and ecological systems.

In contrast to the type of system management suggested by our experience with historical ecological systems, we have shaped ocean systems to our economic interests through selective harvesting, piecemeal development, and uncoordinated regulation. We have succeeded in the short term through higher rates of productivity of desirable components, but we are now acknowledging both the external effects of the selective approach to utilization, our ignorance about internal ecological linkages, and our inability to sustain a continual increase in the number of resource users.

We have attempted to manage for stability in biological yield in the context of large scale variability in oceanographic forces. Compounding this, despite ample evidence of cyclic behavior in other economic spheres, we develop incentive systems for participation based on the "growth" phase and expect them to be sustained during the stabilization or decline phase. Ocean user groups behave in fairly predictable ways according to the structure of incentives which face them and the expectations formed during resource development.

We have developed other ocean uses, such as defense, waste disposal, transportation, and energy resource development in ways which are uncoordinated with the system as a whole. Utilization and management of multiple activities in the ocean often proceed separately and in isolation of external effects.

We have increased variability and increased risk by simplifying the biological system through production emphasis on certain components. Specialization on production in a variable system creates a strong incentive for overuse through the following mechanism. Increased exploitation leads to increased variability of yields as yields approach the maximum. Increased variability of yields leads to increased uncertainty, which leads to an increase in the rate of time preference of current over future consumption, which leads to further increases in exploitation.

In contrast to the historical experience of collective choice as a mechanism of governance, we have developed "top-down" enforcement systems.

Our resource management is growth-based. We have not been successful in "steady-state" management or managing for decline. Through reluctance to limit access to ocean resources, governments have allowed the population-to-resource-base ratio to get too high to maintain cooperation.

Where Do We Go From Here?

Experiences from the historical commons, ecology, and economics when contrasted with current ocean governance practices leave us with several unanswered research questions.

Economies of scale in regulatory systems: What are the natural size limits to effective governance systems? What are the limits of collective choice, i.e. user participation in governance?

Relative efficiencies of private, public, and composite regulatory systems: What are the contexts in which one type of property system is favored over another? How do we create conditions which allow a mix of private and public access arrangements if a mix supplies efficiency gains?

Ocean ecosystem counterparts of community: What are the essential characteristics of community participation which promote sustainable regulatory systems? How do we simulate such communities in the ocean environment?

Efficient enforcement: How are behavioral sanctions best replicated in the ocean environment? How are social goals best articulated and realized?

Economic growth and sustainability: How do we maintain ocean resources in the context of an economic system which is based on growth?

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2. Ostrom, E. 1990. Governing the Commons: the Evolution of Institutions for Collective Action. Cambridge: Cambridge University Press.

INDIGENOUS CONCEPTIONS OF STEWARDSHIP

Elizabeth Pa Martin
Native Hawaiian Advisory Council

I want to encourage you to take seriously the rights to ocean resources that indigenous peoples throughout the world are asserting. These rights are evolving at a rapid pace as indigenous groups everywhere have developed and are developing the legal and political tools which are necessary to assert their rights. A good example of the political tools being developed are the coalitions working out of the United Nations and the International Labour Organization. They are striving to draft language granting international recognition of indigenous peoples' native claims. A good example of the legal tools being developed is the international recognition of indigenous groups' sovereign claims. Both the Eskimos in Canada's northern waters and the Maoris in New Zealand are such groups. The international political reality requires that this Study Group carefully consider the impact of native peoples' claims to ocean resources as you establish your agenda for research on ocean governance.

> . . . the recognition of native claims to ocean resources will also have the additional benefit of exposing the western world to the indigenous groups' traditional, careful stewardship of the ocean waters.

More importantly, the recognition of native claims to ocean resources will also have the additional benefit of exposing the western world to the indigenous groups' traditional, careful stewardship of the ocean waters. Such respectful management and often times worship of natural resources has resulted in many native peoples practicing "conservation principles" long before the western world "invented" the need for conservation.

As a native Hawaiian myself, I have looked to my jupunas or my elders to discover their traditional ways of living in harmony with the ocean waters abounding these islands. Early Hawaiians worshipped the sea as an ancestor and a dear friend. The ocean was referred to as the "Mai Ki Kai Mai Ke Ola" which meant "from the ocean comes life." It was the native Hawaiian's belief that without the resources of the sea, the Hawaiian people and life itself would perish.

The western world has ridiculed such worship of nature claiming that it is a primitive religion. Instead, the western world has looked at resources as inanimate physical commodities to be used and exploited. In Hawaii, a current example of such disrespect for nature is shown by the recent ciguatera problem which contaminates fish resulting in sickness for the person who unsuspectingly eats the fish. One theory proposes that the chemical runoff from golf courses is fertilizing the algae in the ocean. This is said to cause the excessive blooming of algae in our coral reefs. The ciguatera toxin, which is always naturally present in small quantities, then over develops and contaminates the reef fish that feed on the algae. The reef fish are eaten by other edible fish or humans and the ciguatera toxin makes the humans physically ill—sometimes fatally. There has also been dumping of raw sewage in the oceans such that it is now hazardous to swim at certain beaches. Perhaps native peoples worship of their natural resources will not be as subject to such disrespect and ridicule if the western world reaches the threshold where their failure to respect nature has drained the life out of the air, depleted the marine life out of the oceans, and sheared the ozone layer beyond repair.

Our native Hawaiian spiritual leaders also demonstrated efficient water management of our oceans. Since they considered the ocean as a natural resource that was to be worshipped, it was natural for our "kahunas" (or our priests) to establish "kapus" or a restriction on early native Hawaiian's activities to protect the ocean deity. Kapus which governed early Hawaiian fishermen

included banning the harvest of mullet, oopu, or lobster during spawning season, banning the catching of young undeveloped marine life under a certain size, and finally, "konohiki's" (or chiefs) were free to put kapus on the gathering of seaweed and other marine life from certain sections of the coral reef it was time for regeneration.

It is not enough, however, that indigenous peoples just look back to their early ancestors for proof of Hawaiian's responsible stewardship, they also need to show they are capable of demonstrating these same skills today. In a society where the western world has tried to assimilate all the supposed "uncivilized" peoples in its path, it is difficult for indigenous peoples to hold on to the ways of their ancestors. The proof that native Hawaiians are still sympathetic to and cognizant of the ways of their elders is found in their careful, painstaking regeneration of Kaho'olawe, an island used by the U.S. military from December 8, 1941 through 1990 exclusively as a bombing target practice range.

> . . . indigenous people should become a vital part of all groups that seek to affect, improve, or study the governance of the oceans.

In 1941 the military temporarily declared martial law on the island of Kaho'olawe, promising to return the island after the war. Later in 1953 President Truman signed an executive order which gave the Navy jurisdiction of Kaho'olawe. Although it was supposed to be returned to the people in a condition reasonably safe for human habitation, it wasn't until Hawaiian activists formed the Protect Kaho'olawe 'Ohana and filed a federal suit that they were allowed to visit the island without fear of being prosecuted for criminal trespass. After the lawsuit Hawaiians were allowed to visit the island for ten months out of the year to start the difficult process of regenerating the desecrated island. Hawaiians and others who visit the island are visibly struck by the destruction and emotionally moved by a sense that the island is living, yet experience severe pain. "Kaho'olawe: Aloha 'Aina" was the slogan that rallied thousands of Hawaiians to love, respect, care for and heal this island.

As stewards of the island, the 'Ohana group insisted that the Navy clear 6,500 acres of surface ordinance as well as the entire beach and shoreline to protect the coastal ecosystem. 'Ohana members apply and share subsistence skills of fishing, gathering, and planting in the traditional manner. A large part of the daily meals are obtained by the 'Ohana fishermen who dive, pole fish and throw net to catch the different varieties of fish in the offshore waters. Opihi, haukeuke, kupe'e, and dozens of varieties of limu are also gathered for food from the shoreline and reefs. Fishermen offer the first fish of their daily catch on traditional fishing shrines as a show of respect for making food out of a living creature and recognizing the natural world order.

In summary, indigenous people should become a vital part of all groups that seek to affect, improve, or study the governance of the oceans. Research groups such as this panel will affect intergovernmental public policy, and undoubtedly such policy will directly affect the condition of the ocean quality and resources. If the indigenous people are to continue to have the ocean as a part of their cultural existence and survival, then they must be a part of all the research related to developing public policy affecting ocean governance.

LEARNING FROM OTHER NATIONS

Professor Richard G. Hildreth
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Introduction

National legal regimes for ocean governance serve several purposes including: (a) implementation of the nation's international law of the sea positions as domestic law; (b) allocation of EEZ resources to foreign and domestic users; (c) regulation of EEZ resource use to minimize pollution and spillover effects on other resources and users; and (d) coordination of decision-making vertically between national and subnational units of government and horizontally among agencies at each level of government. The last three functions can be carried out either on a single sector or multiple-use areal basis. Regional variations can and should be accounted for under either approach.

National legal regimes for ocean governance serve several purposes including: (a) implementation of the nation's international law of the sea positions as domestic law; (b) allocation of EEZ resources to foreign and domestic users; (c) regulation of EEZ resource use to minimize pollution and spillover effects on other resources and users; and (d) coordination of decision-making vertically between national and subnational units of government and horizontally among agencies at each level of government.

Comparative research can yield insights useful for improving U.S. ocean governance. Australia and Canada, with the second and fourth largest EEZs after the U.S., federal structures of government, and an English common law heritage similar to the U.S., are obvious choices for comparison.

The world's most fully developed regional multiple-use ocean management program appears to be Australia's scheme for the Great Barrier Reef.

Multiple-Use Management on an Areal Basis

Neither Canada nor Australia uses multiple-use management throughout its EEZ. However, in Canada initiatives are underway to establish regional multiple-use ocean management for Lancaster Sound in the Canadian Arctic and the Gulf of Maine, the latter through the cooperative effort of the three U.S. states and two Canadian provinces adjacent to the Gulf.

Australia has implemented multiple-use management on a bilateral basis with Papua New Guinea through the Torres Strait Treaty. The treaty balances the interests of native inhabitants, commercial fishermen, mining companies, and environmental quality by establishing a "protected zone" with different demarcation lines for fisheries and sea-bed resources to facilitate bilateral administration of the treaty regime.

The world's most fully developed regional multiple-use ocean management program appears to be Australia's scheme for the Great Barrier Reef. In 1975 national legislation established a Great Barrier Reef Marine Park Authority (GBRMPA) headquartered in Townsville, Queensland to manage the reef area extending to the low water mark along the Queensland coast and around Queensland islands in the area. GBRMPA has used its statutory powers to map and zone on a multiple-use basis the entire park region. GBRMPA relies extensively on Queensland agencies, especially the Queensland Parks and Wildlife Service, for the scheme's enforcement. Except for a gap off far north Queensland, the Torres Straiht and Great Barrier Reef schemes together provide multiple-use management for the ocean adjacent to the entire tropical northeastern corner of the Australian continent.

The Great Barrier Reef Act's very general statutory criteria for multiple-use zoning have been implemented in very detailed fashion by GBRMPA's staff in plans for particular areas and

regulations for the act's enforcement which include a ban on oil drilling anywhere in the park. For example, the zoning plan for the park's Capricornia Section is based on six use zones ranging from unrestricted (commercial shipping and commercial trawling allowed) to preservation (scientific research allowed only in exceptional circumstances). Such zoning plans are enforced by permit requirements imposed on most significant activities, including native and Aboriginal hunting and fishing.

In the U.S. EEZ, such intense management may only be justified in the growing number of marine sanctuaries designated under the U.S. Marine Sanctuaries Act. Outside designated sanctuaries, regional attention needs to be given to (1) assessing the cumulative effects of multiple ocean uses in the region on: (a) each use sector including preservation uses, and (b) marine environmental quality, with the goal of promoting sustainable development of ocean resources in the region; and (2) guiding federal and state research activities toward regional planning and management needs. Ultimately, principles and priorities with the force of law for resolving ocean use conflicts may develop along with procedures for applying them to disputes.

Australia and Canada appear to have made more progress than the U.S. in diminishing federal-state and federal-provincial tensions over offshore oil and gas development.

Australia and Canada appear to have made more progress than the U.S. in diminishing federal-state and federal-provincial tensions over offshore oil and gas development. Through a 1980 Offshore Constitutional Settlement, federal-state roles offshore were comprehensively settled between the Australian national government and the states for most sectors of ocean activity on a sector-by-sector basis. The settlement was comprehensive in that it dealt with most important sectors of ocean activity, but it did not establish multiple-use management for any areas outside the Torres Strait and Great Barrier Reef areas discussed above. With respect to offshore oil and gas development, the settlement provides the states with a minimum sixty percent share of offshore petroleum royalties from both within and beyond three nautical miles offshore, the point at which national authority generally becomes predominant under the 1980 settlement.

However, the royalty is applied to the well-head value after an eighty-seven percent maximum marginal rate national crude oil tax levy is applied, so that the state share, while significant, is not as large as it first seems.

Canada, on the other hand, has proceeded to establish federal-provincial relations offshore province-by-province, sector-by-sector. Offshore oil and gas accords reached with Nova Scotia and Newfoundland concede one hundred percent of offshore oil and gas revenues to the adjacent province and provide for substantial provincial participation in the decisionmaking process.

While U.S. coastal states may not be entitled to the generous treatment provided those two provinces as "have nots" in the Canadian federation, they may well be entitled to more than the one hundred percent of revenues from the first three nautical miles plus the twenty-seven percent of revenues from the next three miles that they receive under the Submerged Lands Act and Section 8(g) of the Outer Continental Shelf Lands Act. [Further discussion of this point is provided in the editorial comment from *Ocean Development and International Law* (21:241-243)]. As described in the *Nautilus Press Coastal Zone Management Newsletter* of November 1991, the Bush Administration presented Congress with a proposal for revenue sharing from OCS tracts located beyond six nautical miles. The recent legal challenge to a Gulf of Mexico OCS lease sale filed by the state illustrates changing state perceptions of the fairness of current offshore revenue allocations. Given the timeliness of the subject, the Ocean Policy Study Group might want to give the revenue sharing question priority attention.

THE CHANGING INTERNATIONAL REGIME: IMPLICATIONS FOR U.S. OCEAN MANAGEMENT, ORGANIZATION, AND APPROACHES

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International legal norms provide a legal framework within which ocean management efforts may develop and proceed. Since the advent of the process leading to the adoption of the 1982 United Nations Law of the Sea Conference important developments have occurred in the law of the sea, including recognition of a territorial sea to a maximum of 12 nautical miles, the right of coastal states to establish Exclusive Economic Zones (EEZs) in resources as well as certain other jurisdictional rights, and new imperatives calling upon states to protect the marine environment. Changes are seen in terms of jurisdictional capacity and also substantive obligations of states. Evolving legal norms have acknowledged an intensification of traditional ocean uses and also a growing multiplicity of ocean uses. Implicitly, and sometimes explicitly, those norms appear to recognize the interconnected nature of different ocean uses, their potential impacts upon one another and on the environment, and the need to determine some priority of uses.

The new law of the sea provides significant opportunities for states to manage what occurs off their shores and to benefit from the wealth of the oceans adjacent to their coasts. It also, in effect, places upon them stewardship responsibilities for future generations and to the wider world community. Consequent to the developments associated with the Third United Nations Conference on the Law of the Sea, the United States government established an EEZ and extended its territorial sea from the traditional three mile limit to twelve miles. Millions of square miles of ocean space, with some of the world's most important fishing grounds, which in the past had been part of the high seas now come under the jurisdiction of the United States. How may the United States best approach its new opportunities and responsibilities?

While the United States has through the law of the sea obtained rights and responsibilities, operationally who will act in the name of the United States? Within the U.S. context jurisdictional questions relating to federal/state roles must be addressed and at each of these levels of government so too must the question of agency responsibility. The first matter could be conceived of as a vertical division of responsibility/opportunity, while the second could be conceptualized as a horizontal division. The problems of fragmentation of government in the ocean field were noted in some detail in the original report of the Stratton Commission; this problem still exists.

The new 1982 Law of the Sea Convention also directly and indirectly raises questions of approach to management efforts in newly created zones coming under national jurisdiction. Should management proceed on the basis of single purpose approaches which accord well with existing governmental organization and arrangements or should the approach be more "holistic," and be multipurpose in approach? In an article appearing in the January 1990 edition of *Marine Policy*, the authors of this present brief considered the potential for such a comprehensive, integrated approach. Obviously, there are many difficulties in moving toward and achieving effective multipurpose management of ocean areas and yet, increasingly, this is viewed by observers as the needed course of action.

What are some of the benefits from this undefined multipurpose management? To begin with there is the common and well grounded observation that in the real world things are connected with one another. Decisions taken in respect of one matter often have implications for other matters. Unintended impacts on other uses (externalities, which may often be negative) caused by single purpose management decision

taken by authorities with a limited scope of concern may be a natural consequence of such management systems. There is a need for consideration of the "big picture," so as to help avoid the problems of negative externalities resulting from a particular decision or from the cumulative impact of a host of decisions taken discretely by different authorities. Further, without an integrated approach some matters which deserve attention may "fall between the cracks" and not be addressed. Indeed, such considerations led the Stratton Commission to support what may be termed as a "big picture" approach to integrated coastal zone management.

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But while multi-use management has some appeal there are problems associated with its conceptualization and implementation. Do we know enough abut use or use/environment interactions to be able to manage ocean areas on a multi-use basis? Would this approach simply provide a formula for paralysis? How do we aggregate and evaluate costs and benefits of policies as we consider what to do in a multi-use context? Essentially are such decisions economic in nature or, more broadly, political? There are models in other areas such as forestry which might be examined which could be suggestive of varying approaches. Yet even if such an approach for ocean management were deemed desirable and intellectually possible, it is clear that there are many problems in regard to implementation since such an approach is, for the most part, out of synchronization with the actual organization of the U.S. government as seen in both the executive branch and Congress. One may well anticipate, further, that interest groups, with their narrow points of focus, would be very hesitant to change the context in which policy and decisions are made unless they believe that their particular concerns would benefit. The concept that organization has policy implications, thus, is recognized at several levels.

There is a common adage to the effect that if something is not broken, it should not be fixed. Perhaps the place to begin an evaluation of United States ocean policy is with the questions: How is the ocean policy system working now? Is it effective in grasping available opportunities for development of resources, in protecting the marine environment, and meeting the myriad obligations to its own people and to the world at large? What problems are evident in the policy system and how might they be addressed better?

CAVEATS ON "INTEGRATION" IN OCEAN AND COASTAL MANAGEMENT

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1. More than fifty national, state and local agencies have direct or indirect development, planning or regulatory activities that affect ocean and coastal resources or areas. There is a temptation to look at this complex web of agencies, laws and programs and conclude that greater integration is the answer to the policy conflicts, jurisdictional gaps and overlaps and management inefficiencies we see.

2. Greater integration of ocean and coastal management can mean many things, but much of the discussion about integration seems to be based on the assumption that much greater centralization of management authority away from sectoral agencies is the preferred solution.

3. I want to argue for a cautious approach to integration on several grounds.

   Comprehensive reform is politically difficult and likely to be a long time in coming. We are likely to be more successful in mitigating some of the management programs we currently see by an incrementalist approach to reform. Our inability to gain legislative acceptance of the modest experiment in integration built into the Hawaii Ocean Resources Management Plan may be instructive in this regard.

   To the extent that greater integration means greater centralization of authority—and it can mean other things—it is likely to privilege some groups at the expense of others. A centralized authority is likely to reduce participation in the name of efficiency and technical expertise.

   We need to remind ourselves that integration is a means to an end rather than an end in itself. We need to focus more carefully on these ends.

4. Some of those ends are the specific management problems that have been identified by various speakers here and in our handouts. In general they include:

   - *inadequate intersectoral communication*
   - *conflicts among sectors*
   - *inability to make tradeoffs among sectoral activities*
   - *lack of information*
   - *management inefficiencies*
   - *redundancies*

5. I don't think there is an organizational "big fix" that will ameliorate these problems. Rather, I think we need to be more attentive to assessing existing mechanisms and strategies for coping with specific ocean and coastal management problems and to crafting specific coordinative and integrative solutions to specific problem settings.

6. The repertoire of potential coordinative devices is enormous. Drawing on the management experience in several resource management arenas we can locate scores of such devices along a coordination continuum ranging from benign coordination (e.g. voluntary information sharing) to tight coordinative control (e.g. mandatory review and approval of plans or management decisions by subordinate agencies.

7. How does all this relate to a research agenda for the Ocean Policy Study Group?

   First, we might catalogue all the current coordinative and conflict resolution devices in use (e.g. memoranda of understanding, inter agency task forces, consistency requirements

   Second, we might encourage more case studies of these devices. This would require developing protocols that would facilitate comparative analysis. (For example, we need to ask why task forces work well in some

circumstances, but not in others).

To the extent that these case studies are to be evaluative rather than exploratory we need to be much more explicit about the criteria by which we assess the success or failure of these devices (e.g. effectiveness, efficiency, cost, participation, etc.) and the ways we measure the degree to which criteria have been met.

Finally, we need to do more synthesis studies that would lead to specific background papers and policy recommendations.

OCEAN AND COASTAL MANAGEMENT IN THE UNITED STATES: THE NEED TO INCORPORATE LOCAL, STATE, AND REGIONAL PERSPECTIVES

Lauriston R. King, Texas A & M University

Efforts to forge an international order for the oceans, combined with Washington's traditional dominance in ocean policy have obscured the current and potential role of local, state, and regional authorities in the management of marine resources. It has become apparent that the states, in particular, have the potential to become major players in coastal and ocean affairs. First, population continues to concentrate along the coastal margin. Second, many coastal resources and uses fall clearly within the jurisdictions of state and local governments. Third, for well-developed coastal states in particular, the coastal margin contributes a significant share of the states' economic activity. Finally, the pressures of population growth and economic activity conspire to impose tough challenges to the ecological health of coastal and estuarine waters.

Given these conditions, there are a number of key topics that require systematic attention. These include: (1) assessments of state capacity for coastal and ocean management; (2) economic analyses of the coastal margin; (3) comparative state studies; and (4) studies of conflict and conflict resolution in the context of intergovernmental relations.

State Capacity. State capacity refers to the commitment a state makes to develop, staff, and sustain institutions with the authority and knowledge required to deal with marine policy issues. Among the measures of capacity are the ability to: (1) anticipate and influence change; (2) make informed decisions on complex, technical issues; (3) develop programs to carry out policies; (4) attract, use, and manage funds; and (5) draw on current experience to shape future actions. Aspects of state capacity that merit attention include historical studies of the maritime heritage and efforts to grapple with coastal management issues; critical evaluations of the institutional framework for dealing with ocean and coastal policy issues; the attitudes and commitments of political decisionmakers and policy elites toward marine issues; the extent to which public officials are committed to a problem-solving style based on scientific rationality; and the role of political leadership.

Economic Studies. Most ocean policy issues are about economics. Despite this truism, the contribution of the coastal margin to state economies is not well-understood. Preliminary estimates, however, are impressive. For example, in 1985, 31.7 percent of the Gross National Product(GNP), almost $1.3 trillion, originated in 413 coastal counties and provided 28.3 million jobs. In nine of 31 coastal states more than one-half of total state GNP originates in the coastal zone; in 17 other coastal states, commerce and industry in the coastal zone make up at least one-third of the state GNP. High priority research topics include: systematic studies in each coastal state of the contribution of the coastal economy to the state's economic welfare; studies of changes in the mix of industries and activities in the coastal zone; costs and consequences of maintaining the environmental quality of coastal waters; assessments of the onshore impacts of offshore development; economic analyses of major industries (shipping, ship-building, oil and gas, recreation, real estate); legal, regulatory and political incentives and constraints on coastal economies; and studies of the changing roles of ports and harbors in the state, regional, national and international economy.

Comparative State Studies. Comparative state studies are critical tools in understanding successes and failures in ocean policy, hence deserve special attention. There are wide variations in the way coastal states pursue their ocean interests. For example, the big part oil and fisheries have played in Alaska, California, Texas and Louisiana have had a distinctive influence on their

approaches to coastal resource management. Few other states, however, have enjoyed the level of political support and commitment needed to pursue an expanded role in marine resource management. Many topics embraced in studies of state capacity and coastal economics offer obvious points of comparison. Others include: culture, structure, and role of state resource management agencies; maritime heritage; evaluation of distinctive policies affecting coastal and marine resources; the role of the public and public participation in the design and implementation of marine policy; institution-building (laboratories, educational programs, coastal zone management); and adaptation to changing needs and demands (coastal access, estuarine management, environmental protection).

Intergovernmental Relations. Marine resource policies have for the most part acknowledged state and regional roles and responsibilities. Nearly all major legislation dealing with marine resources — fish, coastal zone, sea grant, oil and gas — involves a direct role for state or regional officials. This combination of federal structure and geographic reality requires cooperative policy making within and between multiple government agencies. Harmony cannot always be guaranteed. In the absence of unitary or central government control, intergovernmental relations assumes major importance in ocean governance. Sharpened understanding of these relations involve case studies of factors promoting conflict and cooperation between and among different levels of government; the role of scientific expertise in decision-making at various levels of government; the nature and exchange of personnel; evaluations of the effectiveness of multiple agency jurisdiction on the management of marine resources; the role of formal and informal networks in implementation of policy; the role of the judiciary in resolving conflicts at all levels of jurisdiction; and the balance of responsibility and income between the states and the federal government.

ON THE PRACTICAL CHALLENGES OF IMPROVING OCEAN GOVERNANCE: SOME ILLUSTRATIONS FROM LOUISIANA

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Louisiana lies on the northern Gulf Coast which is an area that has already undergone extensive offshore and coastal development. The development of this area took place with essentially no long range policy or planning. Many of the development interests are now institutionalized in the state's political and economic mechanisms. It is extremely difficult to bring the development community into discussions in which they are asked to endorse policies that reflect a more long range viewpoint. Thus, a particular industry's attitude toward participating in long range planning may be strongly influenced by the extent to which it has already been accepted and become intertwined in a region's economy. Likewise, a state government is obviously hesitant to challenge the status quo of an industry that provides a significant economic base.

In this context, the L.S.U. Sea Grant Legal Program is developing an ocean and coastal policy for the state as part of its 1992-1993 Sea Grant Project. We have examined similar efforts of other states and identified several factors we feel are crucial for enhancing the viability of a proposed ocean and coastal policy.

It is extremely difficult to bring the development community into discussions in which they are asked to endorse policies that reflect a more long range viewpoint.

The interactions in a state/federal partnership are greatly affected by user groups' perceptions of how federal laws are administered. For example, in Louisiana, commercial fishermen are very distrustful of the way the Endangered Species Act and Fishery Conservation and Management Act are administered. Many fishermen view the imposition of Turtle Excluder Devices (TED) requirements and quotas for red drum and red snapper to be lacking a sound scientific basis. Such perceptions may be due to a poor understanding of scientific methods or to an actual distrust of the bureaucratic process or both. Many fishermen seem to feel that other interest groups have overly influenced the federal government. These perceptions have exacerbated a traditionally conservative, states' rights oriented attitude held by southern states.

In examining the scope of existing state and federal ocean laws we foresee several possible gaps in federal ocean law which could increase intergovernmental tensions. Minerals management has always been a point of contention between Louisiana and the federal government. There is still disagreement over the state/federal boundary which has been held to be ambulatory. In view of recent predictions regarding global climate change and sea level rise is the current method of delineating state/federal boundaries viable? The question is pertinent in the areas of OCS revenue sharing and coastal management. In the wake of a depressed oil and gas industry many Louisianians are becoming more aware of the impacts suffered from 40 years of oil and gas extraction both in the coastal zone and offshore. This has led to assertions that the state should receive a larger percentage of federal OCS revenues as compensation since the benefits of petroleum production have inured to the country as a whole. A number of recent bills have attempted to address this issue. In October 1991 the Bush Administration proposed legislation which would give coastal states a greater percentage of OCS revenue as compensation for impacts from OCS oil and gas development. A similar revenue sharing provision has been proposed as an amendment to the National Energy Security Act of 1991 (S 2166). A

recent consistency determination by the Louisiana Department of Natural Resources regarding OCS lease sales seemed to tie the state's cooperation in consistency matters to federal efforts to provide funding for such compensation. However, Louisiana seeks to be compensated for past as well as future impacts so more will be necessary to seriously address the state's coastal wetlands problems. What effect will coastal erosion and sea level rise have on revenue sharing?

Louisiana is beginning to assert more control over oil and gas operations in federal waters under CZMA consistency authority which was strengthened in the 1990 amendments. In 1991 consistency certification was denied for two lease sales in federal waters; again an apparent consequence of the petroleum economics and increasing environmental awareness. How far offshore does a state's consistency authority extend to activities in federal waters?

There are a myriad of activities taking place in Louisiana's ocean and coastal areas which contribute to multiple use conflicts and cumulative impacts. No state agency has the mission or authority to address multiple use conflicts and cumulative impacts besides the Coastal Management Division of the Department of Natural Resources which has traditionally focused on the coastal zone rather than offshore. As already mentioned, increased emphasis on CZMA consistency requirements has recently begun to shift more attention offshore.

The promising potential of marine aquaculture is being seriously examined in Louisiana and experiments are already underway in Texas using cages attached to oil and gas structures for the culture of red drum. With thousands of oil and gas structures in its offshore waters and environmental conditions which support huge fisheries populations, Louisiana could possibly develop a thriving offshore aquaculture industry. Such a possibility raises several questions concerning aquaculture operations in federal waters. It is unclear to what degree a state could exercise control over aquaculture in federal waters. The commerce clause may allow a state to regulate the activities of its own citizens in federal waters but not activities of citizens of other states. The consistency provisions of the CZMA would probably allow consistency review of Federal permits or leases for aquaculture activities outside the coastal zone. Will the consistency provisions of the CZMA allow a state any control of offshore aquaculture activities based on economic impacts? What would be a state's recourse, for example, if extensive offshore aquaculture production were to cause a collapse in market prices thereby adversely affecting a state's capture fisheries or onshore aquaculture operations?

There are a myriad of activities taking place in Louisiana's ocean and coastal areas which contribute to multiple use conflicts and cumulative impacts. No state agency has the mission or authority to address multiple use conflicts and cumulative impacts besides the Coastal Management Division of the Department of Natural Resources which has traditionally focused on the coastal zone rather than offshore. As already mentioned, increased emphasis on CZMA consistency requirements has recently begun to shift more attention offshore. We think that addressing multiple use conflicts and cumulative impacts occurring off Louisiana's coast should be an integral part of the state's ocean and coastal policy. We feel strongly that such an endeavor should include examination of cultural and social impacts which have often been overlooked in the past. For example, the booming oil and gas industry for several decades provided Louisiana with low skill high paying jobs. In that atmosphere, thousands of people decided to forego getting an education or learning a skill in favor of working in the oil fields. The collapse of oil prices left hundreds of thousands of people unemployed. Unqualified for most jobs, many turned to commercial fishing and shrimping, which had traditionally been a seasonal or part time endeavor, as a full time occupation. The increased pressure on fisheries resources has resulted in some stocks being over stressed and reduced the profitability of some commercial fisheries due to increased competition. Thus, economic problems

of the oil and gas industry have affected natural resources in an indirect manner.

Finally, Louisiana faces the problem of building statewide consensus on the need for comprehensive ocean and coastal policy. Surprisingly, many people in Louisiana do not perceive it as an "ocean state" and therefore do not consider ocean issues to be important. Several factors contribute to such a perception. The state's physical shape and size place the coast a considerable distance from northern population centers. There is a significant cultural difference between the northern and southern parts of the state. Louisiana's extensive wetlands actually isolate people from the open coast (there is very little beach area in Louisiana) so the focus of policy makers has been on wetlands rather than offshore. All of these factors make it difficult to develop ocean policy initiatives that will be accepted by enough people that an ocean and coastal policy can actually be implemented rather than being purely an academic exercise.

ASSESSING CUMULATIVE IMPACTS

Alison Rieser
Marine Law Institute
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What is Cumulative Impact Analysis?

Cumulative impact analysis is an assessment of the environmental impacts of a proposed activity or development in the context of other activities that may also have an effect upon a particular natural resource or ecosystem. It is an approach to governmental decision-making that attempts to get beyond the limited focus that usually results when resource allocation decisions are made on a case-by-case basis. Cumulative impact analysis looks at other projects that have already been approved, other projects that are proposed, and other projects that are likely to be proposed or approved in the foreseeable future. Decision-makers who employ this approach seek a more comprehensive approach to their decisions and to avoid the piecemeal degradation of a natural resource that often results from numerous small-scale activities. They hope to elude what the economist Alfred Kahn described as the "tyranny of small decisions," the unintended but undesirable consequences that can result from the narrowness of the individual actor's perspective (Kahn, 1966: Odum, 1982).

In some jurisdictions where the approach is employed, it reflects a desire to make allocation decisions on other than a "first-come, first-served" basis, to provide an equitable distribution of development opportunities, for example, to landowners in wetland permitting. See, e.g, Florida's Henderson Wetlands Protection Act, Fla. Stat. 403.919 ("Equitable Distribution") (in the Appendix).

At its best, cumulative impact analysis takes account of both natural and anthropogenic impacts on a resource, and does so in a context with appropriate spatial and temporal boundaries. This includes consideration of activities that are well outside the legal jurisdiction or authority of the decision-making body. To illustrate, consider the condition of the Alaskan walrus population. It is affected by habitat degradation associated with oil and gas development, food source depletion from expansion of foreign and domestic commercial fishing, traditional hunting harvest rates that exceed natural replacement rates, and commercial exploitation related to ivory market pressures created by the international ban on ivory to protect the African elephant (Gilcrest, 1990). Thus, an Interior Department decision on whether to issue a general permit under the Marine Mammal Protection Act for harassment associated with seismic exploration on the OCS should take these other sources of adverse impacts into account, rather than simply address the disturbance impacts associated with the seismic activities.

Results of a 1986 study by the Marine Law Institute on behalf of the Maine State Planning Office and Maine Coastal Program suggest that cumulative impact assessment must be preceded by a planning process (SPO, 1986; Rieser, 1987). In the land use context this means that comprehensive planning must be undertaken to assess trends in development and resource use, to identify vulnerable resources in the path of development, to identify, where appropriate, assimilative or carrying capacities of particular resources, and to establish priorities for resource protection and judgments about intensity and location of development. In the ocean management context, it seems apparent that an effective use of cumulative impact analysis likewise must be preceded by a planning process. This would give a frame of reference that can take into account a range of uses and activities and can set priorities among potentially conflicting uses in advance of specific proposals.

Current Legal Authority for Cumulative Impact Analysis in Ocean Management Decisions

1. The Council on Environmental Quality's regulations under the National Environmental Policy Act (NEPA) define cumulative impacts and require federal agencies that propose a major federal action significantly affecting the quality of the environment to address cumulative impacts in the impact statement. See 40 C.F.R. 1508.25(a),(c); 1508.7 (reprinted in the Appendix). Note that this requirement is not the same as incorporating a cumulative impact criterion into decision-making standards. The NRDC v. Hodel decision [865 F. 2d 288 (D.C. Cir. 1988)], indicates this difference in the context of Interior's 5-year OCS leasing plan.

2. The Army Corps of Engineers public interest review process, detailed in 33 C.F.R. 320.4, requires consideration of cumulative impacts in all Corps permitting under section 10 of the Rivers and Harbors Act and section 404 of the Clean Water Act. This review would be applicable to all ocean activities that require a Corps permit (e.g., aquaculture, OCS platforms, etc.) and all shore-side activities in navigable waters that could affect ocean systems (e.g., dredging and filling in estuarine areas and wetlands) (see the Appendix).

3. Regulations under the Coastal Zone Management Act (CZMA) require state coastal management programs to take account of cumulative impacts. 15 C.F.R. 923.11(c)(2). The 1990 amendments to the CZMA identify cumulative impact management as a program enhancement area eligible for special state funding under section 309.

4. At the state level, guidelines under the California Environmental Quality Act have a carefully drafted standard. Cal. Adm. Code tit. 14, 15130 (1986) (See the Appendix). Florida's standard under the Henderson Wetlands Protection Act does not use the term "cumulative impacts" but is based upon a cumulative impact standard that developed as agency policy and was later added to the statute by amendment under the heading of "equitable distribution." Fla. Stat. 403.919 (see the Appendix).

Potential Research Questions for Ocean Governance Study Group

It appears that a well executed cumulative impacts analysis can potentially provide a bridge between single-sector management approaches and help to iron out inconsistencies among resource management and development programs. We need to know more about what is being done and what could be done to achieve these purposes. Several questions that are appropriate for further analysis include:

1. Does cumulative impact analysis have potential as a tool for achieving greater integration of ocean and coastal management efforts?

2. To what extent is cumulative impact analysis required under current ocean and coastal law and is it being done effectively?

3. How can we address problems that have arisen in wetlands cumulative impact assessments that are likely to arise in the implementation of a cumulative impact standard in the ocean management context? These questions include:

   a. What temporal and spatial boundaries should be used? Just how broadly do we need to consider sources of impacts? For example, do we need to consider the ocean airshed to take account of long-range transport of pollutants?

   b. How can agencies acquire and exchange information on activities within these temporal and spatial boundaries?

   c. What level of understanding of ecological and socioeconomic relationships is necessary to make effective cumulative impact decisions?

d. In the oceans context it may be necessary to consider activities beyond areas of U.S. sovereign rights, including the high seas and adjacent EEZs, e.g., Canada. What are the best ways to take into account activities and resource management outside U.S. jurisdiction?

e. How can the social and economic relationships among activities be considered?

f. What legal authority is sufficient to overcome agency personnel reluctance to base a decision to deny or condition approval on impacts from other uses, i.e., to address concerns about fairness, sufficiency of information, vulnerability to legal challenges, etc.? What is the potential effectiveness of adding a cumulative impact standard to current federal ocean management statutes and to specify, as in NEPA, that this includes a requirement to consider impacts outside the jurisdiction of the agency?

NOTES

1. Gilcrest, "The High Price of Ivory: Seeking a Balance for Alaska Natives and Walrus," 11 Pub. Ld. L. Rev. 135 (1990).
2. Odum, "Environmental Degradation and the Tyranny of Small Decisions, 32 Biosciences 728 (1982).
3. Kahn, "The Tyranny of Small Decisions: Market Failures, Imperfections, and the Limits of Economics," 19 Kylos, 23, 28 (1966).
4. Rieser, "Managing the Cumulative Effects of Coastal Land Development: Can Maine Law Meet the Challenge?" 39 Maine L. Rev. 321 (1987).
5. State Planning Office, State of Maine, "Managing the Cumulative Effects of Development on the Maine Coast" (1986).

Appendix

Illustrative Language from State and Federal Statutes

1. **National Environmental Policy Act, CEQ Regulations:**

   "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result in individually minor but collectively significant actions taking place over a period of time.

   40 C.F.R. 1508.7 (1990).

2. **Army Corps of Engineers Permit Regulations:**

   (a) Public interest review (1) The decision whether to issue a permit will be based upon an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. . . .

   (b) Effects on wetlands.

   (3) Although a particular alteration of a wetland may constitute a minor change, the cumulative effect of numerous piecemeal changes can result in a major impairment of wetland resources. . . .

   [33 C.F.R. 320.4 (1990)].

3. **Florida Henderson Wetlands Protection Act:**

   Equitable distribution. — The department, in deciding whether to grant or deny a permit for an activity which will affect waters, shall consider:

   (1) The impact of the project for which the permit is sought.

   (2) The impact of projects which are existing or under construction or for which permits or jurisdictional determinations have been sought.

   (3) The impact of projects which are under review, approved, or vested pursuant to section 380.06 or other projects which may reasonably be expected to be located within the jurisdictional extent of waters, based upon land use restrictions or regulations.

   (Fla. Stat. 403.919).

4. **California Environmental Quality Act Guidelines:**

   The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

   [Cal. Adm. Code tit. 14, section 15130 (1986)].

   (a) Cumulative impacts shall be discussed when they are significant.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness. The following elements are necessary to an adequate discussion of cumulative impacts:

(1) Either:

(A) A list of past, present, and the reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the agency, or

(B) A summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional or area-wide conditions. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency;

(2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available, and

(3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable options for mitigating or avoiding any significant cumulative effects of a proposed project.

(c) With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis.

[Cal. Administrative Code title 14, section 15130 (1986)].

FREE TRADE AND OCEAN GOVERNANCE

(Abstract of paper to be presented at Berkeley Conference, January 1993)

Richard McLaughlin
Mississippi-Alabama Sea Grant Legal Programs

The interplay between free trade principles and protection of the international environment has been the focus of extensive scholarly debate in recent years. On one side, it has been argued that unfettered international trade is a source of increased wealth and technological development which enhances the ability of nations to protect and improve their environments. Others believe that unregulated trade-based growth has resulted in the overexploitation of natural resources, the transfer of environmentally damaging industries to less developed nations, and other destructive practices. The eventual outcome of this debate may profoundly affect how the world deals with many of its most important international environmental problems including global climate change, tropical deforestation, and protection of biological diversity, just to name a few.

No attempt will be made in this paper to reconcile the broad range of discordant views associated with the debate over free trade versus the protection of the international environment. That monumental task must be left to others with far greater expertise and/or advocacy skills than the author. Instead, this paper will focus on the issue as it more narrowly concerns ocean governance in the United States. Primary emphasis will be placed on the implications of a recent ruling by a dispute resolution panel, assembled under the General Agreement on Tariffs and Trade (GATT). The GATT Panel found that the United States violated GATT rules by banning imports of Mexican tuna based on Mexico's refusal to fully comply with the dolphin protection provisions of the Marine Mammal Protection Act. Observers from the environmental community as well as many Congressional critics have interpreted the ruling as imperiling not just the nation's ability to protect marine mammals, but also its ability to use unilateral economic measures to protect other domestic and international environmental interests.

Regardless of one's view of the wisdom or validity of the GATT Panel ruling or the outcome of the immediate controversy, it is clear that the issue of free trade versus the environment will become an increasingly important component of the ocean and coastal decision-making process. The purpose of this paper is to discuss the likely impact of the GATT panel ruling on the ability of federal and state governments to manage the nation's ocean and coastal areas.

The first portion of the paper will present a descriptive overview of the events leading to the GATT Panel ruling, as well as a brief summary of the panel's legal findings. This will be followed by an update of the most recent developments relating to the ruling. The final portion will examine how free market considerations may impact specific ocean policy issues. The issues that will be examined include: (1) the future use of unilateral international trade sanctions for marine conservation purposes, such as requiring foreign nations to install turtle excluder devices or fish by-catch excluder devices; (2) whether international trade sanctions for wildlife conservation or fisheries management purposes may be acceptable if incorporated into multilateral agreements on a regional or global level; (3) possible constraints on innovative market-based marine pollution control techniques; and (4) possible constraints on the imposition of stricter state and federal environmental controls or health standards for certain industries such as aquaculture and fish processing.

SELECTED COMMENTS ON THE OCEAN GOVERNANCE STUDY GROUP'S RESEARCH AGENDA

(Note: Extensive comments were received on the draft research agenda of the Study Group. The full text of these comments is available in Volumes 1 and 3 of the *Background Materials for 'U.S. Ocean Governance: The Next Steps' Planning Workshop to Define a Research Agenda for U.S. Ocean Governance.* Selected commentaries are excerpted below).

Richard Kenchington
Coastal Zone Inquiry
Resource Assessment Commission, Canberra, Australia

The nature of marine systems and consequently the underlying factors which should guide their management is dominated by the density of sea-water and the scale of ocean current systems. Sea water is 800 times as dense as air, and as a consequence it becomes a medium of mass transport of relatively large volumes of pollutants and of the biological materials seeds, spores, larvae and juveniles of a very large proportion of the animals and plants of marine ecosystems. Through the linkage of ocean currents, effects at one location can be caused by impacts a long distance away. A particle carried in a sea current at a net speed of one knot will travel over 1,000 kilometers in one month.

The scale and linkage of marine systems means that we must address the issue of long range and transjurisdictional linkages. This is fundamental to any serious consideration of ecologically sustainable use of the marine environment. The sea has customarily been used as the default destination of wastes and by products from terrestrial activity. It is increasingly clear, particularly in waters next to crowded continental margins that the receptive capacity of marine systems is being stressed, and customary uses of marine environments and resources jeopardized.

Another component should be the issue of the valuation of the commons. Under most jurisdictions the sea and its resources are regarded as common property available to all. This contrasts with the assumptions underlying terrestrial jurisdiction where the concepts of personal or corporate property are a driving force in the way in which management is organized. It may be argued that the concept of discreet and relatively independent units of property, which underlies the management of terrestrial systems, is a logical consequence of the fact that terrestrial systems are relatively little linked in comparison to marine systems. On land linkages tend to be unidirectional and within catchments. A consequence of this is that actions at a site have relatively little impact upstream or indeed across a catchment. It is therefore not unreasonable to manage on the basis that what happens within one unit of property can be regarded as an isolated action independent of the actions and the amenity of adjacent property areas. Of course, much local government and State government planning is designed to address precisely those problems which occur between neighbors and across boundaries, where an action at one location has an antisocial effect on other locations and on the property of other holders.

Generally speaking, common property resources are valued lowly. Our economic and social valuation techniques cannot yet take adequate account of the fact that a hectare of coastal land used as common property for beach recreation and reasonably natural environmental activities, has a lower market value than a hectare of beach land used for the development of a hotel. A consequence of this artifact of the valuation system is that near city beach areas tend to

become over developed with a loss of public beach amenity. The principle applies similarly across the boundary between the land and the sea. The low valuation of the common property of the marine resource means that economically the option of disposal of land generated waste into the common property sea is a cheaper option than treatment of that waste to avoid the requirement to dispose of it into the sea. I have no specific suggestions as to the ways in which these issues should be attacked in a national program, but they appear to me to be fundamental in addressing the way in which nations, and the community of nations, move towards a more sophisticated management and valuation of the regional, national and global common resources of marine ecosystems.

Under the heading of single sector versus multiple purpose approaches to ocean governance, I believe there is considerable merit in studying approaches such as the International Union for the Conservation of Nature (IUCN) marine protected area guidelines and the Great Barrier Reef Marine Park. Marine conservation as it is currently practiced has two schools of thought. One may be described as the "conservation value" school which seeks to identify areas of high conservation value. This approach implies that the remainder of areas have low conservation value. In a linked system this may be a dangerous assumption. The alternative is the multiple use approach of the Great Barrier Reef advocated in the broader elements of the IUCN protected area guidelines. Under this approach, the marine environment as a whole, or at least the very large areas of the marine environment of a national state, should be managed under overall guidelines of ecologically sustainable use. Under this concept, there is a need for an overriding strategic view of the marine resources and a precautionary approach to uses or impacts upon those resources arising from the activities of humans. This is initially seen as a threat by sectoral managers but once a framework can be established, the principle is basically one of taking a holistic approach and setting the boundaries within which the component sectors may work with a view to minimizing impacts on the ecological system and minimizing impacts between the sectors. In many ways such as approach is based upon the definition of rights and roles of the sectoral groups within the broader concept of a public resource. Once done it may well strengthen the position and the conservational framework of the sectoral groups.

Andrew Palmer
American Oceans Campaign, Washington, D.C.

My specific comments on the research agenda are as follows:

1. Examination of the OCSLA and the Magnuson Act would be very instructional. The OCS Leasing Program and the Magnuson Act are arguably the two principal existent, EEZ-wide management statutes in U.S. law (noting that it is legally doubtful that the OCSLA applies beyond the geophysical continental shelf and slope). Both have proved to be significant failures, although each for very different reasons. In order to build the most persuasive argument for the need to change the way we are doing business off our coasts, it is crucial to identify why things aren't working now. I understand that this is the intent of the work plan under Agenda Item II. However, it is not just that these two laws interact poorly, but that they each organically have failed to live up to the intent of the Congress. As the two premier ocean management laws, it would be useful to identify why these are not models for the future. This would also be extremely helpful in guiding the development of the Group's eventual recommendations on a new ocean governance strategy. I wholeheartedly agree that it is not a good idea for the Group to spend time doing detailed studies on various

existing programs. But, in both of these instances, there are a number of existing studies and papers from very reputable sources which focus on the shortcomings of these statutes. Sarah Chasis, I and other in our community would gladly assist the Group in assembling this literature.

2. The expansion of marine protected areas. Public sentiment for protecting significant areas of our EEZ is large and growing. While public interest initially may have been spurred by the perceived threats of OCS leasing programs of past and present Administrations, the public is increasingly viewing protected areas as a way of gaining control over the environmental degradation of marine ecosystems. Hence the growing willingness of members of Congress to initiate the designation of "mega-sanctuaries" such as the Florida Keys, Monterey Bay, and the Washington Outer Coast. The "Boxer Bill" represents an example of an effort to manage the entire EEZ as a protected area. This idea has considerable popularity at the grass roots level. This is a relatively new and important trend and as such should become a research component. In considering the role of marine protected areas in the EEZ, the Group should look at the present Marine Sanctuary Program as well as other models, i.e. marine biosphere reserves or large marine parks. Again, I or others can provide help in identifying the existing literature.

3. Marine research and management data needs. Understanding the physical and biological process within the EEZ is essential to making good management decisions. A description of existing data, likely future needs, and what type of data and in what form would be most useful to "Ocean managers" is important. There are some National Academy of Science reports which would provide a good starting point.

4. Funding. Funding needs and sources should receive some attention. Without any such discussion, I am fearful that the final report of the Working Group will not be seriously received by decision-makers.

5. An international consistency provision? Activities in international waters can and do have an effect on the U.S. EEZ. The large-scale pelagic driftnet fishery in the North Pacific is a perfect example of such an activity. The Group should look at existing international law, especially the LOS Convention, to see if there are any principles which would support the assertion of an international waters consistency provision. It should also examine the option of the development of a U.S. EEZ consistency provision.

6. Ocean governance and other domestic laws and policies. Other U.S. laws and policies such as the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, Superfund, Toxic Substances Control Act, national energy policy, trade policy and the like can impact ocean governance. The interface with such laws and policies should also be considered.

7. Marine transportation and the Department of Defense. The Department of Defense utilizes the largest area of the EEZ of any user. Military operating areas block out major stretches of the EEZ and potentially limit other activities. Non-military marine transportation also poses a range of issues for other uses, i.e. protection of marine habitat. I recommend the inclusion of these activities and their attendant problems be a part of the research agenda.

**Alison Rieser, Marine Law Institute,
University of Maine School of Law**

My comments on the research agenda are in the nature of specific issues that I believe should be addressed. I've indicated where they might fit into the agenda in its current form. Overall, I think the agenda is comprehensive and covers lots of important ground.

1. What are our criteria?

In the section on **Analysis and Assessment of the Status of U.S. Ocean Governance**, we should consider what should be used as evaluation criteria when researchers look at how well current laws are working. For example, as a starting point, do we look at the extent to which the broad policy goals of each statute are being met? In other words, how do we measure success or failure in ocean governance? Do we do so in terms of the status of the resources (human and natural) that are the targets of national ocean and coastal policies, e.g., the health of particular fish stocks and protected species populations, the remaining acreage of coastal wetlands, net increase or decrease in the amount of publicly-owned or publicly-available shoreline and access points? Or do we focus on institutions, e.g., examine the performance of the fishery management councils and state coastal agencies, federal agencies that comment on proposed development activities, or federal-state coordination mechanisms such as the consistency process. If we look at institutions, what are our criteria? The extent to which public participation is accommodated, interagency goals are coordinated, scientific advice is used effectively?

2. We should not overlook single sector resource problems

For example, serious overfishing problems persist in the U.S. EEZ despite the objective of the Magnuson Act to prevent overfishing. Conflicts with other non-fishery uses or poor integration with management efforts for OCS minerals or marine mammals are not likely to be the principal cause of the overfishing problem. The same point can be made for other single sector resource management efforts, e.g., section 404 program for protection of coastal and other wetlands.

3. Reconciliation of public and private interests and expectations in ocean resources is a key task

In the group's research, we should make an effort to clarify the definition of public and private property rights in marine and coastal resources, as well as where and how they overlap. The natural resources damage assessment methodologies that are currently under development are breaking new ground in defining and quantifying public property interests in the context of compensation for their damage or destruction. Also, the move toward the creation of real or quasi-private property interests in common property resources as a conservation and management strategy has very important implications for ocean governance and should be the focus of serious study.

John Briscoe,
Washburn Briscoe & McCarthy,
San Francisco, California

I suggest two additions to the proposed research agenda, and comment on one of the proposed elements of it:

1. The imperative need for an EEZ/Territorial Sea statute. I suggest that one discrete paper be prepared having as its sole purpose the demonstration of the exigency of enacting comprehensive legislation for the governance of the American Territorial Sea and Exclusive Economic Zone. In a sense, that is the underlying premise of much of the individual items of the proposed agenda. The wrinkle I would place on that premise is that, regardless of the substantive provisions of the ultimate legislation, there is an imperative need for such a law.

Now I have little doubt that our group will find substantial agreement (not merely consensus) on what those substantive provisions ought to be, when the politicians have recognized that such a bill should be enacted. But the horse preceding the cart is the case for the need for such a law. My proposal is that we demonstrate that need in a "white paper" to be taken to the National Governors Conference, the Coastal States Organization, and so forth. It would stress the shameful non-governance now occurring, and argue from history the inevitability that economic considerations will one day, probably soon, create a chaotic environment of avarice within which such a law will be debated and enacted, if it is not done in the relative dispassion of today. The historical parallel of course is found in the circumstances surrounding the enactment of the Submerged Lands Act and the Outer Continental Shelf Lands Acts of 1953. Better that we deliberately consider such a bill now, before the vast riches of cobalt-bearing deposits, such as those off Johnston Island, the Gorda Ridge, or of mineral resources yet undiscovered, engender the same almost mindless political maneuverings that attended the enactment of those two laws nearly forty years ago. The paper I have in mind would stress the available policy choices in such a bill, and not advocate particular choices.

2. The ramifications of the fall of the Soviet Union on U.S. policy in the law of the sea. For a least 35 years, since preparations were underway in the mid-1950s for the first United Nations Conference on the Law of the Sea, American foreign policy in the law of the sea has been driven in substantial part by our regard for the sea power and territorial ambitions of the Soviet Union. Some of the American policy positions that have been influenced by this regard have been those concerning (1) the breadth of the territorial sea (with transit-passage rights thought to be safely ensconced in customary international law, we finally declared a 12-mile territorial sea in 1988); (2) the use of straight baselines; and (3) claims to historic waters (mindful mostly of the Soviet claim to Peter the Great Bay, the United States has refused to make historic waters claims where they would be clearly supportable under international law. I suggest a paper that examines the various American policy positions in the law of the sea that have been so influenced by our Cold War relations with the Soviet Union. Again, this could be in the nature of a survey of issues.

A second paper could then examine whether each such position should be changed in light of the disintegration of the Soviet Union.

Obviously once such policy position to be examined is the American refusal to sign the 1982 Law of the Sea Convention. I for one do not think that position was much dictated by anything concerning the Soviet Union, but it bears examination.

3. The public trust doctrine as a management tool for territorial sea and EEZ resources. There are those who would quarrel with the proposition that the common law public trust doctrine is applicable to submerged lands of the United States beyond the low-water line and the limit of internal waters. The quarrel originates in the notion that the public-trust doctrine is an attribute of the Equal Footing Doctrine, see Illinois v.Illinois Central Railroad, 146 U.S. 387 1982); Summa Corporation v. California, 466 U.S. 198 (1984). And the Supreme Court's first decision in the California litigation squarely held that the limits of a State's Equal Footing ownership ended at low-water mark and the limit of inland or internal waters. United States v. California, 332 U.S. 19 (1947). I for one have been occasionally guilty of too exuberantly divining applications of the public trust doctrine where precedent was less than compelling. See, e.g., Briscoe, *Some Legal Problems of Tidal Marshes*, in T. J. Conomos, ed., *San Francisco Bay: The Urbanized Estuary* (American Association for the Advancement of Science, 1979), 387, 390.[1] And so, my concern is that the position we take on this topic be impervious to the sort of insightful and scathing scrutiny found in Professor (now Assistant to the solicitor General) Richard Lazarus's article, Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning of Public Trust Doctrine, (1986), *71 Iowa L. Rev.*, 631. Yet, to the extent a case can be made for its applicability, the public trust doctrine provides a useful legal tool for sound governance of ocean resources. The excellent work of Donald Connors on the Public Trust Doctrine provides a solid basis for this investigation.

[1]*No greater exuberance has been shown than by the Supreme Court of California, which in a space of a few years broke ground by applying the doctrine to the waters of non-navigable streams, National Audubon Society v. Superior Court, (1984) 33 Cal. 3d 419, and by overruling a decision of the United States Supreme Court (United States v. Coronado Beach Co., (1921) 255 U.S. 472), in City of Los Angeles v. Venice Peninsula Properties, (1982) 31 Cal. 3d 288, subsequently reversed in Summa Corporation, supra. (It is presumed the California Supreme Court now recognizes the overruling of its overruling).*

Donna Christie
Florida State University College of Law,
Tallahasee, Florida

There are recurring themes in most of the categories in the Research Agenda: The problems caused by single-use, rather than multiple-use, management; the need for cooperative management of identifiable "areas" or ecosystems; the problems created by legal boundaries for ownership or jurisdiction that ignore the natural boundaries of these "areas;" resources wasted in conflict over ownership, boundaries, or jurisdiction; how are decisions made to exploit, conserve, or manage; which act, agency or decision "trumps"? Congress has rather obligingly provided us with an experiment designed to deal with management of a large ecosystem without regard to many of the traditional problems associated with state/federal boundaries and jurisdiction—the Florida Keys National Marine Sanctuary. Arguable, the original federal legislation was never designed for this kind of project, but there are already proposals for marine sanctuaries for other large ocean areas. The Keys sanctuary does not provide a "clean slate" because many basic resource and use decisions have been incorporated in the legislation, but we should not ignore the opportunity to observe closely what works and what doesn't in this attempt to manage a large ocean area and much of its associated uplands. This Florida Keys experiment fits precisely many of the research areas listed in the agenda and should be a focus of attention.

Mel Peterson, Director
Ocean Policy Institute, Honolulu, Hawaii

Introduction

Studies of the Earth now integrate understanding of the interaction of the solid earth, oceans, atmosphere, ice, life, and the sun.

The U.S. Federal research effort is now coordinated by means of an interagency committee, earlier named the Committee on Earth Sciences (CES) and more recently the Committee on Earth and Environmental Sciences (CEES).

Is this structure too fragile to serve as the fundamental coordinating mechanism for U.S. research concerning our planet? Can it properly and continuously present the U.S. effort and knowledge and the U.S. position adequately to and among the nations? More than twenty years have passed since the last major review of the U.S. Federal structure. Should each generation h ave the opportunity and responsibility to review the structure within which the national effort to understand and to wisely use the planet takes place?

Is this the time to stimulate a comprehensive review?

Background

The late 1950s saw Sputnik, the International Geophysical Year, the first models of Global Atmospheric Circulation, increasingly accurate and comprehensive sea floor maps, renewed thinking on global geology, the Geneva Conventions, the start of the Keeling atmospheric CO2 time series, an Academy Committee on Oceanography, chaired by Harold Brown and reporting on "Oceanography, 1960-1970," planning for the Mohole, and Mel Peterson (and Nori Nasu and many others) getting interested in the oceans for his career.

By the 1960s, this surge of post-war effort was creating national and international interest. The experimental Mohole Drilling was successful. In the U.S., an Interagency Committee on Oceanography, chaired by James Wakelin, reported on "Oceanography - The Ten Years Ahead;" a Committee for International Relations was associated with the new Intergovernmental Oceanographic Commission (IOC), within the U.N. structure. The loss of the submarine "Thresher" pushed design of deep submersibles.

In the middle of the decade, the Environmental Science Services Administration (ESSA) was created. The effort to drill the Mohole had effectively collapsed; it was replaced by the Deep Sea Drilling Project. The "Common Heritage" resolution came out of the U.N.

In the later 1960s a National Council of Marine Resources and Engineering Development, chaired by the Vice-President, gave oceanic matters cabinet level attention. A Commission on Marine Science and Engineering Resources, with the President of the Ford Foundation, Stratton, as Chairman, was created; the "Stratton Commission" report— "Our Nation and the Sea"—called for a separate agency for Oceans and Atmosphere. An International Decade of Ocean Exploration" was established and the Law of the Sea deliberations began. Glomar Challenger began her scientific drilling in 1968.

The early 1970s saw the creation of the U.S. National Oceanic and Atmospheric Administration (NOAA) created by executive order, a National Advisory Committee for Oceans and Atmosphere (NACOA) created by public law, as well as the establishment of the U.S. Environmental Protection Agency (EPA). The first OPEC oil embargo was established. The Deep Sea Drilling Project went international. The U.S. National Science Foundation was restructured by the

Daddario bill. The decade also produced a number of coordinated studies of both oceanic and atmospheric circulation, emphasis in remote sensing of the Earth, remarkable advances in offshore drilling technology, and increasing attention to offshore resources and national claims out to 200 nautical miles.

During the 1980s, in the U.S., a Federal Coordinating Council for Science, Engineering & Technology (FCCSET) was created. In the U.S. and internationally, climate and environment were receiving attention, with the first World Climate Program (WCP) in 1980 within the World Meteorological Organization (WMO), and establishment of the United Nations Environmental Program (UNEP). A Law of the Sea draft convention gave added credence to 200 n.m. exclusive economic zones.

If complexity is good, then recognition of complexity was getting better; if complexity is bad, then complexity was getting worse. Social, political and international issues, population trends, resource needs, and environmental apprehensions, all based in some understanding of a realm extending from the outer surface of the sun to the mantle of the earth, gave the sign and slope of the first derivative of every process in this realm new significance as "global change." In 1986, the office and function of NACOA was simply not funded.

A year or so later, a new U.S. Federal interagency coordinating group, the "Committee on Earth Science" (CES) existed within the FCCSET structure of the White House. With much support from parallel activities in the U.S. academy of sciences, this group articulated the first U.S. interagency Global Change Research Program—"Our Changing Planet."

The 1990s have started with the 2nd World Climate Conference, changing the name of the CES to the Committee on Earth and Environmental Sciences (CEES) and planning for the 1992 U.N. Conference on Environment and Development.

Discussion

There is an impressive parallelism between today, and the time when I began my own interest in the oceans, late '50s and '60s. Then, oceans and atmosphere were coming together intellectually; now a more complex realm is considered. Then, singularly important time series measurements were being started; now new time series studies are contemplated internationally and globally with components of their measurement from orbiting satellites. Then, by administrative order, ESSA came into being, and an interagency committee on oceanography had preceded it (Wakelin); today NOAA exists by administrative order and an interagency committee (CES-CEES) formulates coordination.

Perhaps it is time, now, for "Stratton and Daddario—revisited."

The questions asked in the introduction seem appropriate. I am proud of the role I was able to play in the CES, which, by interagency resolve, was able to craft a first good plan. Such a mechanism might, however, be vulnerable to personality clashes or to interagency turf issues. There are also the real issues; social, political, international, competitiveness, productivity, commerce, resources, clean food, water, air, population, national and global security, and societal strength, to list a few key words.

We hear occasional calls for a department of the environment, or for resources, or for one-stop shopping in regulatory matters, or for more workable regulatory schemes among various levels of government, and among nations. These seem to me to be serious symptoms of the present need for comprehensive review.

Interest is growing in a review of ocean governance, which is perhaps part of a larger interactive issue of environmental governance. The role of scientific research and information handling, with enormous data collection capacities, must be central to such deliberations. This is a developing U.S. national issue, a national issue in other countries, a multi-national issue in cooperation, and an international issue in deliberation.

A related issue is the stability and continuity of the earth-system research enterprise. Global research efforts with participation; this also involves stability and reliability of partnerships. The search for understanding of the global ecosystem dynamic and the development of a global ecosystem ethic must endure for decades and must evolve over the same time scales.

Perhaps a new organization, such as ours, could presume to help develop the groundwork for a new examination of the structure for our U.S.—and with an international view—effort in research on the Earth System. The goal of such a study would be to strike the spark that would lead to a highest level governmental commission to formally engage these multidimensional issues.

PROGRAM FOR FIRST ANNUAL CONFERENCE OF THE OCEAN GOVERNANCE STUDY GROUP

January 10-13, 1993

University of California, Berkeley

The Changing International Context of Ocean Governance

International Aspects of Ocean Governance
Eduardo Ferrero Costa (Center for International Studies, Peru)

EEZ and Fishery Arrangements
Harry Scheiber and Donna Schuele (UC Berkeley)

Implications of the Trade-Environment Controversy
Richard McLaughlin (Mississippi-Alabama Sea Grant Legal Program)

International Aspects of Coastal Zone Management
Ronald Barston (London School of Economics)

New Directions for Ocean and Coastal Management in Light of UNCED
Robert W. Knecht and Biliana Cicin-Sain (University of Delaware)

Ocean Governance and the North Sea
Walter Lenz (University of Hamburg, Germany)

Concepts and Methods in Ocean Governance

Governing Ocean Space
Biliana Cicin-Sain (University of Delaware)

Takings, Public Trust and Protecting Special Aquatic Areas: Implications of the Recent Lucas Case
Jack Archer (University of Massachusetts)

Objectives in Ocean Governance
Robert W. Knecht

Intergovernmental Relations in Ocean Governance

Overview
Harry Scheiber, Chairman

The Role of Administrative Law Doctrine in Ocean Governance
M. Casey Jarman (Hawaii)

Federalism and Offshore Oil
Charles Lester (Colorado)

The Organization of Congress to Address Ocean Policy Issues and Proposals for Reform
Joan Bondareff and Tom Kitsos (US Congress)

Multiple Use Management in Narragansett Bay
Lewis Alexander (University of Rhode Island)

State-Level Planning for Multiple-Use Ocean Management in the U.S.
Marc Hershman (University of Washington)

Incremental Change and Adaptive Management

Overview
David Caron, Chairman (UC Berkeley)

Adaptive Management: Lessons from The Chesapeake Bay
Tim Hennessey (University of Rhode Island)

Multi-Use Management, Ocean Policy and the Cumulative Impact of Incremental Change: The Case of the Outer Continental Shelf
Lawrence Juda (University of Rhode Island)

The Role of Science in Marine Policy
Richard Hildreth (University of Oregon)

Marine Use Conflicts: The Case of Aquaculture
Tim Eichenberg (University of Maine)

Concepts and Methods in Ocean governance will also be examined through **two case studies:**

(1) controversies surrounding the dredging of Oakland harbor, and

(2) the establishment of the Monterey Marine Sanctuary.

Case Study on Oakland Harbor Dredging

Robert Kagan
(Political Science & Law, UC Berkeley)

John Briscoe, Esq. (San Francisco)

Representatives of Federal and State Agencies

William Webster
(Marine Engineering, UC Berkeley)

Case Study on the Monterey Marine Sanctuary

Jon M. Van Dyke, Chairman
(University of Hawaii)

James W. Rote (State of California)

Jack Archer (University of Massachusetts)

Donna R. Christie (University of Florida)

R. A. Kenchington (Australia)

Francesca Cava (NOAA)

Peter Douglas
(California Coastal Commission)

Plenary session speakers include:

William Burke (University of Washington)
on Implications of Current International Trends,

Peter Douglas (California Coastal Commission)
on The Future of Coastal Zone Planning, and

Stefan Riesenfeld (University of California, Berkeley)
on International Law and Ocean Governance.

The conference will end with a session on: "**Open Discussion of the Research Agenda of the Ocean Governance Study Group**" during which plans for the second year of operation of the Study Group will be formulated.

Ocean Governance Study Group

Ad Hoc Working Groups on Various Policy Issues

Working Group 1

Marine Sanctuaries

Jack Archer, Chair
Jon Van Dyke
Rick Burroughs
Biliana Cicin-Sain
Robert Knecht
Robert Bowen

Reviewers:
Donna Christie (Florida Sanctuary)
Jim Rote (Policy Advisor, Monterey Bay)
Richard Delaney (Stellwagen Bank)
Marc Hershman (Outer Washington Coast)

Working Group 2

OCS Revenue Sharing

Dick Hildreth, Chair
Mike Cruickshank
Rick Burroughs
Biliana Cicin-Sain
Jack Archer
Robert Knecht

Reviewers:
Marc Hershman
Richard McLaughlin
Richard Delaney

Working Group 3

Extended Territorial Sea

Robert Knecht, Chair
Mike Cruickshank (Coastal Minerals)
Tim Eichenberg (Clean Water Act)
Mike Orbach (State Perspectives)
Eric Smith (Commonwealth Perspectives)
Biliana Cicin-Sain (Policy Options)
David D. Caron (International Perspectives)

Working Group 4

Public Policy Implications of Current Trends of Depletion of Fisheries Stocks and Privatization of Fishery Resources

Susan Hanna and Alison Rieser, Co-chairs
Tim Hennessey
Jon Van Dyke
Mike Orbach
Jim Wilkins/Mike Wascom
Biliana Cicin-Sain
Harry Scheiber

BIOGRAPHICAL INFORMATION ON MEMBERS OF THE OCEAN GOVERNANCE STUDY GROUP

Lewis Alexander is Emeritus Professor of Geography and Marine Affairs at the University of Rhode Island. He founded the Geography Department at Rhode Island in 1960; this was later transformed into the Department of Marine Affairs. He also established the Law of the Sea Institute, and then served as Director of the Center for Ocean Management Studies. In 1968-69, Professor Alexander was Deputy Director of the Stratton Commission, and he later served for three years as The Geographer of the State Department. He is the author of a number of books, monographs and articles, has edited other volumes, and is currently working on regional approaches to ocean management.

Lee G. Anderson, an economist, is director of the Marine Policy Program of the Graduate College of Marine Studies at the University of Delaware where he has been since 1974. He has written or edited five books and many scientific papers on fisheries economics. He is currently doing research on implementing individual transferable quota programs, on the management of recreational fisheries, and on valuation studies for practical fisheries management applications. He is a currently chair of the Mid-Atlantic Fishery Management Council, and has acted or is acting in an advisory capacity to the National Marine Fisheries Service, and other Fishery Management councils, the U.S. Department of State, the U.S. Agency for International Development, the U.S. General Accounting Office, the National Academy of Sciences, the Great Lakes Fishery Commission, the Food and Agricultural Organization of the United Nations, the World Bank, and the Governments of New Zealand and Australia, with respect to fisheries management and development.

Jack H. Archer is currently an Associate Professor in Environmental Sciences, Senior Associate at the Urban Harbors Institute, and Special Assistant to the Provost, University of Massachusetts at Boston. His previous positions have included: Senior Fellow and Fellow, Marine Policy Center, Woods Hole Oceanographic Institution, 1986-88; Counsel to the Subcommittee on Oceanography, U.S. House of Representatives, Washington, 1985-86; and Senior Attorney, National Oceanic and Atmospheric Administration, Washington, 1980-85. He is an editor of *Ocean and Coastal Management*, a member of the Board of Editors for *Territorial Sea*, and the Administrative Officer of the International Coastal and Ocean Organization. His research interests include: ocean and coastal legal, administrative and policy issues at federal, state and local levels, including management of ocean minerals and energy, marine pollution, fisheries management, Federal-State relations, and coastal resources; public trust doctrine and theory; land use management and environmental law; and international legal aspects of marine and coastal resource management.

John Briscoe is a senior partner in Washburn, Briscoe & McCarthy, a San Francisco law firm specializing in natural resources and environmental law. He is also a visiting scholar at the Boalt Hall School of Law at the University of California at Berkeley. He has represented three States of the United States in maritime-boundary delimitation cases in the United States Supreme Court (California, Alaska, and Georgia), and has advised the State of Hawaii in ocean-resource matters. He is co-editor of the recently published *Reports of the Special Masters in the Submerged Lands Cases* and, in addition to a book on the trial of natural-resource cases, has published numerous articles and reviews on ocean-law subjects.

Richard H. Burroughs received his Ph.D. in oceanography/marine geology from the MIT-Woods Hole Oceanographic Institution Joint Program. His interests include the application of natural science to public policy concerning natural resources and the marine environment. He has participated in a Deepwater Port Study for the Council on Environmental Quality. He has directed analyses of the environmental impacts associated with offshore oil drilling for the National Academy of Sciences-National Research Council and for the U.S. Department of the Interior. He has also completed several analyses on ocean dumping. His recent research includes investigation of organizational change in the Corps of Engineers' dredge spoil disposal program and the potential for regional management of coastal and ocean space. For the latter topic with Professor Juda, he has written on the emerging possibilities for comprehensive management. He also recently examined National Park Service coastal holdings as "marine protected areas" requiring distinctive scientific programs and public policies.

David Caron is a Professor of Law and Director of International Legal Studies at the University of California at Berkeley. Professor Caron

Biographical Information, cont'd.

majored in Physics and Political Science at the U.S. Coast Guard Academy. While with the Coast Guard, he among other things served as Assistant Chief of that Service's Marine Environmental Protection Program for Northern California. As a Fulbright Scholar he received an M.Sc. from the University of Wales in Marine Law and Policy. He received his J.D. from Boalt Hall in 1983 where he was Editor-in-Chief of *Ecology Law Quarterly*. He was a legal assistant to Judges Richard Mosk and Charles Brower at the Iran-United States Claims Tribunal and practiced with the San Francisco firm of Pillsbury, Madison & Sutro prior to joining the law faculty in 1987. He was an editor of and contributor to *Law of the Sea: U.S. Policy Dilemma* (1983). Among his recent publications are "When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level, *Ecology Law Quarterly* (1990, "The Arctic," 2 *Yearbook of International Environmental Law* 195 (1991) (with Christopher Carr), "The Frog That Wouldn't Leap: The International Law Commission and Its Work on International Watercourses," 3 *Colorado Journal of International Environmental Law and Policy* 269 (1992), and "Protection of the Stratospheric Ozone Layer and the Structure of International Environmental Law-Making," 14 *Hastings International and Comparative Law Quarterly* 755 (1991).

Donna R. Christie is a Professor of Law at the Florida State University College of Law. Professor Christie is a graduate of the University of Georgia School of Law where she worked on international fisheries law and maritime boundary law issues as a researcher for the Rusk Center for International and Comparative Law. She spent two years as a fellow in the Woods Hole Oceanographic Institution's Marine Policy and Ocean Management Program and was a visiting professor in the University of Rhode Island's Marine Affairs Program. Professor Christie is on the Editorial Board of *Territorial Sea Journal*, the Science Board of Florida Sea Grant, and the Peer Review Board of the *Land and Water Review*. Professor Christie joined the faculty of the Florida State University in 1981. She has been active in ocean and coastal education and policy development in the state. Her recent publications include "State Historic Interests in the Marginal Seas," 2 *Territorial Sea Journal* 151 (1992); *Ocean and Coastal Law and Policy: A United States and Florida Perspective*, 563 pp. (1992) (A Florida Sea Grant College Publication); "State Ocean Policy Initiatives in Florida," 18 *Coastal Management Journal* 283 (1991) (with Paul Johnson); "Florida's Ocean Future: Toward a State Ocean Policy," 5 *Journal of Land Use and Environmental Law* 447 (1990); and "Making Waves: Florida's Experience with Extended Territorial Sea Jurisdiction," 1 *Territorial Sea Journal* 81 (1990).

Biliana Cicin-Sain is currently Professor of Marine Studies in the Graduate College of Marine Studies at the University of Delaware where she also holds joint appointment in the Department of Political Science and in the College of Urban Affairs and Public Policy. Professor Cicin-Sain serves as Co-Director of the Center for the Study of Marine Policy at the University of Delaware and as Editor-in-Chief of *Ocean and Coastal Management*, an international journal devoted to the analysis of all aspects of ocean and coastal management. Among her other appointments, Dr. Cicin-Sain was a professor of political science at the University of California, Santa Barbara from 1974-1989; Founder and Director of the Ocean and Coastal Policy Center, University of California, Santa Barbara, 1988-1989; Senior Fellow at the Marine Policy Center, Woods Hole Oceanographic Institution (1983-1984); Fellow, East-West Center, Honolulu (1988) Guest Scholar, Rockefeller Foundation Study Center, Bellagio, Italy (1984); Policy Analyst, National Oceanic and Atmospheric Administration, Washington, DC, (1978-79); Faculty Fellow, Department of Housing and Urban Development, Washington, DC, (1978-79); Post-Doctoral Fellow, Harvard University (1973-74). Professor Cicin-Sain is a member of the Ocean Studies Board of the U.S. National Academy of Sciences and is currently serving on a number of Academy panels. She also serves as Co-Chair of the Marine Affairs and Policy Association. Dr. Cicin-Sain has written extensively on a range of marine policy issues, including fisheries management, marine mammal management, offshore oil development, multiple use conflicts, and international marine policy. In the past several years, her work has emphasized issues related to the achievement of integrated ocean and coastal management policies. Professor Cicin-Sain's international experience includes work on marine resources management in Colombia, Ecuador, Mexico and the South Pacific, and research on international negotiations related to the United Nations Conference on Environment and Development. Professor Cicin-Sain is fluent in Spanish, French, and Serbo-

Biographical Information, cont'd.

Croatian, and has some knowledge of Italian and Russian.

Don Connors, founding Chairman of the Board of Directors of the Environmental Business Council, Inc., has been an environmental professional for more than twenty-five years. Mr. Connors specializes in Environmental law and in representing Environmental Businesses in the domestic and international markets. Mr. Connors is a Senior Partner in the Boston, Massachusetts law firm Choate, Hall & Stewart where he is Chairman of the Land Use and Environmental Law Practice Group. He has been a pioneer in the emerging field of environmental law since the late nineteen sixties. He has been engaged in all areas of environmental law, representing clients in the public and private sectors. He has assisted industry clients in matters relating to natural resource protection, corporate environmental management, air and water pollution, solid and hazardous waste, and occupational health and safety. He has represented Governments in such matters as wetlands and natural resource protection, coastal and ocean law and in the development and implementation of new environmental legal programs for the protection and enhancement of the human environment. He has lectured and consulted extensively about environmental law and its implementation in many areas of the world; in the recent past in the United States, England, Japan, China, Hungary, Bulgaria and Brazil. Among his academic positions, he has lectured at the Harvard University Graduate School of Design from 1978 to 1990. He was an accredited non-governmental organization delegate to the United Nations Conference on Environment and Development "UNCED" or "Earth Summit" held in Rio de Janeiro in June, 1992. In addition to his professional activities, he has authored many articles and books on environmental law and environmental management. He serves as a member of the Board of Directors of many national and international environmental law and business organizations.

Richard Delaney has been the Director of the Urban Harbors Institute at the University of Massachusetts at Boston since its inception in January 1989. The Urban Harbors Institute's mission is to increase understanding of issues affecting urban harbors and coastal resources and promote informed decision-making on these issues. Mr. Delaney has over fifteen years experience in many aspects of environmental management, policy and planning with particular emphasis on coastal and marine issues, waterfront development, water quality, wetlands, and open space planning. He has been an educator, planner, administrator and manager. During his 1980-89 tenure as Assistant Secretary of Environmental Affairs in Massachusetts and Director of the Coastal Zone management Program, Mr. Delaney managed a staff of 25 scientists, lawyers, planners and engineers; administrated over $40 million in grants; provided policy guidance and strategic advice for the governor and Legislature; and coordinated government agencies involved with marine issues. Mr. Delaney has been President of the Coastal States Organization and currently serves on the advisory boards of an extensive network of state, national and international governmental, environmental, academic and economic development organizations, including the Council on Ocean Law and the International Coastal and Ocean Organization.

Tim Eichenberg currently serves as the Administrative Law Counsel for the Center for Marine Conservation in Washington, DC. He was previously Staff Counsel for the Environmental Defense Center in Santa Barbara, California (1978-1980), Energy and Staff Counsel for the California Coastal Commission (1980-1985), Marine Policy Fellow at the Woods Hole Oceanographic Institution (1985-1987), Research Associate and Staff Counsel at the Marine Law Institute, University of Maine Law School, and Co-Editor of the *Territorial Sea Journal* (1989-1992). He has written on the Coastal Zone Management Act, offshore oil and gas development, marine sanctuaries, the National Estuary Program, national and international regulation of the Gulf of Maine, the impacts and regulation of marine aquaculture, and citizen enforcement of coastal water quality laws. He holds a J.D. degree from Washington University, a B.A. from Earlham College, and is a member of the Bar in California and Washington, DC.

Robert L. Friedheim is Professor of International Relations at the University of Southern California (USC) where he has also served as the Director of the USC Sea Grant Program. Professor Friedheim has been a prolific contributor to the marine policy literature, especially studies of the Law of the Sea, management of common property resources, and management of polar areas. He recently completed a major work analyzing the Law of the Sea negotiations.

Biographical Information, cont'd.

Susan Hanna is associate professor of resource economics at Oregon State University. She does research in the areas of economic history, common property resources, economics of multispecies fisheries, and fishery management. She is active in the marine policy arena, serving on the Scientific and Statistical Committee of the Pacific Fishery Management Council, various other fishery advisory committees, and the Scientific Committee of the Outer Continental Shelf Advisory Board, U.S. Department of the Interior.

Timothy Hennessey is professor, Department of Political Science, University of Rhode Island and director, Rhode Island Public Administration Program. Professor Hennessey graduated from Brown University and received his Ph.D. from the University of North Carolina. He has taught at the University of North Carolina, Indiana University, and Michigan State University. He has been the recipient of research grants from the National Science Foundation, the Social Science Research Council, the Ford Foundation, U.S. Agency for International Development, and the national Sea Grant Program. He is the author of two books and more than twenty referred articles. Professor Hennessey has been a senior research fellow at the Dalhousie Ocean Studies Program, the Woods Hole Oceanographic Institution and Westwater Research Centre at the University of British Columbia. He has been a consultant to the Office of Technology Assessment, the U.S. Agency for International Development, the United States Information Agency, the National Oceanographic Administration, the Environmental Protection Agency, and the State of Rhode Island Department of Environmental Management. Professor Hennessey is an associate of the International Center for Marine Resources Development and the Coastal Resources Center at the Graduate School of Oceanography. He is currently completing a six year study of "The Governance of U.S. Estuaries."

Marc J. Hershman is Professor of Marine Studies, adjunct Professor of Law, and Associate Director of the School of Marine Affairs at the University of Washington. He is author and editor of books on coastal zone management, urban ports and maritime history. He has written over 40 papers and publications dealing with law and policy affecting coastal and marine resources. He has been Editor-in-Chief of the *Coastal Management* journal for fifteen years, past president of the Coastal Society, and founder of Waterfront Awareness and the Maritime Center, nonprofit public education organizations. He graduated from Temple University School of Law in 1967.

Richard Hildreth is co-director of the University of Oregon Ocean and Coastal Law Center. He coauthored the first law school text devoted to ocean and coastal resources management, *Ocean and Coastal Law* (Prentice-Hall 1983) (second edition is now in preparation). Hildreth serves on the editorial boards of two international journals, *Ocean Development and International Law*, and *Coastal Management*. On sabbatical leaves to Australia and New Zealand in 1984 and 1991 he completed a major comparative study of ocean resources management in those two countries and the United States and Canada which has just been published as a three-article series by the *International Journal of Estuarine and Coastal Law*. As a Fulbright scholar at the University of Stockholm in 1972-73, he researched and wrote "Coastal Land Use Control in Sweden," *Coastal Zone Management Journal* (1975).

Laura Howorth is a 1987 graduate of The University of Mississippi School of Law and has been staff attorney for the Mississippi-Alabama Sea Grant Legal Program since 1988. Her publications include "Alabama Tidelands After Phillips Petroleum v. Mississippi: Time to Reinvigorate the Public Trust," 20 *Cumberland Law Review* 2 (1989-90); "Mitigation Banking Programs in the Southeastern United States," 13 *The Environmental Professional* 139 (1991); *Mississippi Ocean Policy Study* (1991) (coauthored with Richard McLaughlin); as well as a number of other reports and papers. She has also written articles for WATER LOG, the Legal reporter for which Ms. Howorth serves as associate editor. Ms. Howorth is currently acting director of the Mississippi-Alabama Sea Grant Legal Program.

Jon L. Jacobson is Professor of Law and Co-Director, Ocean and Coastal Law Center at the University of Oregon School of Law. He received his J.D. from the University of Iowa College of Law in 1963. Among his various appointments, he served as Fulbright Scholar, University of Oslo, Scandinavian Institute of Maritime Law, 1975-76 and 1984, and as Stockton Professor of International Law, U.S. Naval War College, 1982-83. He is currently Editor-in-Chief, *Ocean Development and International Law: The Journal of Marine Affairs*, 1990-present. Recent publications

Biographical Information, cont'd.

include "At-Sea Interception of Alien Migrants: International Law Issues," 28 *Willamette L. Rev.* (1992); "The Law of Submarine Warfare Today," in *The Law of Naval Operations*, 205-240 (Horace B. Robertson, Jr., ed., 1991); "Governance of the U.S. Exclusive Economic Zone: A Challenge to the American Federation," in *The International Implications of Extended Maritime Jurisdiction in the Pacific*, 329-352 (J. Craven, J. Schneider and C. Stimson, eds., 1989).

M. Casey Jarman is an associate professor of law at the William S. Richardson School of Law in Honolulu, Hawaii. She received a LL.M degree in Law and Marine Affairs (1985) at the University of Washington, and a J.D. (1981) at the University of Mississippi. Ms. Jarman was the Director of the Marine and Coastal Law Program (1984-1987) at the University of Mississippi Law Center. She was also the founder of SeaNet (Sea Grant Legal and Policy Network) (1983). Her major areas of work include public trust doctrine, state ocean law and policy, and ocean pollution. In a forthcoming article (*Ocean and Coastal Management*, 1993), she examines the application of the federal consistency provision under the Coastal Zone Management Act.

Lawrence Juda is Professor and Chairman of the Department of Marine Affairs at the University of Rhode island. His Ph.D. was earned at Columbia University where he specialized in international relations and American government. He is the author of two books, editor of two others, and author of articles published in a variety of journals including *Ocean Development and International Law (ODIL), Marine Policy, Journal of Maritime Law and Commerce, International Organization*, the *International and Comparative Law Quarterly*, and *Ocean Management*. He is a member of the board of editors of *ODIL* and during the spring of 1991 was Visiting Professor at the Graduate Institute of International Studies in Geneva, Switzerland. His research and teaching interests are in international ocean law, policy, and management and in maritime affairs.

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Edward L. Miles is Director of the School of Marine Affairs and has joint appointments as Professor in the School of Marine Affairs and the Graduate School of Public Affairs. His major fields of specialization are in international law and organization science, technology, and international relations; and marine policy and ocean management. Professor Miles is currently Chairman of the Advisory Committee for International Programs, National Science Foundation,; President of the Law of the Sea Institute; and on the Board of Advisors, Patterson School of Diplomacy and International Commerce, University of Kentucky. Professor Miles also chairs several University-wide committees exploring interdisciplinary research and teaching. He has served in the past as consultant to the UN Office of Ocean Affairs, the Intergovernmental Commission of UNESCO, the Department of Fisheries of FAO, the Nuclear Energy Agency of OECD, and the South Pacific Forum Fisheries Agency. From 1973 to 1979 he served as Chairman of the Ocean Policy Committee, National Academy of Sciences/National Research Council. Since 1981 he has served as Chief Negotiator for the Micronesian Maritime Authority, Federated States of Micronesia.2as

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Academy of Sciences Committee on tuna-porpoise mortality; and as a member of the Congressionally-mandated Environmental Science Review Panel appointed by the Governor of North Carolina and the Secretary of Interior to review Mobil Oil's Application to drill for oil and gas off North Carolina.

Alison Rieser has been an Associate Professor of Law at the University of Maine School of Law since 1988 and Director of the School's Marine Law Institute since 1983, where she oversees legal and public policy research on ocean pollution, coastal land use, fisheries, and international maritime relations. She is a consultant to state and federal agencies and Editor of the *Territorial Sea Journal*. Her previous government service includes work with the U.S. Environmental Protection Agency and the National Oceanic and Atmospheric Administration. She spent two years at the Woods Hole Oceanographic Institution as a Research Fellow in Marine Policy and Ocean Management before joining the Law School. Her Bachelor's degree is from Cornell University and her law degrees are from George Washington University and the Yale Law School.

Harry N. Scheiber is associate dean in the School of Law (Boalt Hall), University of California at Berkeley. He is also professor of law and history; and he directs the project on Ocean Law and Policy in the Center for the Study of Law and Society at the University. He is faculty associate of the Institute of Governmental Studies and of the Center for the Study of Law and Society. Currently he is also chairman of the Jurisprudence and Social Policy graduate program and the Legal Studies undergraduate program. Professor Scheiber is a graduate of Columbia and holds the M.A. and Ph.D. degrees from Cornell; he did postdoctoral work in law at the Center for Advanced Study in the Behavioral Sciences, Stanford. Before joining the Berkeley faculty in 1981, he was professor of history at Dartmouth College and during 1971-81 professor of American history at the University of California, San Diego. Professor Scheiber has authored numerous studies of ocean resources law and policy, including a history of Pacific fisheries law and marine policy, U.S.-Japan relations on marine resources; and the evolution of ocean science and policy interactions in California. Since 1987, Professor Scheiber has served as the Coordinator for Marine Affairs for the California Sea Grant College Program. Professor Scheiber has also served as consultant to the U.S. Advisory Commission on Intergovernmental Relations, and he is co-author of a study of sovereignty and technology commissioned by the U.S. Congress Office of Technology Assessment. He is author or editor of some twelve books, including *American Economic History; Ohio Canal Era*; and a series of volumes on modern federalism published at UC Berkeley since 1987.

Jon Van Dyke is professor of law at the University of Hawaii Law School. He was Director of the University of Hawaii Institute for Peace from 1988 to 1990. Professor Van Dyke has been on the University of Hawaii Law School faculty since 1976 and served as Associate Dean between 1980 and 1982. He previously taught at the University of California's Hastings College of the Law in San Francisco and at Catholic University Law School in Washington, DC. He earned his J.D. degree at Harvard University and his B.A. from Yale University, both cum laude. He served as law clerk for Justice Roger J. Trainer, Chief Justice of the California Supreme Court in 1969-70. Professor Van Dyke has written or edited six books on constitutional law and international law topics and has authored and co-authored many articles in these fields, focusing particularly on international human rights and ocean law and international and environmental law. He is serving as counsel for several of the plaintiffs suing Ferdinand Marcos for human rights violations. He is a member of the Executive Council of the American Society of International Law and as a member of the International Editorial Board of *Marine Policy*.

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