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ADAMS

**Mr. John Adams, President, Natural Resources Defense Council
Washington, DC, Nov-13-2001, PEW Ocean Commission Panel
Invited Testimony**

Key Points:

- PEW commissioned 3 papers on ocean issues: ocean pollution; marine aquaculture; introduced species.

AFFLECK-ASCH

**Mr. William Affleck-Asch
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- Any public policy issue should be such that it holds as a higher value native fish (those that are “wild” or not genetically enhanced) over those that are kept in commercial pens.
- The introduction of various penned and bioengineered fish represents a severe threat to the sports fishers and native tribes of our country.

AGARD

**Mr. Louis (Buzzy) Agard
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- There is support of strong management regime for the Northwestern Hawaiian Islands Reserve for 2-3 years until better science and data can be produced to show that there has not been a measurable and constant decline in the fishery landings of the reserve.

ALBERTS

**Dr. Bruce Alberts, President and Chair, National Research Council, National Academy of Sciences
Washington, DC, Nov-14-2001, National Academy of Sciences Panel
Invited Testimony**

Key Points:

- Reports and issues that the National Academy of Sciences (NAS) has been involved with include: Impacts of land-based activities in coastal areas; nonpoint pollution; Clean Coastal Waters; and understanding and reducing the effects of nutrient pollution.
- Exploit the curiosity of kids through education. Science education should start in kindergarten and should be a core subject. Connect science with people's lives and inquiry through the National Science Education Standards (NSES).
- In order to remain productively engaged with the rest of the world, good decisions must be underpinned by accurate data; recent reports about fish stock assessments; Marine Protected Areas (MPAs); and a broad look into the 1999 report “Sustaining Marine Fisheries.”
- Appropriate infrastructure and technology innovation are needed to improve our decisions: “Illuminating the Hidden Planet, the Future of Seafloor Observatory Science.”
- Agencies need to work together in management and governance of resources in U.S. waters. A 1992 report “Oceanography in the Next Decade, Building New Partnerships” led to National Oceanographic Partnership Program (NOPP). The recent report on dredging and long-term impacts from ocean disposal and “Oil and the Sea” report is due out next spring.

Recommendations:

- The effectiveness of the Ocean Studies Board communicating science to Congress and Administration is difficult, but its strength is independence of organization.
- A strong Office of Science and Technology Policy (OSTP) should be tied directly to Office of Management and Budget (OMB). Money will cause people to listen.
- The National Research Council (NRC) can fast track the review of the Commission report if volunteer members are willing.

ALLEN

**Dr. Dennis Allen, Estuarine Research Federation
Charleston, SC, Jan-16-2002
Public Comment**

Key Points:

- Encourage a broad- or ecosystem-based approach to setting policy for coastal systems.
- Encourage the expansion of both the scope and completeness of scientific information bases.
- Encourage improvement to access to and the use of existing scientific information for decision making.

ALLEN

**Mr. Jeffrey Allen, Director, South Carolina Water Resources Center
Charleston, SC, Jan-15-2002, Coastal Urbanization/Land Use Change and Effects on the Ocean Panel
Invited Testimony**

Key Points:

- Coastal population densities are now four times greater than national average.
- A model developed for predicting future urban growth in Charleston, South Carolina was described to the Commissioners.

Responses to Questions:

- There is no federal "growth" agency. Many agencies have interests, but with little or no coordination

Documents Recommended:

- www.strom.clemson.edu "Charleston Urban Growth Project"

ALVERSON

**Dr. Dayton Alverson, Senior Scientist, Natural Resources Consultants, Inc.
Seattle, WA, Jun-13-2002, Living Resource Management in the Pacific Northwest Panel
Invited Testimony**

Key Points:

- Concerned with the future of the NMFS and the Council structure. Problems vary between Councils. [discussion provided].
- Believes there is a solution to the problems independent of a major reorganization of the agency. Increase the responsibility of the Scientific and Statistical Committees (SSC) by:
 1. SSC should be responsible for formulating the ABCs for all species under their management or proposed management
 2. SSCs should always be in attendance at Council meetings when TACs and ABCs are under discussion.
 3. Upward adjustments of the SSC established ABCs should be allowed only after a Council petitioned the Secretary of Commerce for an adjustment and subsequent authorization
 4. SSC membership should constitute a reasonable balance between state, academic and Federal government scientists
 5. Power of the Secretary of Commerce to turn down petitions for increased harvest or a faulty management plan should be given a booster shot.
- Councils should have full range of tools available to manage the fisheries under their jurisdiction; rescind laws limiting use of limited entry.
- Goals and principles of managing ecosystems should be clearly stated and locked into legislative language and should not be vague or generic in character. [discussion provided]

Responses to Questions:

- The statistical committee should become stronger on major issues such as catches having been exceeded. The science is there but politics, not just in the Councils but also in the higher levels, overrode some of the decisions. The Council structure could remain basically as it is but the authority to establish the ABCs should be vested in the scientific group which is largely made up of state, Federal, and academic scientists, as well as some NGOs. If they exceed the proposed biological limits, they should go through an appeal process allowing them to go to the Secretary of Commerce, who will hopefully remain fairly strict.
- My suggestion of the appeal process is political. We all know that the political process depends on the types and nature of support that comes from the public sector. The regime has shifted and the environmental community and the public are much stronger now in terms of their public influence. The current Secretary of Commerce is more in the conservative regime because that is where the public support is. The public wants to remedy what is going on in the oceans.

- There should be holistic management that takes into account the consequences of our activities, not just on the target species. Must be clear whether effort is to preserve something at the species level, the genetic level, or population level, and each Council needs to know the rules. Should not make up their own rules.
- It would be possible to design an ecosystem management system for the Northwest and a strategy to implement it-by bringing all the right people together-but it would not be easy. You would need a coordinating body that would sit down, with a lot of agencies, pull together and try to do it. It should be done at the national level.
- There have been ecosystem management group seminars all over the country and nobody is looking at managing the ecosystem. They are using ecosystem principles to manage human activity.
- Improvements in technology can make significant advancements in bycatch reduction. We also need to improve our documentation process.

AMOROSO

Mr. Orlando Amoroso, President, Southern CA Commercial Fishing Association

Los Angeles, CA, Apr-19-2002, Habitat and Living Resources Panel

Invited Testimony

Key Points:

- A socio-historic profile and economic overview of wetfish industry was provided.
- A major issue of concern to California's fishermen is continued access to Coastal Pelagic Species (CPS). A number of regulatory processes and initiatives presently underway may adversely affect access:
 1. A squid Fishery Management Plan (FMP) is being developed by California Fish and Game to address limited entry, replenishment zones, and trip limits/caps. Process needs industry advice and stakeholder participation.
 2. Harvest guidelines for sardine and mackerel are being developed with archaic models that no longer reflect dynamics of fisheries.
- Another concern is a lack of resources to adequately conduct applied research and scientific investigation:
 1. Maximum Sustainable Yield (MSY) for squid is undetermined; a MSY proxy based on unproven egg escapement model is proposed
 2. Full extent of sardine resources along west coast is not known; comprehensive biomass survey, leading to the development of new models, is essential to lend credibility to biomass estimates and harvest guidelines
 3. Present harvest guidelines for sardines subtracts Mexican biomass but does not account for the Canadian component. The Tri-state Sardine Forum is a welcome initiative that should be elevated to U.S. State Department level
- The concept of adaptive management and the notion of "phasing in" reserve networks a piece at a time are sensible management options and deserve serious consideration.

Recommendations:

- Overcapitalization must be viewed from the standpoint of the processors and the boat owners. It seems limited entry into fishery based on historical participation is the fairest way to address overcapitalization.
- Observer program might be viable approach for collecting good data.

AMUNDSON

Ms. Megan Amundson, Chair, Cambridge, MA, Chapter of the Sierra Club's Northern Right Whale Task Force
Boston, MA, Jul-24-2002

Public Comment

Key Points:

- Our oceans are in a crisis and no case better illustrates this crisis than the northern right whale. The whale has supposedly had Federal protection for 30 years. And until this spring, nothing had been done but research. This is for a population of 300 whales!
- If the northern right whale is an example of how our endangered marine species are being treated, then the entire protection infrastructure should be seriously reconsidered.
- There is hope that this crisis is coming to the attention of the powers that be and that in this conference, earnest talk has begun about the ocean's survival.

Chicago, IL, Sept-25-2002

Public Comment

Key Points:

- A question remains in my mind: About what are we educating people?
- Concerned that the education group of the Commission will overlook, out of convenience or politics, one major ocean threat-military encroachment in the name of national security.

- After small whales were beached and died on Cape Cod beach this past August, the most frequently asked question was whether or not the beachings had occurred because of low-frequency sonar use on the coast of New England.

Recommendations:

- Commission should not only address public outreach around this issue, but the Commission itself should be working with our current Administration to bring protection of the ecosystems to the front of our policy and military consciousness.

ANDERSON

Dr. Donald Anderson, Senior Scientist, Biology, Woods Hole Oceanographic Institution

Boston, MA, Jul-23-2002, Science Panel

Invited Testimony

Key Points:

- Harmful algal blooms (HABs) are an expanding problem in the coastal zone. The number of HABs and the economic costs of their impacts have increased considerably in the past 30 years.
- HABs impact public health, fisheries, aquaculture, tourism, and coastal aesthetics.
- More specifically, HAB impacts include various types of shellfish and fish poisonings, brown tides and other noxious blooms, fish and other faunal mortalities, pfiesteria, macroalgal blooms, and freshwater toxins.
- There are a variety of potential reasons for the increasing incidence of HABs, including species dispersal or introduction via natural currents and storms; better scientific investigation and reporting; increased aquaculture; dispersal by human activities; and pollution (especially nutrient enrichment). [Further description provided.]
- States are monitoring HABs effectively and fatalities or illnesses are rare, however state agencies are struggling with the increasing frequency of HABs in an era of tighter budgets.
- A coordinated National HAB Program has been formulated and partially implemented.

Recommendations:

- Sustain and enhance support for the National HAB Program.
- Implement programs on prevention, control, and mitigation, and on oceans and human health.
- Encourage interagency partnerships. [Further description provided.]
- Support methods and instrument development for land- and mooring-based cell and toxin detection and bloom forecasting. [Further description provided.]
- Incorporate HAB monitoring into a U.S. Ocean Observing System.
- Support long-term water quality and HAB monitoring in coastal waters.
- Implement agriculture and land use policies that reduce point and nonpoint source loadings to coastal waters.

Responses to Questions:

- The process to develop the algal bloom research agenda included all stakeholders--scientists as well as industry, managers from various states, shellfish industry people, etc. A report was produced and distributed, but nothing much came of it. It was at that time Congress came in and told a number of agencies they should cooperate on marine issues. An interagency task force meeting was held where the program managers got together and found common areas within our program that they could support. Working groups were held to put priorities under each topic, but this resulted in too many priorities. People were asked to focus on four or five priority topics rather than on individual priorities. The result was to have cross-section partners who sold the idea together.

ANDREWS

Dr. Christopher Andrews, South Carolina Aquarium

Charleston, SC, Jan-15-2002

Public Comment

Key Points:

- Zoos and aquariums are trusted providers of information on the environment; popular and people trust us.
- Discussion on the role and programs of the South Carolina aquarium.

ANTRUM

**Ms. Katlin Antrum, Council on Ocean Law
Washington, D.C., Nov-14-2001
Public Comment**

Key Points:

- A database exists from the United Nations' conference on the environment and the development for 2,000 tasks from a program of action. What they are and who is responsible?

ARMINGEON

**Neil Armingeon, Lake Pontchartrain Basin Foundation
New Orleans, LA, Mar-08-2002
Public Comment**

Key Points:

- Army Corps and other federal agencies continue issuing permits at an alarming rate even while we talk about land loss.
- Examine 404 Wetland Protection Program.

ASRAR

**Dr. Ghassem Asrar, Associate Administrator for Earth Science, NASA
Washington, D.C., Oct-30-2002, Satellite and Data Management Panel
Invited Testimony**

Key Points:

- Ocean circulation, together with the atmosphere, constitutes the mechanism by which solar energy is re-distributed from the tropics to the entire planet. Therefore, improved understanding of this interaction is critical to improved weather and climate prediction.
- Understanding the dynamics of ocean circulation requires systematic measurements of the velocity field at a frequency of at least weekly, but also spanning decades. Only global satellite observations can meet these needs. Our efforts in the past decade have resulted in a wealth of observations, but NASA could not have been successful had we worked alone. Our collaboration with other Federal Agencies and international partners was a critical element in this success.

Recommendations:

- The operational and user communities must be involved at all stages of planning, from mission formulation, to technology development and infusion, and finally to applications development. We must also continue to plan for research satellites to fill the gaps in critical datasets.
- Data assimilation and modeling are key to providing decision makers with information with economic and policy relevance.
- The ocean community must focus on an end-to-end strategy to provide products that meet the needs of the user community. This strategy must:
 1. Ensure continuity and integrity of calibrated data and information.
 2. Integrate remote sensing data with in situ observations.
 3. Develop comprehensive and realistic coupled land-ocean-atmosphere models.
 4. Coordinate efforts among researchers, data providers, and users of ocean and climate data and services.
 5. Develop applications and infrastructure to deliver meaningful products to users.

Responses to Questions:

- NASA's research in oceanography is all extramural, in partnership with academia and other Federal laboratories around the nation and it's focus is on utilization of space-based observations.

ATKINSON

**Mr. Scott Atkinson, Nature Conservancy
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- The Conservancy works throughout Hawaii, primarily on coral reef conservation. Coral reefs are in peril. Estimates are 20 percent of world's coral reefs are currently destroyed. Within next 50 years up to 70 percent could be decimated.

- Over the last two decades a tool kit of methodologies has been developed to protect coral reefs. Still at demonstration stage, but throughout the world coral reef systems have been protected through protected areas, community-based reserves, locally managed reserves and coastal zone management. The proven benefits through no-take are there, spillover effect benefiting the catch.
- Basically suffer from four major challenges:
 1. No biological representation in marine protected area system throughout world.
 2. Lack enough protection to enable the ecosystem services and ecosystem processes of the coral reef environment to continue.
 3. Not able to address large-scale threats such as climate change and bleaching.
 4. Not enough people and money to adequately protect these areas.
- With other groups, looking at creating a coral reef network and marine protected areas that will have biological representation of all-important coral reef and related habitats of the planet and will also be resilient and resistant in the face of climate change. Design of the network requires partnerships from people throughout the world. Still lack sufficient resources to adequately address the problem.

Recommendations:

- Join the effort in transforming coral reef conservation in the 21st Century and recommend adequate appropriation of funding to transform and protect a representative network of marine protected areas throughout the world. 1 to \$2 billion over the next ten years could leave a legacy that would mean the coral reef environment will persist into the next century and millennia beyond.

AYERS

Mr. Jim Ayers, Director, North Pacific, Oceana, Inc.

Seattle, WA, Jun-14-2002

Public Comment

Key Points:

- There are two major issues facing the north Pacific:
 1. Pollution-aquaculture, and specifically farm salmon, is a form of pollution that threatens the economic and the fisheries of Alaska. Cruise ship pollution issues are not a small issue, but cruise ship pollution is one hundred percent preventable.
 2. Destructive fishing practices: Coral and sponge are the oldest living animals that we know of today. They are a primary animal that provides habitat for other species and in fact are being destroyed by the tons every year.

Recommendations:

- Farm salmon must not have access to marine waters. We urge you to support the ratification of the treaty to ban the use or production of persistent organic pollutants (POPs), and funding research with regard to POPs.
- Support legislation that controls, monitors, and enforces the regulation of sewage off of cruise ships, which are simply floating cities.
- We need to invest in research about the oceans.

Anchorage, AK, Aug-22-2002, Arctic Issues Panel

Invited Testimony

Key Points:

- The two major human threats to Alaska oceans are pollution and destructive fishing practices. We will not totally solve these problems; our responsibility is to stop the preventable and develop the tools for the next generation to overcome challenges.
- Persistent Organic Pollutants (POPs) are of particular concern in Northern latitudes where internationally transported chemicals settle out in cold climates and remain in the food chain. [Further description provided.]
- One-quarter of the global catch in 1994 - more than 27 million metric tons of fish - is thrown overboard each year dead or dying as unwanted Bycatch. Fisheries with gear having the greatest impacts on endangered wildlife include shrimp trawl, pelagic longline, and gillnet fisheries.
- The destruction of North Pacific coral and sponge habitat and the degradation of the Aleutians is an indicator of the failure of the current management paradigm, and underscores the need to move to a science ecosystem-based management approach to fisheries management.

Recommendations:

- The U.S. Senate should immediately ratify the POPs treaty (Jefford's Bill) for the twelve listed POPs and ensure an efficient, effective process for adding new chemicals to the treaty.
- The Clean Water Act should be amended to prohibit POPs and persistent bioaccumulative toxins in mixing zones.

- Funding should be provided for research on the sources and impacts of POPs in the subsistence diets of Indigenous people in the U.S.
- Establish a national policy that requires a government-approved Bycatch monitoring and minimization plan as a prerequisite to fishing.
- Establish a national goal for these plans to reduce Bycatch to levels approaching zero.
- Require annual reports regarding progress in the reduction of Bycatch.
- Require action to curtail fishing when Bycatch limits are violated.
- Immediately identify special management areas in need of protection, and take action to protect them until research and proper management plans can be completed.
- Establish an ecosystem-based management approach for fisheries management.

Responses to Questions:

- We are a long way from ecosystem management. But we've got to invest and understand an ecosystem if we're going to use technology that we now have that's more sophisticated than we had 30 years ago. We ought to know what the technology is going to do and what the impact of it will be for researching the ecosystem.
 - NEPA is a tool. It's when we decide that we're going to use it as a weapon that we get into this power struggle and there are two places then that we can go. We either can go to the court or we can go to the Congress. Because the Stellar sea lion case is about ecosystem management, it is forcing people to have the conversation. But right now we don't have the confidence as citizens that we have the research money to carry out the job and the way the U.S. is structured, the only way we can have the conversation is if there is a problem and it's triggered by either ESA or NEPA. NEPA may or may not need to change, but that's not the real problem. The real problem is that we must shift the paradigm. We must invest so that we have the research to provide the information in order to make good decisions.
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B

BACCHUS

**Mr. Sidney Bacchus, Applied Environmental Services
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- The primary problems facing marine and coastal resources that are not already addressed in comments to the Commission are associated with three types of anthropogenic alterations of Florida's aquifer system:
 1. Groundwater mining
 2. Aquifer-injection of wastes
 3. So-called aquifer "storage" and "recovery"
- Desalination of seawater is a viable alternative to groundwater mining.
- Alternatives to waste injection exist, including Vermont Law School. Use carrot and stick approach.
- Alternatives exist to Florida's current unscientifically founded approach for replenishing the aquifer system: use previous pavement; freeze federal funds for programs and support to Florida and all coastal states that are destroying natural recharge areas.
- Environmental Protection Agency (EPA) has exhibited no evidence that it comprehends the nature of groundwater responses associated with aquifer-injection. All groundwater injections should be halted until detailed studies have been conducted to determine adverse impacts to coastal and marine systems.
Transfer EPA oversight to United States Geological Survey (USGS).

Recommendations:

- Transfer administration and implementation of Everglades funding to USGS.

Documents Recommended:

- www.vermontlaw.edu/life/medpr9.cfm

BACON

**Mr. Robert Bacon, Program Leader, South Carolina Sea Grant
Charleston, SC, Jan-15-2002, Education Panel
Invited Testimony**

Key Points:

- Description of the 113 Calhoun Street organization and its role as a bridge to transfer research-based information on hazard loss reduction from the laboratory to individual homeowners, contractors, home inspectors, local governments, and other interested parties.
- Educational outreach programs are being developed and conducted for 113 Calhoun Street:
 1. House tours and virtual house tours
 2. Classes
 3. Extension videos
 4. Community service
 5. Regional interactions-consumer guides
 6. National interactions-The Extension Disaster Education Network, HazNet, etc.
 7. Media-CBS Morning News, Home Again
- Effective extension education programs rely on current research-both basic and applied.

Responses to Questions:

- The principal problem with extension work related to institutions is that they generally want to tell people what they want people to know. It is more like public education programs.
- The challenge is to make science relevant to people's lives.

Documents Recommended:

- www.113calhoun.org

BAHR

**Dr. Len Bahr, Executive Assistant to the Governor, State of Louisiana
New Orleans, LA, Mar-07-2002, Welcome Panel
Invited Testimony**

Key Points:

- Louisiana has the largest port in the nation. It is the principal oil and gas port for the nation. It is the principal fishery producer and tourist/recreation destination for nation. All are threatened by land loss, climate change (accelerated by sea rise) and gulf hypoxia.

BAIRD

**Mr. Brian Baird, Ocean Program Manager, California Department of Resources
Los Angeles, CA, Apr-19-2002, Marine Protected Area Policy Panel
Invited Testimony**

Key Points:

- A recent California activity was the redefinition approach to establishing a master plan for Marine Protected Areas (MPAs) to seek out additional stakeholder and technical input to be used as a model.
- Completing an innovative process of cooperation between State and Channel Islands National Marine Sanctuaries regarding the identification and potential designation of Marine Reserves in both state and federal waters is yet another model of activities. Consider recent California activities as models:
 1. Established a clear authority and process for creating MPAs.
 2. Established a process to consolidate, clarify, and specifically re-define classifications for state's MPAs.
 3. Defined area of interest in a regional manner to capture ecological and oceanographic differences between them.
- Issues at the federal level that may benefit from California's experience:
 1. Federal authority to create "no-take marine reserves" outside of a Marine Sanctuary is not clear.
 2. Terminology for MPAs needs to be clarified at the federal level.
 3. Federal process for establishing policy for MPAs must seek out stakeholder involvement from the beginning.
 4. Federal scheme for MPAs must include the critical elements: clear purpose and design for the site or system; plan for management and enforcement; plan for education and outreach; and plan for evaluation and research.

Recommendations:

- California Marine Life Protection Act could be used as an example for the establishment of a similar process in federal waters.
- California Marine Managed Area Improvement Act should be used as an example for the establishment of a similar process in federal waters.
- The Federal government needs to move forward with the establishment of the MPA Advisory Committee, and if the committee is appointed, some assessment should be made as to its success.

Responses to Questions:

- Developing objective criteria for MPAs will help avoid politicization of process.

BALLIET

**Ms. Kris Balliet, Regional Director, Alaska Regional Office, The Ocean Conservancy
Anchorage, AK, Aug-22-2002, Marine Operations and Enforcement Panel
Invited Testimony**

Key Points:

- The impact of the cruise ships in both economic and environmental terms is huge. Although cruise ships generate a tremendous amount of waste from the thousands of people on board they are not subject to the same wastewater regulations that govern municipalities of comparable size. Cruise ships are exempt from any sort of water quality permitting requirements. While ships are required to treat sewage waste if dumped within three miles of shore, on-board treatment systems are rarely, if ever inspected. A recent Alaskan study found every ship inspected to be in violation of water quality standards. [discussion provided]
- Cruise ships pose additional problems worth mentioning in Alaska. Disturbance of wildlife is another problem that needs to be addressed. Fatal collisions with whales by cruise ships, as in Glacier Bay last year, and disruption of pupping harbor seals are two notable concerns.
- Both the new Federal and state law protect only Alaskan waters, they do not bring vessel discharges under the NPEDS permitting requirements or the technology force and requirements of the Clean Water Act.
- The cruise industry should be a model for environmental conduct because it depends upon the continued existence of our nation's pristine natural areas for its economic basis.

Recommendations:

- Recommend national legislation to reduce and regulate all cruise ship discharges to improve water quality, protect public health and safeguard sensitive marine ecosystems.
- Urge Commission to require mandatory reporting and improved monitoring inspection.
- Urge the Commission to recommend legislation to reduce and regulate all cruise ship discharges, to implement national affluent standards for cruise ships and remove regulatory exemptions on gray water and ballast water.
- Urge that the Justice Department should seek more aggressive penalties by cruise ship companies to deter future criminal conduct and aggressively pursue enforcement cases against foreign flag vessels.
- Urge the Coast Guard to increase enforcement, ideally with an increase in Federal funding, implement surprise inspections, expand the scope and frequency of inspection and utilize on-board observers. Aggressively pursue enforcement cases against these foreign flag vessels.
- Request help from Congress for national legislation.

Responses to Questions:

- Yes, additional authorities are needed other than extending that authority to the other 48 states. The Alaska model, which is both modeled on the Murkowski bill, Federal legislation, as well as legislation that the state enacted, be taken out via national legislation to regulate cruise ships in the lower 48 as well.
- Why has only Alaska been able to get both Federal and state legislation in place? Perhaps it is because we're Alaskans and we're rather industrious and always out there on the cutting edge—it's the last frontier. There is a lot of pride in that legislation and it is a good example for the rest of the U.S.
- As an example, the town of Haines, Alaska, which is approximately 1,000 people. A cruise ship docks there and has 3,000 people on it. There are small communities like this and they're very passionate about preserving their integrity, their economies, their biological integrity, and their cultural integrity. They pay close attention and it was one of those communities that led us to this whole issue.

BALSIGER

Dr. James Balsiger, Regional Administrator, Alaska Region, National Marine Fisheries Service
Anchorage, AK, Aug-22-2002, Arctic Issues Panel
Invited Testimony

Key Points:

- There were some 140 lawsuits against the NMFS -Alaska Region regarding the Stellar sea lions, so we've learned that it does not work not to follow the law.
- We have learned that public opinion was that the Council and NMFS process was opaque and difficult for the public to follow. That was true but the process has been improved and no longer opaque.
- There are conflicting laws-some conflicting objectives of different laws. The Endangered Species Act wants us to protect stellar sea lions, and all marine mammals. The Magnuson Act wants us to provide economic opportunity, to provide protein for the nation's tables. The conflict between these two acts is in fact the proper role for the politics of the Council, for the working groups of the agency to address. We don't want to eliminate either law. We look forward to working through the conflicts.

Recommendations:

- Anything that can be done to improve cooperation and communication is great. We cannot legislate intelligence and probably can't even legislate morality, but we can surely legislate communications.
- Promote ecosystem based management.
- Multiple year research and funding is needed. Most of the projects we are working on, all 175 of them, are multiple year projects-three years to ten years for some of them.

Responses to Questions:

- For something like fisheries where we do surveys on an annual basis and try to react to that continually accumulated scientific information, it is difficult to fit it into the NEPA process because by the time you go through all the steps-the public involvement, the development of alternatives, the drafts and final examinations and then make a decision-you have a new survey from the next year in place. A potential fix for that is that the Magnuson-Stevens Act itself contemplates a very public process that interacts a little more quickly than following the exact steps of NEPA. This is perhaps a method that could be used by itself outside NEPA to make decisions on a timelier basis.
- Yes, nearly doubling of the current science budgets is the order of scale in which we need to think. And, that is not the scale for one or two years, but we have an ongoing need for this.
- We do not have final results for the reasons for the serious decline of the stellar sea lions. One of the early theories was that there is a lack of food perhaps due to the way the fisheries were configured in the 1970s, 1980s, and the early 1990s, which may have contributed to the decline. Most of the research that has been conducted on conditions of animals in the last year or two has not discovered any evidence that there are nutritional problems. Then we looked at predation problems and it's potentially wider than killer whales, There's been a large increase in large shark populations in the Gulf of Alaska, Bering Sea and so we're looking at that too, but the answers are not quite there yet.
- We are making some human resource changes to respond to NEPA. It is the hope that we will evolve towards the right compliment of NEPA qualified people. Each of the regions has hired a NEPA coordinator. We have a national NEPA coordinator and in the Alaska region we have started the process to hire what we're calling a NEPA analytic team that will have a leader and some biologists, economists, and technical writers. [discussion provided]
- We are not trying to discard NEPA. Actually, we think it is a wonderful tool to be able to display the effects of our activities on the environment.
- Yes, we've talked quite a bit about whether NEPA applies beyond three miles. Of course one of the tough parts of a NEPA analysis is looking at the cumulative effects of other activities upon the particular activity that you're trying to analyze. A lot of the fisheries that take place outside of three miles, or even outside of 12 miles, are species of fish that depend on environments inside of three miles. So we're not sure if we don't have to look at NEPA outside of three miles because of the cumulative aspects of the analysis that it's going to give us a change in requirements.
- We're trying to comply with NEPA and we're also trying to comply with other acts, Reg. Flex, Acts, administrative procedures act, all of which have time periods and public comment. It's best to leave it to the lawyers to say where the relief should be.
- In the process of developing the environmental impact statement the Council has put together a fairly large committee including environmentalists, industry people, and agency people contributing to try to identify the types of habitat that are affected by the different fisheries that we have, along with the impacts of those fisheries on the different habitats, and looking at what are called the habitat areas of particular concern. [discussion provided]

BARDOLE

Mr. Ray Bardole, Farmer, Rippey, Iowa
Chicago, IL, Sept-24-2002, Non-point Source Pollution Panel
Invited Testimony

Key Points:

- I farm in the Raccoon River basin with water draining to the Raccoon River and to Snake Creek, a tributary of the Raccoon.
- Nitrate has been identified as a contributing factor to the Hypoxia Zone in the Gulf of Mexico, with where I live, being identified as a major contributor of that nitrate. Nitrate comes from many sources; industry, agriculture, background, urban areas, and septic systems. In the last 10 years the amount of nitrogen used in the Raccoon River watershed has decreased, the amount of crop removed has increased, but the levels of nitrate in the Raccoon River have also increased.
- Agriculture has been moving toward less tillage for 15 years. Nutrient management is another part of solution.
- One of the greatest impediments to change is an elderly, and/or absentee landlord. Most of these landlords want income from their investment, the land.
- In today's large confinement operations, much of their problems are point source. The problem is large confinements being placed too close together and therefore having more crop nutrients than can be economically spread.

Recommendations:

- I believe the solution is written whole farm plans. These plans must be based on Best Management Practices that work for the soils and weather conditions expected where he farms.
- The federal government through CRP, WRP, and EQIP is providing large sources of money to install and maintain good practices. This is very positive and I would not change these programs.
- The federal government must adequately fund the USDA so the Farm Service Agency and Natural Resources & Conservation Service can have the staff they need to implement these programs and enforce conservation compliance.

BEACH

Mr. Dana Beach, Executive Director, South Carolina Coastal Conservation League
Charleston, SC, Jan-15-2002, Coastal Urbanization/Land Change & Effects on the Ocean Panel
Invited Testimony

Key Points:

- Coastal development is one of the most daunting of the many pressures on oceans (i.e., overfishing, introduced species, agriculture). Population density is just part of the issue.
- Because land use is a local matter, reforms must be made by tens of thousands cities, counties and towns.
- The number of watersheds with 10% or more of its acreage developed has increased by 60% between 1983 and 1997. The 10% Rule: when more than 10% of watershed acreage is covered with impervious surface, the rivers and streams within those watersheds become seriously degraded.
- Mid-Atlantic watersheds are the most developed with an estimated 30% developed by 1997. New England follows with 17% of its watersheds developed.
- If today's development trends continue, our estuaries will experience sharp and irreversible decline in health and productivity.

Recommendations:

- Pattern of coastal development must change to maintain healthy estuaries.

Responses to Questions:

- Second homes are not a new factor. They are more disperse and follow an infrastructure of amenities, rather than a hard urban infrastructure.
- Scenario modeling for metropolitan areas of U.S. coast must be started, along with regional and federal planning.
- Develop quantifiable standards and goals that regions can seek to achieve.
- Recent development in southern Beaufort County is occurring on large forest parcels.
- Mechanisms for implementing right choice should occur at regional scale in future planning.
- Risks with no changing trajectory, choices, and alternatives should also occur in future thinking.

BEACH

**Mr. Reg Beach, Consortium for Oceanographic Research and Education
Washington, DC, Oct-30-2002
Public Comment**

Key Points:

- These are my personal views and not representative of CORE.
- I would like to share some observations of a tour that I just concluded in June of this year where I was a liaison scientist for ocean, atmosphere and space working for the Office of Naval Research in London. My primary thrust while I was overseas for the last three years was assessing the capabilities of international agencies for forecasting ocean and atmospheric parameters both in regional seas and globally. This particular thrust took me to Asia, Africa and throughout Europe. I worked hand in glove with the Intergovernmental Oceanographic Commission, Patricio Bernal and his staff. They facilitated my access to these regional groups who might have had suspicions of me as a Navy employee. When I came in as a scientist trying to assess their capabilities and needs, I can honestly reinforce Mr. Turner's comment that science is a door opener and that I was used in a positive basis and I brought to the table some access to the U.S. and capabilities for which there was a true desire. So I would greatly reinforce the U.S.'s reengagement with UNESCO that the IOC is and has a charter that can greatly facilitate the U.S.'s international engagement. I would also reinforce that there are several other U.N. agencies, the World Meteorological Organization, UNIDO, United Industrial Development Organization, and UNEP which can further our interests abroad.
- There is another U.N. Bureau called the Global Environmental Facility, whose headquarters are here in Washington. It's a \$3 billion environmental fund and its primary thrusts are biodiversity, climate change and international waters. Within the international waters component of this, there's a segment called "large marine ecosystems." They are funding transboundary analyses and strategic action plans of most of the large marine ecosystems globally. For instance, the Benguela current system comprised of the nations of South Africa, Namibia and Angola have discussed transboundary analyses and they invoke a strategic action plan to remediate all the issues that are primarily on your plate here. I visited as many of these large marine ecosystems as I could as well as the regional GOOS initiative. When you get on the ground and talk with these folks, they're not looking for infrastructure as much as expertise and training.
- I strongly urge the committee to encourage outreach to these international groups to both educate and build capacity, master science levels, technician level, so that these folks have longevity in their investigations of the issues that are so paramount to this committee in our world's marine ecosystem.

BECK

**Dr. Michael Beck, Director, The Nature Conservancy, Coastal Waters Program
Seattle, WA, Jun-14-2002, Ocean Governance, Coastal Zone Management and Resource Coordination
Panel**

Invited Testimony

Key Points:

- Six years ago The Nature Conservancy (TNC) took a look at the status of our conservation efforts across the U.S. and we saw they were extremely piece- meal and haphazard. We engaged in a process of eco-regional planning. Two thirds of the planning for the terrestrial U.S. is finished. The focus is on identifying conservation targets. The ecosystems and the species direct the available information, of which we need as much as possible to set conservation goals for how much needs to be protected and develop a straw man set of priority sites.

Recommendations:

- Regional planning is needed to identify priorities for where we spend our limited time, money, and effort. Using TNC's regional plan model to identify areas that represent this nation's marine biodiversity is one model and mechanism.

Responses to Questions:

- Always take a look at what the targets are—are they kelp, sea grass, or rockfish. Then think about what the principle stresses affecting the targets—poor water quality, reduced water clarity, loss of habitat from coastal development or shoreline modification, or over fishing. Then tailor the strategies—marine protected areas or conservation strategies.
- Need to be very proactive-like the Nisqually—it is one of the healthiest watersheds in Puget Sound. People started the process way before the Endangered species Act threatened them. They went out and did it—and that was without any Federal incentive.
- The funds from marine environment and land and water conservation funding, that principally come from leases from the marine environment should be targeted to reduce impact to the coastal zone and some of it for coastal acquisition. There is not an existing mechanism to direct those funds.

- To work with the private sector you have to find similar interests in seeing coastal ecosystems and species in their natural state in one way or another. This is good for business and good for conservation groups.
- TNC has a partnership program both on coral reef and whale conservation where we have been trying to identify private partners for both. It's been tougher on the marine side than on the terrestrial side. Perhaps it is the absence of marketability. There are fewer companies, less public awareness. The public perception seems to stop at the water surface.

BELL

**Mr. John Bell, Mayor, City of Gloucester, MA, and Chairman, Northeast Seafood Coalition
Boston, MA, Jul-23-2002
Public Comment**

Key Points:

- Fishing has been the heart and soul of Gloucester since its beginnings in the 1600s.
- The City of Gloucester led in the formation of the Northeast Seafood Coalition, representing fishermen and seafood processors throughout the region. The City is fully engaged in the deliberations on the current northeast fishery management plan, as well as discussions regarding the reauthorization of the Magnuson-Stevens Act. The City faces a broad array of ocean policy issues in the day-to-day business of local government.
- The City constantly needs more and better access to up-to-date scientific information and analysis—not only to participate meaningfully and constructively in the national debate about national resources, but also to help make the best decisions affecting resources in Gloucester.

BELLINGHAM

**Dr. James Bellingham, Director of Engineering, Monterey Bay Aquarium Research Institute
Los Angeles, CA, Apr-19-2002, Marine Science Facilities Panel
Invited Testimony**

Key Points:

- Without a strong supportive infrastructure, new sensors and platforms will be difficult to develop and will remain relatively inaccessible to most of oceanographic community.
- Challenges:
 1. Need ways to provide access to broad range of platforms entering use, including remotely operated vehicles, autonomous underwater vehicles (AUV), and ocean observatories
 2. There is gradient of maturation amongst oceanographic sensors; most robust and generally available are physical sensors. On horizon are sophisticated in situ sensors for chemical and biological observations; should be made available on community basis
 3. Many scientifically important regions are logistically difficult to access and maintain presence, like Arctic Ocean; need tools to provide accessibility to Arctic basin
 4. Given broad significance of time series measurements, might be better supported as facilities, rather than as individual projects
 5. Present infrastructure of communications, platforms, and sensors has difficulty supporting interdisciplinary problems in field
- Future:
 1. Monterey Upper-water Column Experiment (MUSE) characterized by large number of autonomous platforms, ships, aircraft, and satellite systems, all linked by various communications systems; generated highly interdisciplinary, multi-scale set
 2. Future ocean observation system elements must function as integral parts of a large system to be more than sum of parts
- Exploring Solutions:
 1. Expand UNOLS observatories and AUVs
 2. Adopt NSF facility model: sponsor large number of sophisticated facilities
 3. Rely on commercial sector to create technology for and run oceanographic facilities of future
 4. Center of Excellence: laboratories dedicated to the development of advanced oceanographic systems; cultivate engineering talent; encourage career choices and embrace technology
- Parameters for Success:
 1. Facilities with technical expertise and charter to support complex sensors, robotic platforms, and data needs of scientific community
 2. Centers of excellence to develop first-rate sensors, platforms, and observation techniques on a community basis
 3. Competitive processes that encourage periodic upgrades of facility capabilities
 4. Mechanisms to support adoption of new paradigms of ocean observation

BENTON

**Mr. David Benton, Chairman, North Pacific Fishery Management Council
Anchorage, AK, Aug-21-2002, Convene/North Pacific Living Marine Resources Panel
Invited Testimony**

Key Points:

- The overall setting of harvest rates and harvest quotas at the Council level is very much driven by the science involved. There are planned teams that have a scientific and statistical committee and they have scientists from multiple disciplines, multiple agencies. They bring a variety of perspectives to the science debate and it's a very open scientific process.
- Alaska has many closed areas-some are larger than Indiana, larger than Maine. This was not done because environmental interests came and forced it. They were closed long before that.
- The local observer program was one of the first of its kind. It is a central part of the management regime in the offshore fisheries and without those observers, the fisheries could not be well managed. It is funded by industry, through contractors that are approved by NMFS. They give the basic data that is used to open and close fisheries and to ensure that catch limits and bycatch limits are being followed.
- One of the perverse results of the litigation gridlock is that the good work on bycatch reduction, habitat protection, and other kinds of actions that the Sustainable Fisheries Act requires has been stopped due to limited staff and other resources.
- One of the most controversial issues lately has been the crab rationalization that has quota shares that go to processors and harvesters, to ensure that deliveries go back to communities that historically participated and also recognized and gave a stake in the fishery to skippers and crew. The most controversial is the role of processors. [discussion provided]

Recommendations:

- The nation should have observer-monitoring programs in place around the country.
- The Commission should look closely at the overall policy and reconcile some of the various Acts so that there is no "catch 22" on procedure.
- The burden of proof needs to be on the side of conservation. This should be a very clear understanding and mandate. It's difficult to legislate that but that is the balance.

Responses to Questions:

- The scientific community advises the Alaska Council process and it identifies research priorities, which sometimes get funded and sometimes do not get funded. They are often focused on a short-term research question. The North Pacific Research Board, however, is engaged in the long-term research plan looking 20 years out.
- As far as recommending a structural change on the Magnuson Stevens Act, one suggestion is to look at having a requirement in the Act that very specifically says Councils will have a scientific and statistical committee, and it will be broadly constituted with multiple disciplines. Right now that is not in the Act, if is not really ensconced in law. Some Councils are more aggressive about employing that tool than others and that's part of the problem.
- The way the Councils should use the advice that is given is difficult. It's sort of mutual terror, mutual trust. The Act should say that a group of scientists would set catch levels and that the Council should do the rest of the business. If that were to happen there would be a lack of accountability from the scientists to make sure that the data they use is accurate and the data is credible and that there is a transparent process.
- In the Alaska Council arena the analysis is there. When the scientists come up with their numbers all the justification analysis is there. If there is going to be deviation from it that there has to be a record and the record has to be credible. It has to be transparent and based on facts.

BERKOWITZ

**Mr. Rich Berkowitz, Puget Sound Steamship Operator's Association
Seattle, WA, Jun-14-2002
Public Comment**

Key Points:

- Some good news: Oils spills have dropped over fifty percent since 1991; there has been 1.5 gallons of oil spilled per million gallons shipped; there have been no spills over one million dollars. These are not accidents, but have occurred through a lot of cooperation and new initiatives.
- The crisis of 9/11 has given us a greater need to know when vessels are coming in. We have 96 hours of notice in advance of when they will be here.
- This area shares a tremendous amount of water-Strait of Juan de Fuca and the northern Puget Sound with neighbors in Canada. What happens to one end of the Sound has an impact on the other. That goes for the different regulatory missions.

BERKOWITZ

**Mr. Roger Berkowitz, President and CEO, Legal Sea Foods
Boston, MA, Jul-24-2002, Marine Industry Panel
Invited Testimony**

Key Points:

- It is important to think in terms of not being in the restaurant business selling fish, but actually being in the fish business, operating restaurants. The difference is significant. Long-term sustainability of our oceans should be our focus-just as it is for a conservationist. In order to have our family businesses continue for future generations, it is important to think like conservationists when it comes to the seafood industry.
- One factor that has been wrongly ignored during these debates is the bottom-line healthfulness of seafood. Seafood is among the healthiest of all protein, and its importance in everyday diets cannot be undervalued. The Omega-3 fish oils found in seafood lower the “bad cholesterol”, LDL, which often contributes to a dangerous buildup of plaque in coronary arteries increasing the risk of heart disease. A diet rich in seafood and low in red meat also decreases one's risk of colorectal and prostate cancer.

Recommendations:

- Augment funding to improve the timeliness of the data collection process. This may require putting more scientific equipment on boats, and it may require increasing the number of human observers charged with compiling real-time data.
- Convene an ongoing symposium of all stakeholders in the discussion, from institutions such as Woods Hole Oceanographic Institute and the Conservation Law Foundation to a contingent of the commercial fishermen themselves.

BERNAL

**Dr. Patricio Bernal, Executive Secretary, International Oceanographic Commission
Washington, D.C., Oct-30-2002, International Panel
Invited Testimony**

Key Points:

- A description of the IOC is provided.
- IOC research projects have left behind a legacy of permanent Ocean Services, that is, ensemble of automatic instruments operating over vast extensions of oceans deployed to optimally acquire data and information on a specific set of properties of the world ocean.
- Operational Oceanography is being made possible by the development of the Global Ocean Observing System, GOOS: the integrated operation of a series of Ocean Services covering the world Ocean.
- In an unprecedented step forward in inter-agency co-operation, the 13th Congress of the World Meteorological Organization (WMO) and the 20th Assembly IOC of UNESCO, approved the fusion of several long standing independent committees belonging to both organizations into a single body: The Joint Technical Commission for Oceanography and Marine Meteorology (J-COMM). JCOMM is charged with the supervision of all the technical groups in charge of the operational systems for the Global Ocean Observing System.
- The information obtained from these systems, once in the public domain, can be used and is being used by specialized organizations to generate and provide a wide range of applications and services, both public and private. Challenges include: institutional development, requirements for an organization of sophisticated systems for processing, modeling and distributing the information, and economic scale.
- From a practical point of view, there are absolute limits (spatial scale) beyond which appropriability of data from private observation networks face diminishing returns and a point where profitability eventually breaks down.

Recommendations:

- Recognize and consistently support what the USA has been leading in the International arena to build a Global Ocean Observing System.

Responses to Questions:

- Unless we do put coordination where the money is, there is no way that you can really go against years and decades of organizational culture asking for cooperation across very difficult, even intellectual boundaries.
- A challenge for the IOC is a single platform that can be shared private and public, but will need to negotiate certain important agreements that would guarantee access to this information to every user.

BERRY

**Mr. John Berry, Executive Director, National Fish and Wildlife Foundation
Seattle, WA, Jun-14-2002, Ocean Governance, Coastal Zone Management and Resource Coordination Panel
Invited Testimony**

Key Points:

- People are the missing link to solving many of our ocean resource problems.

Recommendations:

- Bolster limited ocean management resources by engaging the private sector. Since corporations also need to be responsible stewards of land and water resources, it is critical to engage them in dialogue and assist them in conservation investments.
- Reduce agency overlap and inefficiency by coordinating Federal resources.
- There should be more local involvement.
- Accept and include people and economics as part of the conservation equation; invest more resources into local volunteer efforts to secure the success of the larger programs.
- Empower communities through support of locally driven stewardship and management; simultaneously consult with watershed councils.

Responses to Questions:

- In order to get the level of resources, level of growth, and level of commitment we need, need to have a department at the cabinet level. The government works effectively as an agency if we can make sure the passion is strong.
- A tax policy, tax incentives, are needed to help deal with direct impact. Whether it is on acquisition or easement protection, providing and creating a national tax policy that reimburses and rewards private stewardship to protect these critical habitats and resources. This would be not just in the coastal area, but also throughout the country. The only way we'll deal with it to that scale is to have a tax policy.
- The best arrangement to be made with the private sector happens when you can put something that links marketable or public appeal or awareness with a corporate interest. Exxon put ten million dollars into tiger conservation because their mascot is the tiger. You can "marry" corporate interests.

BETZER

**Dr. Peter Betzer, Dean, College of Marine Science University of South Florida
St. Petersburg, FL, Feb-22-2002, Ocean Science and Education Panel
Invited Testimony**

Key Points:

- Federal funding of ocean sciences cannot and does not provide continuity. There is an excellent chance to establish scientific and financial linkages with commercial, civic, state, and industry groups. Three new Sensor Systems of particular relevance to ocean science and proposed user groups are underwater mass spectrometer; long path length spectrophotometer; and dual-laser imaging system.

Recommendations:

- There should be a creation of an advisory council comprised of oceanographers and representatives of perspective user groups that would be asked to consider the particular problems that oceanographers could become involved in addressing.
- There is a need to secure recurring state funding, and small working group should develop framework for collaborative action.

BIRKELAND

**Dr. Charles Birkeland, Assistant Leader, Hawaii Cooperative Fishery Research Unit,
USGS/University of Hawaii
Honolulu, HI, May-14-2002, Coral Reefs Panel
Invited Testimony**

Key Points:

- Coral reefs are subject to degradation from far away.
- Large areas in the Caribbean and Pacific have shifted from coral-dominated to macro algal-dominated communities, often as a result of overfishing and removal of herbivorous fish.
- Many local, village, or traditional management efforts are successful because they consider the future.
- Marine reserves are an alternative to traditional management.
- Precautionary principle should be followed for some coral reef resources.

BLANE

**Mr. David Blane, Director, Office of Planning, State of Hawaii
Honolulu, HI, May-14-2002, Tourism, Development, and Coastal Management Panel
Invited Testimony**

Key Points:

- Tourism is Hawaii's economy. If coastal resources are lost or degraded, the impact on the economy would be swift and painful. Tourism is highly symbiotic and must be integrated with quality of life of local residents.
- Coastal Zone Management (CZM) program concentrates on identifying and responding to continual threats to coastal resources. Threats include erosion (beach loss from armoring and sea level rises); pollution (agriculture runoff, sedimentation, poorly treated wastewater, and urban drainage); coral reef loss (bleaching from global warming, alien species, polluted runoff, vessel groundings, and marine debris); poor land use planning; natural hazards (hurricanes, lava flows, local flooding, tsunamis); and cultural alienation. A heavy influx of foreign and mainland visitors have had major impact on traditional Hawaiian culture.
- Better marketing, education, and outreach are necessary through community workshops, elementary school programs, public service ads, and citizen advisory councils. Hazard mitigation must attempt to improve ability to predict and respond to threats. Better economic analysis is necessary. We have done a poor job of quantifying economic contributions of coastal resources. Regulatory efforts must promote the concept that environmental protection is good for business.

Recommendations:

- Expand public information efforts on coastal and ocean stewardship. Encourage federal cooperation in education and development of professional coastal zone managers using scholarships, grants, internships, and foreign exchange programs.
- Continued support is necessary for hazard mitigation initiatives to prevent beach loss; curb vessel spills and discharges; resist alien species; and improve land use planning.
- Study nationwide impacts and economic contributions of coastal related activities.
- National standards are necessary for shoreline setbacks, coastal armoring, public access, dune protection, jurisdictional boundaries, and floodplain and coastal development.
- Create a separate federal agency charged with administration of key coastal programs. Assemble coastal and ocean programs from National Oceanic and Atmospheric Administration (NOAA), Department of Interior (DOI), Department of Agriculture (DOA), Environmental Protection Agency (EPA) and Coast Guard. This would streamline federal bureaucracy by reducing duplication, improving efficiency, and consolidating staff.

BLATCHFORD

**Mr. Joel Blatchford, Alaska Native Marine Mammal Hunters Committee
Anchorage, AK, Aug-22-2002
Public Comment**

Key Points:

- We must include local indigenous knowledge to complement that of scientific understanding.
- Regarding the Cook Inlet pipeline, is there a contingency plan in place in the event of an emergency?

BODMAN

**Honorable Samuel Bodman, Deputy Secretary, Department of Commerce
Washington, D.C., Nov-14-2001, Federal Agencies Panel
Invited Speaker**

Key Points:

- Stewardship is an ethic that must be shared by the public at large. The challenges are to raise awareness about the importance of marine environment to our lives and the future issues of governance. Consider current policies that address ocean issues individually (i.e., species).
- The Ecosystem approach requires the big picture; how law and use of oceans affect economy, environment, and health; how they provide long-term needs; identifying and coordinating roles of federal, state, and local governments; and considering the interests of Non-governmental Organization(s) (NGOs) and private sector.
- There are four outstanding issues:
 1. Water quality and pollution: Impact of non-point and runoff pollution and introduction of invasive species must be reduced.
 2. Marine habitat and species protection is necessary for resources known to be sensitive or in decline (i.e., coral reefs, sea grasses, wetlands, estuaries).

3. U.S. maritime trade: ocean policies must facilitate maritime trade
4. Threats to our nation's security must be addressed, along with ways in which science and services can support these efforts.

Recommendations:

- Examine how ever-increasing volumes of data should be managed.
- Examine existing governance models and how they might be made effective (i.e., Coastal Zone Management Act (CZMA) and fishery management).
- Review interagency effort on Marine Transportation System (MTS).

Responses to Questions:

- The knowledge base required to address pressing marine issues must include:
 1. Consistent internal and external investments
 2. Objective prioritization of needs
 3. Coordination to avoid duplication
 4. Technological improvements to acquire and deliver data
- Written responses were provided to the following questions and issues:
 1. National Oceanic and Atmospheric Administration (NOAA) office and development funding breakdown.
 2. NOAA's reprogramming authority; advantages and disadvantages of NASA/NOAA performing oceanography from space; and a breakdown of NOAA Public Affairs and Education/Outreach budgets.
 3. Description of NOAA programs that address K-12th grade education
 4. Design/implementation of data archive and distribution system; and NOAA responsibility for in-house research relative to academic entities.
 5. Coordination of regulatory measures to prevent, rather than allow activities. Independent agency raises question of scale in D.C.-could it survive on its own?

Documents Recommended:

- www.coastwatch.noaa.gov/COASTWATCH
- www.education.noaa.gov (The Nation's Environmental Data: Treasures at Risk) 2001

BOEHM

**Dr. Jeffrey Boehm, Vice President, Conservation and Veterinary Services, John Shedd Aquarium
Chicago, IL, Sept-25-2002
Public Comment**

Key Points:

- The need for effective, coordinated and aggressive ocean conservation is urgent. People are largely unaware of this urgency.
- Aquarium programs are discussed.

Recommendations:

- Shedd Aquarium, with its 70-year history in aquatic education, stands ready and eager - along with over 200 other North American zoos and aquariums - to address this urgency and facilitate the educational initiatives that will surely evolve from the Commission's work.

BOESCH

**Dr. Donald Boesch, President, Center for Environmental Studies-University of Maryland
Charleston, SC, Jan-15-2002, Coastal Urban/Land Use Change and Effects on the Oceans Panel
Invited Testimony**

Key Points:

- The nation's efforts to control point source discharges, sludge and wastes dumping have been successful. Pollution from nonpoint runoff and atmosphere is largely unabated. New provisions in Clean Water Act and Coastal Zone Management Act (CZMA) are not effective.
- Nitrogen has emerged as the most widespread and measurable effect of pollution on living resources and biodiversity in U.S. coastal waters. This excess results in eutrophication. Two-thirds of the surface areas of estuaries and bays in U.S. suffer one or more symptoms of nutrient over-enrichment.
- New approaches to reduce diffuse source pollution of nation's coastal waters must be key facet of a new U.S. ocean policy. Effects of nutrient pollution on coastal zone are long lasting (destruction of seagrass, corals, etc.), and the manifestations sometimes are ephemeral.
- National ocean policy in the 21st century must reach out and influence national agricultural policy, energy policy, transportation policy and land use policy. For example, the University of Maryland convened Common Ground Summit involving agriculture and marine scientists.

- Federal role in response to nonpoint is huge. It decides policies and funding. Much of what drives efforts like Chesapeake Bay Program is federal regulatory regime.

Documents Recommended:

- www.pewoceans.org/reports/022701report.pdf- "Marine Pollution in the United States: Significant Accomplishments, Future Challenges"
- www.pewoceans.org/reports/022701report.pdf
- www.nap.edu/books/0309069483/html -"Clean Coastal Waters: Understanding and Reducing the Effects of Nutrient Pollution"
- Background resource links at www.umces.edu/president/oceancommission.htm.

BOGDEN

Dr. Philip Bogden, CEO, Gulf of Maine Ocean Observing System, Inc. (GoMOOS)

Boston, MA, Jul-23-2002, Ocean Observing and Prediction Panel

Invited Testimony

Key Points:

- The Gulf of Maine Ocean Observing System, Inc. (GoMOOS) is a prototype regional, user-driven, coastal ocean observing system. As such, our immediate goal is to provide data and information to serve a wide variety of public and private sector needs for decision-making, problem solving and research in the Gulf of Maine.
- GoMOOS has two major components: 1) a technical component, which includes the infrastructure for acquiring, managing, archiving, and disseminating oceanographic and meteorologic data on an hourly basis; and 2) an institutional component, which allows GoMOOS to operate as an effective partnership within the region.
- GoMOOS has partnered with the research community to implement a versatile and state-of-the-art observing system for the Gulf of Maine.
- This nation has the technology and has the need. The resources must be allocated to create and sustain a national system. A recent NOAA cost/benefit analysis quantified the benefits from GoMOOS in dollar terms. Their conservative estimate of \$30M/year exceeds operating costs by a factor of ten. In human terms, they estimated that GoMOOS observations applied to Coast Guard search and rescue could save six or more lives per year in the Gulf of Maine alone.

Recommendations:

- Three recommendations that will allow the GoMOOS partnership to continue and will allow systems in other regions to benefit as well:
 1. Long-term Federal funding for a national coastal ocean observing system
 2. Support for the national system as a federation of regional systems
 3. Coordination at the national level between the regional systems and the relevant Federal agencies.
- Perhaps all three of these objectives could occur through the expansion of the National Oceanographic Partnership Program (NOPP), and related offices such as Ocean.US.

Responses to Questions:

- GoMOOS should make the transition from being dependent on congressional plus-ups because that dictates year-to-year basis of looking for funding. Right now for a state agency to look at GoMOOS as providing a long-term commitment and return on its investment is a bit tenuous because our primary support is Federal funding. A model is being developed after a new kind of entity, a regional, coastal oceanic version of the Weather Service. And the same type of support is needed before other kinds of resources can be developed.
- The NOPP model is supported on the national level for coordination of research, industry and management entities and partnership activities and coordination of all the relevant agencies. GoMOOS is trying to be a regional version of the NOPP in the sense of fostering regional partnerships.
- GoMOOS is a membership organization and the members pay dues, which support a small fraction of the total operating cost of the system. The potential beneficiaries of a coastal ocean observing activity are so broad that is impractical to try and get all of them collectively to support the system. That is why Federal dollars are necessary to provide the primary basis of funding. As a regional system, that can be augmented and Federal funds can be leveraged for regional needs.

BOTT

**Mr. Lee Botts, Founder, Lake Michigan Federation
Chicago, IL, Sept-25-2002
Public Comment**

Key Points:

- My purpose today is to call attention to a new threat to the Great Lakes in the efforts of the Army Corps of Engineers to advance unsustainable expansion of the Great Lakes navigation system. The proposal calls for deepening navigation channels, expanding locks and enlarging harbor capacity throughout the system from the St. Lawrence Seaway at Montreal to Duluth. It also seeks to revive the earlier failed concept of maintaining year round navigation by engineering means.

Recommendations:

- This commission should address the need for change in the mission and function of the Corps in its recommendations.

Documents Recommended:

- The Corps and the Shore, by Oran Pilkey and Katharine Dixon of Duke University (Island Press, Washington, DC, 1996.

BOYLE

**Dr. Paul Boyle, Acting Director, New York Aquarium
Chicago, IL, Sept-25-2002, Education Panel
Invited Testimony**

Key Points:

- The Ocean Project is an international network of institutions working to increase awareness and appreciation of the importance and value of the oceans to all people. The aim is to significantly increase the effectiveness of ocean conservation efforts through an unprecedented collaboration among aquariums, zoos, science, technology, and natural history museums.
- As part of a nationwide assessment of ocean awareness, we first conducted an analysis of all existing environmental polls that contained ocean-related findings. Two key points from these studies: Americans place a high priority on the role of aquariums and zoos in educating children about nature and conservation; and, oceans are not top-of-mind for most Americans. When asked what environmental issues are most important today, only 1 % of Americans mentions the oceans.
- Following the analysis of existing data, we conducted focus group sessions in Baltimore, St. Louis, and San Jose to shape the development of the national survey instrument.
- Following the focus group sessions, we conducted a nationwide telephone survey. Analysis of the survey data identified nine primary points about public attitudes toward the ocean: oceans are viewed as powerful, vast, relaxing, and fun; the public possesses little awareness of ocean health, especially of the oceans beyond the beach; protecting the oceans is not an urgent issue; the public possesses only superficial knowledge of the oceans, their functions, and their connection to humans' well being; oceans are viewed as vulnerable to lasting damage, but the public does not see individual actions as having a great impact; values framework (balance of nature); effective messages are recreation, responsibility, and future; most salient threat is pollution; Americans may sacrifice to protect the oceans.

Recommendations:

- The task we face is a need to increase the urgency of ocean protection.
- Three elements of an effective message on oceans:
 1. Ocean messages should: recreate and reinforce the positive connections many Americans already have to the oceans, especially recreational and emotional connections.
 2. Frame the messages and animal care needs of the projects in the values Use the values framework of the balance of nature when presenting information about the oceans and their functions because this holds a high level of credibility with the Board.
 3. We also need to emphasize the importance and power of individual responsibility for this project.
- There is a major need for ongoing support for effective programs to increase the public's ocean awareness as outlined in this report. This should be a specific program, managed as a separate federal mandate to increase ocean awareness among the public, as opposed to a sub-program within the existing structure of the agencies with jurisdiction over the U.S. oceans and coastal zones. Typically, funds for public education in the budgets of these agencies often remain unidentified, unspent, or directed to other purposes.

Responses to Questions:

- As programs are developed in, or funded by, government agencies with the goal of public education about the importance of the oceans that there be some organic mechanism to bring members of the aquarium community in early, either as partners or as contributors.

Documents Recommended:

- www.theoceantproject.org

BRADLEY

Mr. John Bradley, Chemical Engineer and Trustee, New England Aquarium

Boston, MA, Jul-24-2002

Public Comment

Key Points:

- One more complexity to add to the Commission's plate is the subject of mercury pollution of our shores. Mercury becomes concentrated in the food chain, as well as other nasty things that have already been discussed. Mercury comes from power plants burning coal and municipal solid waste incinerators. The amount of mercury that comes out is small, but it is lethal, and it gets brought up in the food chain. The top fish in the fish chain dies, falls to the bottom, rots, and the mercury gets right back into the system. [discussion provided]

BRAUTIGAN

Ms. Lisa Brautigan, Attorney

Seattle, WA, Jun-14-2002

Public Comment

Key Points:

- The salmon issues have prevailed in Washington. We see that very often the same regulatory regimes that affect the coastal areas have deep effects on upland owners in Washington.
- A great interest is the effects of aquatic nuisance species and regulatory regimes that control that. Regarding the ballast water issue, at what point do these regulations become submarginal and not beneficial? We need to look at a national regime.
- Washington sits next to Canada. There are two ports that are hugely important, not only to Washington's economy, but to the U.S. economy. But, Washington, Oregon, and California are all going their own way. The shipping industry has no predictability.

Recommendations:

- Give agricultural interests in eastern Washington an opportunity to be heard. Too often, ocean policy ignores extreme upland landowners.

BRIGHOUSE

Ms. Gene Brighouse, Coastal Program Manager, American Samoa

Honolulu, HI, May-14-2002, Tourism, Development, and Coastal Management Panel

Invited Testimony

Key Points:

- Coastal management of limited island resources is a formidable challenge in U.S. Insular Areas due to their dependency on a narrow economic base, growing population, and changes in societal expectations. Development impacts are magnified on small island states.
- Priority issues include: escalating impacts of population growth; applying regional network approach to significant environmental issues; maintaining balance between economic growth and sustainability; re-thinking the sustainability of Reef Fish stocks; and the need for research on physical parameters and ocean dynamics and impacts on ocean sources.

BRIGHT

Mr. Kevin Bright, General Manager, Cypress Island, Inc.
Seattle, WA, Jun-13-2002
Public Comment

Key Points:

- The United States is falling further and further behind the rest of the world in its development of a competitive aquaculture industry. At the same time most of our commercial capture fisheries have diminished in both productivity and value.
- It is time to shift our view from hunter/gatherers to being marine culturists, as we have done with all of our terrestrial food sources. In order to achieve this goal, we need to increase the incentives for businesses to pursue these kinds of developments.
- Marine aquaculture has to be fostered in much the same way as we fostered the growth of terrestrial agricultural in order for it to gain a foothold and then expand.
- Aquatic farming is relatively young, but has seen, and will continue to see, further advances in technology that will increase its efficiency, and reduce its impact on the environment. The only way the industry will continue to discover new and improved ways of farming fish is if it is allowed to develop and then drive research and production into even newer and improved technologies.
- In an environmental-affects point of view, the raising of fish in net pens is significantly less harmful to the environment.

BROWN

Mr. Dale Brown, City of Gloucester
Boston, MA, Jul-24-2002
Public Comment

Key Points:

- On behalf of the City of Gloucester and Mayor John Bell, we want to thank the Commission for holding this regional meeting in Boston. Fishing has been the heart and soul of Gloucester since its beginnings in the 1600s. There is no better example than Gloucester of a community enriched by the benefits of our location on the ocean.

BROWN

Dr. Otis Brown, Dean, Rosenstiel School of Marine and Atmospheric Studies University of Miami
St. Petersburg, FL, Feb-22-2002, Ocean Science and Education Panel
Invited Testimony

Key Points:

- Ocean research and development budgets are approximately what they were 30 years ago.
- There is a cornucopia of needs and unprecedented opportunity, but no clear strategy for investment or implementation for the following reasons:
 1. Ocean science has relied on governmental funding rather than commercial marketplace and has become "soft" science. Ocean science has high costs associated with it.
 2. Structural problems are characterized as end-to-end responsibility and agency-to-agency coordination.

Recommendations:

- The following suggestions are to improve the current situation:
 1. Improve National Ocean Partnership Program (NOPP) coordination. Inter-agency partnership dimension should be enhanced. Perhaps there should be a budgetary dimension for each NOPP agency.
 2. Research and development must be linked to operations. The National Polar Orbiting Environmental Satellite System Joint Program Office (NPOESS) is an excellent example.
 3. More efforts like The Ocean Caucus, NOPP, and Consortium for Oceanographic Research and Education (CORE) are necessary. A full-time staff for The Ocean Caucus would also help.

BROWN

**Mr. Ralph Brown, Commercial Fisherman and Member, Pacific Fishery Management Council
Seattle, WA, Jun-13-2002, Living Resource Management in the Pacific Northwest Panel
Invited Testimony**

Key Points:

- Comments on behalf of the Pacific Fishery Management Council:
 1. Strongly disagree with recent efforts to change the role of regional councils. [detailed discussion is provided]
- Council activities: season setting, adjustment to the Sustainable Fishery Act, and development of new Fishery Management Plans. [detailed discussion of each provided].
- Currently lack the science that is demanded.

Recommendations:

- Council recommendations:
 1. Retain current regional council role in terms of science and management decision making
 2. Increase funding and staffing to collect, maintain, and analyze fishery-dependent and fishery-independent data
 3. Support the use of ITQs as a management tool available to the regional councils
 4. Review and clarify environmental and fishery laws and regulations.

Responses to Questions:

- Firstly, when managing the numbers do not go to extremes. One number could close down every fishery and another number would not affect any of them. Important to remember we are working with people. Although the talk is in terms of fish management it is really about people management. Yet, information on how this is going to affect people is absent. Biological, economic and social information is needed.
- It is not functional to have all the water from the 200-mile line as our definition of our essential fish habitat. Clearer definitions are needed.
- Better enforcement and new technology will help with some of the issues related to bycatch. Technology is a different issue than science.
- The Pacific council and fishermen in the commercial fishing fleet are working on how to avoid large amounts of bycatch.

BUCHSBAUM

**Mr. Robert Buchsbaum, Massachusetts Audubon Society
Boston, MA, Jul-24-2002
Public Comment**

Key Points:

- The Massachusetts Audubon Society is the largest conservation organization in New England with a membership of about 69,000 families. Our focuses are programs of advocacy, education, and land protection and research.
- Much work has been done by the National Estuary Programs (NEPs). Massachusetts has two NEPs: 1) The Massachusetts Bay NEP, and the 2) Buzzards Bay NEP. They both have been essential with the local communities. The Buzzards Bay Program has been instrumental in getting towns in the southeastern part of MA to address nutrient-loading issues. The Mass. Bay Program provided funding in the Plum Island Sound region, which helped us to do an analysis of issues, and to work with the local communities to get programs to update their regulations.

Recommendations:

- Make monitoring a requirement of any Federal grant that involves restoration. Some of our NOAA's Community Restoration Grants are very valuable for salt marsh restoration projects, but many times they don't include any money for monitoring. This would be one way to help solve that information gap that was discussed. A lot of restoration is being done but the managers are not being provided with information about the successes or how the projects and system should be revised to make sure they are being carried out right.
- Address the issue of compensating the public for the loss of the public lands that are now being proposed. Design a program similar to the Outer Continental Shelf Lease program to compensate the public.
- There is a need for overall coordination regarding the Marine Protected Areas.
- More funding is needed for more research on essential fish habitat. The relationship between habitat and fisheries is a good way to start working towards the ecosystem management approach. It is important to understand those habitat relationships.
- Look for innovative ways to address marine invasive species, including a Federal role in ballast water management.

BUCKLEY

Ms. Peggy Ann Buckley
Los Angeles, CA, Apr-19-2002
Public Comment

Key Points:

- A discussion of the Coastal Commission overreaching its authority with specific reference to personal cases.

BUNN

Mr. David Bunn, Deputy Director, California Fish and Game
Los Angeles, CA, Apr-19-2002, Habitat and Living Resources Panel
Invited Testimony

Key Points:

- Consider ways to facilitate transfer of fishery management authority to give some species management back to states:
 1. Current process requires amending Pacific Fisheries Management Council's management plan, which can take a year or longer to complete.
 2. States are better able to manage resources in timely manner and with better access to management process.
 3. Develop streamlined process for transfer of authority for the species that the state is prepared to manage (i.e., California near shore groundfish).
- Authorize use of Individual Transferable Quotas (ITQs) and Individual Fisherman Quotas (IFQ) for Council use as a management tool:
 1. Groundfish Strategic Plan-capacity reduction of 50%; ITQ first choice for implementing reduction.
 2. ITQs stop "race for the fish."
 3. Standards are needed to ensure quotas not consolidated.
- New policies are needed to address the respective roles and relationships of Sanctuaries and Councils.
- Consider ways to streamline council process and decrease "bureaucracy" associated with adopting regulations and implementing management decisions:
 1. Currently a double process for West Coast groundfish, council, and then National Marine Fisheries Service (NMFS)
 2. Consider amending Magnuson-Stevens Fishery Conservation to allow council process to satisfy NMFS.
- California's mandate for marine resources management was broadened to include an ecosystem approach, with an emphasis on sustainable fisheries, resources, and habitat, and a de-emphasis on maximum sustainable yield for fisheries. Council's mandate should move in this direction.

Recommendations:

- See Above

Responses to Questions:

- Incentives are needed for fishermen to collect good data; also need good relationships between regulators and fishermen.

BURGESS

The Honorable Timothy Burgess, U.S. Attorney, District of Alaska, U.S. Department of Justice
Anchorage, AK, Aug-22-2002, Marine Operations and Enforcement Panel
Invited Testimony

Key Points:

- Protecting our national resources through strong enforcement of environmental law is a top priority for the Department of Justice in Alaska. We carry it out in the following ways: [discussion provided on all three]
 1. Through efforts to protect the security of our marine resources, ports, waterways, and maritime commerce and transportation.
 2. Through the protection of our marine resources from vessel pollution
 3. Through our fisheries enforcement efforts
- Even prior to September 11th, law enforcement in Alaska worked steadily to prevent terrorist acts that could seriously harm marine resources and commerce. We work closely with the FBI, the Coast Guard, and other Federal and state law enforcement agencies to ensure the protection of our ports, waterways, and maritime commerce. [discussion provided]

Responses to Questions:

- The Coast Guard has a number of remote sensing capabilities but what we have seen most often used are actual patrols and over flights by C-130s. We have had a number of incursions that are detected by remote sensing but we have never successfully completed the task because the violators simply turn around and run into international waters or waters of a foreign country. It is not really a matter of detecting the violators but also having the assets in place so that we can actually respond.
- The existing law does provide that passengers or crew members who make reports of discharges on board can receive monetary compensation. For example, when All American Lines was prosecuted in 1998 for direct discharges of oil it was because an engine room crew member came forward. The Federal District Court awarded that person half of the million dollar fine for coming forward and reporting the violation.

BURR

**Ms. Kathleen Burr, Executive Director, Los Angeles County Farm Bureau
Los Angeles, CA, Apr-19-2002**

Public Comment**Key Points:**

- There is concerned about the direction that the current coastal commission is taking-anti-agriculture and anti-animal agriculture as seen in recent local county programs.

BUSHEK

**Mr. David Bushek, Baruch Institute for Marine Biology, University of South Carolina
Charleston, SC, Jan-16-2002**

Public Comment**Key Points:**

- Field laboratories play an important role, and their condition is important. We must consider not just that they exist and what the potential capabilities are but the condition that they are in and what sorts of funding they need to reach their capacities. Facilities endure a great deal of wear and tear. They are expensive to operate and they need a lot of maintenance. Most of them exist within the institute or university system, and while they do support the research education at the home institutions, this is not their primary goal. They also serve as excellent environmental educational facilities. And finally, they are often a focal point for international collaborative efforts from scientists from around the world. These field stations need support.
- Long-term data sets are often the result of specific research projects with particular goals and objectives, and they just sit filed away in the laboratories once the project is done. The data that is collected can be used to understand what has happened historically and then be employed in models to help us set predictive systems about what might be happening. Setting up a system that can integrate those data and to make them available is very important.

C**CALDWELL**

**The Honorable Jack Caldwell, Secretary, Louisiana Department of Natural Resources
New Orleans, LA, Mar-07-2002, Coastal Land Loss Panel
Invited Testimony**

Key Points:

- One million acres of national coastal land has been lost in Louisiana since the 1930s, without action on scale never before attempted in U.S. Louisiana will lose another million acres in the next 40 years. Forty percent of the nation's coastal wetlands are threatened. Every 30 minutes land the size of a football field converts to water.
- Reasons for land loss include canals dug in wetlands encouraging saltwater intrusion and disrupted natural flow of water; sea level rise and natural sinking of landscape; leveeing of Mississippi River cutting off fresh water and sediment deposited during floods.
- Louisiana's coast can be restored to sustainable levels by reworking coast's hydrology by implementing an engineering program larger than any seen and a cost of some \$14 billion over the next 20 years. Solving the problem is far less expensive than doing nothing.

- Economic as well as environmental resources are at risk: storm protection - wetlands protect coast from storm surge; oil and gas networks; communities and infrastructure; transportation networks; freshwater supplies; and fisheries.
- The Coastal Zone Management Act (CZMA) prompted Louisiana to establish new ways to manage coastal resources and was largely responsible for the discovery of severity of coastal erosion problem and many Coastal Use Guidelines were crafted to address wetland loss. The CZMA reduces adverse impacts to coastal resources while still allowing economic engine to run. Federal consistency has helped get federal agencies to assist state in reducing coastal impacts and beneficial use of dredged material. Act should remain unchanged with two exceptions: eliminate or raise cap on Section 306 funding (now at \$2 million); modify Section 309 enhancements to fully fund enhancements or eliminate section.
- Ideas about prioritizing restoration needs based on science rather than politics.

Recommendations:

- If the President endorses CARA, it will most likely pass.
- Having good science and engineering helps us prepare for when funding comes through.

CARLTON

Dr. James Carlton, Director, Williams College-Mystic Seaport

Chicago, IL, Sept-25-2002, Invasive Species Panel

Invited Testimony

Key Points:

- Biological invasions are one of the greatest drivers of ocean and coastal change in the U.S. in 2002.
- Invasions may be seen, in part, as the “thread that binds” the other major causes (habitat alteration, chemical pollution and eutrophication, fisheries impacts, and global climate change) of manmade hazards and alterations to the marine environment.
- Vectors for the accidental introduction of exotic species today include shipping (ballast water and ballast sediments and external (hull) and internal (seachest) fouling), the movement of drilling platforms, the aquaculture (mariculture), live seafood, and aquarium industries, and the live bait industry.
- Invasions threaten life (through disease transport) and property, severely impact coastal stewardship of fishery and other resources, and impact marine-related commerce and transportation.

Recommendations:

- There are superb possibilities for the engagement of the private sector for innovative approaches, superb possibilities for enhancing close cooperation among and between government agencies and departments (both Federal and state) to generate coherent, cost-effective, efficient, and consistent regulations and management, and, importantly, superb possibilities for the United States to take a global leadership role in marine bioinvasion policy and management.

Responses to Questions:

- Many of the vectors are going to require different kinds of attacks on them to manage them properly. Some will be easier than others to regulate and manage.
- Only between \$1 and \$2 million a year for over a decade has been available for the entire national effort that is spread to thin.
- Human mediated dispersal is compared to natural dispersal as the first point to consider in determining invasive or native species.
- A nationally coordinated educational effort within the National Aquarium Councils would be most welcome in terms of having something with a uniform approach.
- There is a good deal of discussion about how to weight or rank vectors, but it is very difficult.
- Invasive species risk assessment modeling is progressing but is challenged by the unknown and vectors carrying many species at the same time.

CARMICHAEL

Rear Admiral James Carmichael, Commander-7th District, U.S. Coast Guard

St. Petersburg, FL, Feb-22-2002, Accommodating Coastal Growth Panel

Invited Testimony

Key Points:

- In addition to regulating portions of maritime industry for safety, security, and environmental protection, the Coast Guard is the principal federal maritime law enforcement agency.
- The growth in maritime activity is having an impact on the Coast Guard's mission.

- Marine Transportation System (95% of cargo crossing our borders moves by ship):
 1. Increasing reliance on oceans for transportation of goods and people
 2. New approaches to management of Marine Transportation System (MTS) required, including input from stakeholders
 3. Decisions to increase port infrastructure should include vessel traffic considerations and impacts on local environment
- Living Marine Resources:
 1. The increased port security resulted in significantly reduced enforcement of fisheries and related environmental laws, including enforcement of the Oil Pollution Act of 1990.
 2. Five main concerns in District 7 are the enforcement of ship reporting system for North Atlantic Right Whale calving grounds; enforcement of fisheries management (i.e., Tortugas Reserve); protection of coral reefs; control of invasive species; illegal discharges of harmful pollutants.
- Maritime Security:
 1. As land-based security increases, it is expected that a greater threat level of smuggling (i.e., narcotics, people, and weapons) will be attempted via the maritime environment. Maritime Domain Awareness must be built through a combination of technology and increased international and inter-agency cooperation.

Recommendations:

- A key to a safe and secure maritime environment is to exploit all available information and threats, an approach referred to as Maritime Domain Awareness (MDA). MDA is beyond the capability of a single agency as it requires a mix of cooperation and technology. Port Security Committees must make a concerted effort to foster and support an exchange of information and coordinate security activities into a comprehensive port security plan, similar to the Oil Spill Contingency Plans.
- Develop a process for timely access to detailed information in three overlapping MDAs: international, coastal and harbors, and port infrastructure.
- Accede to the United Nations Convention on the Law of the Sea (UNCLOS)-the Coast Guard relies daily on its provisions. UNCLOS codifies customary international law and will enhance U.S. national security by preserving freedom of navigation and overflight.
- All Coast Guard supported agencies must establish clear and objective requirements to address.

Responses to Questions:

- Evolving technology will help in coordinating work with other agencies.

Documents Recommended:

- "An Assessment of the U.S. Marine Transportation System" Department of Transportation 1999
- "Threats and Challenges to Maritime Security 2020" U.S. Coast Guard 1998

CARPENTER

**Mr. Glen Carpenter, Executive Director, Mississippi Department of Marine Resources
New Orleans, LA, Mar-07-2002, Official Welcome Panel
Invited Testimony**

Key Points:

- Health of the oceans is not related to political boundaries. We must modify our approach to stewardship of marine resources. "Coastal zones" should be redefined to include watershed. A coordinated and comprehensive ocean policy must include a freshwater in-flow policy related to health of coastal, estuarine and ocean environs. Ensure the historical use of limited resources, including fisheries and fresh water. Restructure federal agencies so all coastal and ocean programs can be housed in or coordinated by one agency, perhaps expanding NOAA interests inland beyond immediate coastal zone or improve formal communication requirements between agencies and states. Regulate by ecoregions rather than political boundaries, particularly wetlands.
- National policy must include public education. Continue study and education of nonpoint pollution causes, detection and prevention. Encourage citizens to avoid contributing and empower them to help enforce water quality laws. Promote concepts of Conservation/Wetlands Reserve Programs and extend to coastal environs. Teach value of wetlands in terms of seafood resource production, flood control, pollution filtering and coastline protection.
- Focus laws and policies on habitat reclamation and preservation to ensure sustainable resource and provide incentives to reclaim lost resources. Provide federal assistance for failing coastal municipal systems and for voluntary acquisition of non-state owned tidally influenced areas. Conservation Reserve program should provide for conversion of agriculture lands to natural landcover and Wetlands Reserve Program for conversion of marginal/timberlands to original landcover. Provide federal buyouts and conversion to natu-

- ral landcover throughout coastal zone. Define wetlands more clearly and map rates/patterns of loss by type over the past 30 years. Conduct and track on a nationwide basis, by ecoregions, wetlands mitigation projects efficacy rates. Develop mitigation tracking programs that allow easy follow-up and enforcement. Study and develop policies on deforestation and other landcover conversion rates and impacts associated with biomass alterations on health of coastal, estuarine and ocean environs. Develop financial assistance program for immediate relief after natural coastal and ocean disasters, with thorough advance mapping, planning and logistics for coastal zone in detail.
- Reassess federal laws and policies regarding future development of coastal environs. Define “water dependency” and develop policies to ensure wise use of shorelines for truly water dependent endeavors. Develop policy requiring “in-kind” mitigation for the most endangered wetlands. Review federal subsidies for developments in 100 year flood plain. Tie information gained from natural hazards response programs to permitting programs to minimize probability of future impacts. Facilitate federal/state inter-agency meetings as part of permitting process to ensure all aspects of legislated environmental protections are addressed.
 - Assist states in marine fisheries and habitat protection law enforcement. Increase federal funding for ongoing joint cooperative enforcement agreements between NMFS and states to ensure wise management compliance and sustainable harvesting of commercial and recreational fisheries. Transfer technologies like remote sensing, GIS and GPS from feds to states to assist in enforcement of fisheries and habitat protection laws.
 - Promote sensitive energy exploration and new clean energy sources. Provide incentives to use and develop environmentally sensitive methods for tapping existing petroleum reserves in coastal areas. Continue to promote development of renewable, clean, low-impact energy sources to minimize probability of environmental damages from petroleum product spills.

CARR

Dr. Bruce Carr, Director of Education, American Zoo and Aquarium Association

Chicago, IL, Sept-25-2002, Education Panel

Invited Testimony

Key Points:

- Educating the public about oceans and the Great Lakes requires both technical mastery and popular appeal.
- The need for such education is undeniable. Abundant research portrays alarming changes to ocean ecosystems that predict immediate challenges to the quality of human life. Public understanding of oceans and ocean issues can best be described as dismal.
- Ocean education within schools is essential. Ocean messages, however, can become lost within a school district's broader science education objectives. The National Science Teaching Standards barely mention the oceans and contributing experts for those standards do not include ocean scientists.
- America's aquariums form the core of a network of educational institutions that daily deploy an array of effective educational experiences about oceans and the Great Lakes. Collectively, these institutions have demonstrated the ability to reach any audience, any message, any need.
- The John G. Shedd Aquarium here in Chicago is a stellar example. Its mission reflects its singular focus: “The Shedd Aquarium promotes the enjoyment, appreciation and conservation of aquatic life and environments through education, exhibits and research.”
- A 1996 poll by the Mellman Group named aquariums and zoos as the third most trusted messenger concerning conservation and the environment.

Recommendations:

- It is important here to note the growing trend to employ evaluation and audience research throughout development of educational programs and exhibits.
- Monterey Bay Aquarium Splash Zone Exhibit is good example of aquarium learning experience.

CATES

Mr. John Cates

Honolulu, HI, May-14-2002

Public Comment

Key Points:

- Believes in sustainable fisheries and aquaculture is part of that. If aquaculture is going to occur in U.S. it needs to be in open ocean.
- Ocean is environmentally correct place for aquaculture. Aquaculture has minimal negative impact.

- Aquaculture research is focused to find negative impact-no research to find positive impacts. There is a lot of positive impacts such as creating habitat for fish on the outside of the cages; 30 to 40,000 fish maintain a life around the cage-they come and go.

Recommendations:

- Must try and go further offshore for environmental reasons. A national policy to encourage this would be a great help.

CAUSEY

Mr. Billy Causey, Superintendent, NOAA Florida Keys National Marine Sanctuary

St. Petersburg, FL, Feb-22-2002, Ecosystem Management Panel

Invited Testimony

Key Points:

- The challenge in ecosystem management approach is to get resource managers and scientists to create a vision that extends beyond jurisdictional boundaries, both nationally and internationally. Principles of ecosystem-based management must be applied from the outset in the planning process. Public process should be used to establish ecosystem management objectives and restoration goals based on the best understanding of concepts of sustainability. An advisory group of stakeholders and local officials should be established separate from the core group. Planning process must be supported by analytical and technical expertise.
- Establish an integrated planning process that includes all levels of government. Require that participating representatives have adequate authority to make decisions. Focus on ways to implement effective ocean governance within confines of existing authorities.
- Recognize that humans are part of the ecosystem and that human activities cannot be separated from holistic approach. Continue to apply the spirit of what is collectively thought of as sustainable approach on most conservative side of management principles. Invest heavily in outreach at all target audience levels with recognition that environment and economy are linked. It is essential to bring socioeconomic information into the planning process as the foundation for informed participation. Utilize concept of marine zoning to reduce or eliminate user conflicts.

Responses to Questions:

- Marine zoning is similar to land-based zoning. both are predicated on recognition that some activities are not logically compatible and need separation. Differences include land-based zoning which usually affects property owned by private citizens or the public. Marine zoning affects areas that are deemed "commons" with shared public access.
- Employ approach to resource protection that uses both sanctuary-wide focus and site-specific tactics (zoning). Leverage resources through partnerships with other agencies and Non-governmental Organizations (NGOs). Use current scientific findings in educational messages and communicate clear, unequivocal scientific honesty.
- Florida Keys National Marine Sanctuary (FKNMS) challenges include establishing the Sanctuary through top-down process; outreach and education; and a complex natural system subject to many threats and no single solution.
- To coordinate various entities engaged in "mapping" Marine Protected Areas (MPA) boundaries, use natural and social science in ecosystem approach, and build on existing efforts and programs already underway to create regional science and management plans. There is no disconnect between MPA and Sanctuary management. The confusion is over the term MPA and marine reserves. A sanctuary is a MPA and may or may not have a marine reserve.
- Create a regional network of MPAs. Rank them according to effectiveness and identify gaps. Take a long-term approach to MPA management and resource conservation, and set realistic objectives based on resources available. Consider full-range of management alternatives. Employ multiple techniques, based on goals and objectives.

CAVANEY

Mr. Red Cavaney, President and CEO, American Petroleum Institute

Washington, DC, Nov-13-2001, Ocean Business Organizations Panel

Invited Testimony

Key Points:

- We believe sound ocean policy must be premised on a balance, multi-use approach. It should advance several goals, including but not limited to, strengthening our nation's energy security, protecting and enriching our ocean and coastal resources, and enhancing maritime commerce.

- Much of the energy that we will need to meet our nation's future energy requirement's lies under U.S. waters off our coasts. If we needlessly constrain the development of these resources, we will become more dependent on the rest of the world for energy. However, if we want to produce more of the energy we use - sources that are more secure and provide more U.S. jobs - then it is difficult to avoid looking offshore. The resources are there; their potential is growing rapidly as newer technology comes on line; and they can be produced with de minimus impact on the environment. For example, naturally occurring seeps put 27 times more oil into the Gulf of Mexico than do spills from OCS production. Between 1980-200, 8 billion barrels of oil have been produced in the federal OCS, and more than 99.999 percent of that was without a spill.
- Producing this oil and natural gas will create thousands of jobs, both directly on the water and back in the inland support communities. This production will provide billions of dollars in royalties to the states and the federal government. It will also increase overall energy supplies, enhancing reliability and affordability for U.S. consumers.
- Oil and natural gas are not the nation's only sources of energy, but they are crucial. They currently supply over 62 percent of U.S. energy. They help heat and cool our homes, contribute to the generation of electricity, and almost exclusively power our transportation systems. The time may come when oil and natural gas play a substantially smaller role in meeting our energy needs, but this is not a scenario likely to unfold over the next two decades or more, even with continued progress in conservation and aggressive growth in alternative fuels.
- The U.S. Department of Energy expects demand for energy to increase 32 percent by 2020 - including about a third more oil than we use today and nearly two-thirds more natural gas. Much of the additional amounts could come from offshore, which contains more than 60 percent of the estimated oil and 25 percent of the estimated gas remaining to be discovered in the lower-48 states. However, much of this oil and gas, which we will need for our future, is currently off limits.

CHANDLER

Mr. James Chandler, Legal Advisor, International Joint Commission

Chicago, IL, Sept-24-2002, Governance Panel

Invited Testimony

Key Points:

- History and purpose of the International Joint Commission is presented.

Responses to Questions:

- IJC is advisory only.
- Monitoring systems are not well developed because of extreme costs.

CHANDLER

Mr. William Chandler

Washington, D.C., Nov-14-2001

Public Comment

Key Points:

- There is a lot of good information that the Commission should look at concerning Marine Protected Areas (MPAs). The use of MPAs is not a conspiracy to kick off the oceans.

CHANTON

Dr. Jeffrey Chanton, Professor, Department of Oceanography, Florida State University

St. Petersburg, FL, Feb-22-2002, Accommodating Coastal Growth Panel

Invited Testimony

Key Points:

- Florida's coastal environment is especially vulnerable to nonpoint pollution because of the extent of the karst nature of the platforms allows great interaction between ground and surface waters, and low gradient of the land results in high water tables.

Recommendations:

- Scientists and policy-makers need to educate the public on proper wastewater treatment and actions that contribute to contaminations in stormwater runoff.
- Research must address interaction between groundwater and surface waters; behavior of contaminants in the subsurface; approaches to track sources of contaminants and groundwater discharge, molecular

- techniques, stable isotope tracing, and natural and artificial tracers; linkage of airsheds with watersheds; and the determination of loading contaminant factors associated with agricultural activities.
- Homes in coastal areas should be connected to a central sewer system. Septic systems do not work well in karst/high water table areas. Advanced secondary levels of treatment are preferred to aerobic units. Fertilizer usage must be reduced, along with animal waste and concentrated animal feedlots.
- To reduce the impact of groundwater on coastal waters, increase setbacks of septic systems from shorelines from 23m to 50m. Raise septic system drainfields to 1 \m above water table. "Grandfathered" systems should be upgraded.
- To reduce the impact of stormwater runoff on coastal waters, limit urban development along shorelines. Preserve and construct wetland and riparian buffers and Submerged Aquatic Vegetation (SAV). Limit use of fertilizers, herbicides, and insecticides on lawns and landscaping. Encourage the best management practices in agriculture. Educate the public regarding the ecological values of natural landscapes.

Responses to Questions:

- Most people who live in established communities are concerned about environmental issues and would like to change their behavior to live less harmfully on earth. However, they do not know what to do and get no leadership from elected officials.
- Environmental health is a form of public health. Public environmental education and environmental health should be conveyed and advertised by the same avenues as public health education.

Documents Recommended:

- "Waterfront Property Owners Guide" State of Florida
- "Submarine Groundwater Discharge" Florida Sea Grant
- "Nutrients and Florida's Coastal Waters" Florida Sea Grant

CHASIS

**Ms. Sarah Chasis, Director, Water and Coasts Program, Natural Resources Defense Council
Chicago, IL, Sept-24-2002, Non-point Source Pollution Panel
Invited Testimony**

Key Points:

- Serious threats are posed by nonpoint source pollution to coastal and ocean waters. Nonpoint source pollution, including nutrients, toxics and pathogens that run off farms, city streets and suburban areas, presents the most significant pollution threat.

Recommendations:

- Current law needs to be implemented more effectively; Sections 303, 319, 402(p) and 404 of the Clean Water Act and Section 6217 of the Coastal Zone Management Act.
- Current law needs to be strengthened to better control nonpoint pollution: EPA should enforce the existing TMDL regulations under the Clean Water Act so that governments and the public know where the pollution is coming from, how much there is, and what limits are needed to protect water quality standards; EPA should require states to develop ambient water quality standards for nutrients in order to better control the sources of nutrient pollution, assess compliance and measure progress; NOAA and EPA should target funding to those states that develop and implement coastal nonpoint pollution control programs that to meet federal standards; The Agriculture Department should target funding under the 2002 Farm bill (in particular, the Environmental Quality Incentives Program, EQIP) 1) to reward states that are performing well in controlling nutrient runoff as well as other pollutants, and 2) to encourage projects, such as implementation of BMPs on cropland and animal feedlots, that have the greatest water quality benefits, such as reducing fertilizer runoff; and EPA and the Corps should abandon any efforts to change the existing definition of "waters of the United States" so as not to limit protections for wetlands.
- Recommend the following elements be incorporated into a much enhanced national policy to control non-point sources of pollution: Utilization of best management practices (BMPs) to control/reduce polluted runoff should be required rather than voluntary (as is too often the case now); EPA should set baseline standards for BMPs, as it has done with effluent guidelines for point sources; significant federal funding should go to implementation of clean-up programs for nonpoint pollution; and wetlands, which are an important filter for polluted runoff, need to be protected and restored.
- Congress should take the following specific steps to implement this national policy: Increase funding under the State Revolving Fund, section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Management Act for implementation of nonpoint pollution control programs; State Revolving Loan Fund eligibility should be explicitly expanded to put urban runoff projects on a par with traditional sewage treatment plants; make polluted runoff control programs enforceable; link implementation of best management practices and state nonpoint control programs with access to federal funds in a meaningful way;

amend Section 6217 to provide meaningful sanctions and disincentives for states that do not develop or implement approved coastal nonpoint programs; amend Section 303 to strengthen the mandate for control of nonpoint pollution as part of state implementation of TMDLs; amend Section 319 of the Clean Water Act to require states to implement enforceable management measures to address nonpoint pollution sources, including for upstream sources that contribute to downstream coastal water quality impairments; close loopholes in the wetlands provisions of the CWA to clarify coverage of so-called "isolated" wetlands and reform the Army Corps's oversight of that program to really achieve "no net loss" or transfer the whole program to EPA; require that as a condition of receipt of crop subsidies and other federal farm aid farmers implement BMPs that will reduce runoff of nitrogen and other nutrients.

Responses to Questions:

- Encourage the Commission not shrink away from nonpoint issues
- Need a much stronger agency advocate for the oceans within Federal government.

CHEW

**Dr. Kenneth Chew, Associate Dean, College of Ocean and Fishery Sciences, University of Washington,
and Director, Western Regional Aquaculture Center**

Seattle, WA, Jun-13-2002, Aquaculture Panel

Invited Testimony

Key Points:

- Permit Requirements
 1. There was no consistency in support for the growth of this new industry
 2. Those interested in an aquaculture venture had to fight through a maze of permit requirements
 3. Mistakes Made: In establishing early aquaculture operations there were major losses of investments; the lending institutions shied away from making such loans for many years.
 4. The public-at-large should be better educated about the importance of aquaculture worldwide and its impact on the U.S. economy.
 5. Regulations on effluents from aquaculture facilities are critical issues.
- Competition for space in marine and freshwater habitats creates conflict between aquaculture and shoreline property owners, traditional fishermen, and aquatic farmers.
- Those in the scientific field should recognize that aquaculture is a tool for replenishing depleted wild stocks of fish.
- Aquaculture can produce more food per unit area at a lower environmental cost than nearly any other form of food production.

Recommendations:

- Efforts should be made to bring together all Federal, State, county and local governments in different strategic regions. A process is needed to look at environmental short term and long-term impacts.
- Continue to make sure that planning for aquaculture ventures are carefully organized with better understanding of markets and management needs.
- Government Support: Legislation should continue to support the aquaculture industry from all regions of the U.S.
- Provide unbiased and factual information about aquaculture to the public-at-large. Aquaculture should not be viewed as a competitor with capture fisheries for consumer dollars. The two should be viewed as necessary tools for supplying aquatic protein to our increasing human population.
- The Environmental Code of Practices should be developed and added to the EMS, and include input from all regulatory agencies, including environmental and tribal groups. This should similarly be done in other marine aquaculture industries.
- Government should be more proactive in partitioning the resources and defining a place for aquaculture.
- Given proper research and R & D funding, and a policy to support enhancement activities, aquaculture can help to restore the numerous species of fish and shellfish. [discussion provided]

Responses to Questions:

- The NMFS is good for marine fish culture, and for enhancement, but they have not been effective when it comes to aquaculture.
- It is difficult to give the approximate level of research funding that is expended in other countries, but other country governments subsidize aquaculture. There are competitive grants and small business opportunities.

CHILDERS

**Ms. Dorothy Childers, Executive Director, Alaska Marine Conservation Council (AMCC)
Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources II Panel
Invited Testimony**

Key Points:

- There are numerous sources of impact on marine ecosystems in Alaska including contaminants, global warming, oil and gas development, and fisheries, is treated by different management authorities in isolation from one another. We do not have a cohesive way to consider them all as a whole.
- One of AMCC's guiding principles is that the ecosystem has intrinsic value and that it is our responsibility to manage our own human behavior in a manner that prevents over-exploitation or destruction of habitat. Of particular concern to us is bottom trawling because of the known impacts on sensitive seafloor habitats. [discussion provided]
- The absence of information is a reason to be cautious. While each species taken as bycatch performs some ecological function, we have little if any understanding about them. According to NMFS, scientists do not know the marine habitat requirements for any of our managed fish species. NMFS scientists also acknowledge that the status of 86% of the fish species in the North Pacific is unknown.

Recommendations:

- An ecosystem-based approach is needed along the lines of the Ecosystem Principles Advisory Panel report to Congress in 1998.
- The U.S. Congress should ratify: 1) the Stockholm Convention to avert further contamination of the marine environment from persistent organic pollutants; and 2) the Climate Convention to reduce greenhouse emissions and arrest human-induced climate change.
- An ecosystem-based approach to fisheries management should be phased in reflecting recommendations by the National Ecosystem Principles Advisory Panel report to Congress.
- Make habitat conservation a deliberate and central feature of our fishery management system.
- Reform fisheries management to reward clean fishing practices through economic incentives to support a smooth transition from today's bottom trawl fisheries to less intensive practices.

CICIN-SAIN

**Dr. Biliana Cicin-Sain, Director, Center for the Study of Marine Policy—University of Delaware
Charleston, SC, Jan-15-2002, Coastal Urbanization/Land Use Change and Effects on the Ocean Panel
Invited Testimony**

Key Points:

- U.S. ocean policy today is less than the sum of its parts.
- Ocean Governance Challenges:
 1. Move away from predominately sectorial management to are-based, multiple-use management.
 2. Provide overall national guidance on use of U.S. waters (0-200 miles) through articulation of national ocean policy.
 3. Develop a code of ocean stewardship principles.
 4. Develop more integrated planning and decision making capacity for resolving ocean use conflicts and anticipating new uses. Integrate the actions of ocean-related federal/state agencies (vertical and horizontal integration).
- Institutional options for achieving greater integration include naming a lead agency; creating interdepartmental coordinating body (national ocean council); creating larger agency encompassing wider range of ocean functions; and creating standing ocean commission.

Recommendations:

- National Integration-creation of a national ocean council:
 1. Define characteristics of such a proposed council.
 2. Establish council functions.
 3. Provide needed incentives.
 4. Establish principles for a National Ocean Policy.
- Regional Integration:
 1. Defining marine regions is complex. Large Marine Ecosystems is one approach.
 2. One possibility is to begin with state-initiated regional ocean governance plans and group together.
 3. Federally-initiated; ecosystem-based multiple-use regional councils
- Guiding principles for future deliberations:
 1. Ocean regions should be delimited and managed using ecosystem approach.
 2. Federal and state entities should be partners in management of marine regions.
 3. Regional institutions should be coordinated and overseen by National Ocean Council.

Responses to Questions:

- Council should report to highest levels of government-president or vice president.
- Provide broad national goals as a framework.

Documents Recommended:

- "Co-Chairs' Summary of the Global Conference on Oceans and Coasts at Rio plus 10: Toward the 2002 World Summit on Sustainable Development" Johannesburg 2001

CLARK

**Dr. Andrew Clark, President, Marine Technology Society
Washington, DC, Nov-13-2001, Ocean Business Organizations Panel
Invited Speaker**

Key Points:

- Global ocean industries represent a market estimated at U.S. \$750 billion in annual expenditures. Approximately half of this figure is attributable either directly or indirectly to the offshore oil and gas industry. Another large market is support for the navies of the world. Major advances and breakthroughs in technologies of ocean industry result from Research and Development of these two components.
- Development of required integrated ocean observing capability - including moored high bandwidth telemetry buoys and arrays of seafloor sensors - may be achieved through government/industry partnerships. Motivation and funding are currently lacking.
- Systems designed for long-term monitoring may serve double-duty as homeland sentinel systems. Telecommunications and submarine transoceanic cables represent import market and challenges for maintaining (i.e., security repairs, etc.). Autonomous Underwater Vehicles (AUV) is an emerging technology waiting for commercial application (e.g., mapping continental shelf).
- Ratification of United Nations Convention on the Law of the Sea (UNCLOS) should occur.
- Marine biotechnology; marine minerals mining; mariculture; marine surveys; and undersea vehicles are all important to ocean industries.

Recommendations:

- Sustained government investment must support development of new technologies to conduct commerce (i.e., create an office of ocean technology within National Oceanic and Atmospheric Administration (NOAA)).
- U.S. must make continuing commitment to upgrade, update, and replace facilities that support ocean technologies (i.e., submersibles, vessels, etc.).

Documents Recommended:

- State of Technology Reports/Marine Transportation System Journal

CLARKE

**Mr. Ron Clarke, Executive Director, Marine Conservation Alliance
Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources II Panel
Invited Testimony**

Key Points:

- The Marine Conservation Alliance (MCA) is a new organization, established by fishing associations, communities, DCQ groups, harvesters, processors, and support sector businesses, to promote the sustainable use of North Pacific marine resources by present and future generations, based on sound science, prudent management, and a transparent, open public process.

Recommendations:

- Replicate North Pacific successes [discussion provided].
- Support more and better science.
- Reduce bycatch and bycatch mortality
- Manage fisheries through science, not litigation. [discussion provided]
- Minimize pollution and contaminants.
- Remove marine debris

Responses to Questions:

- The Marine Conservation Alliance is, in fact, a recent group. It started about a year and a half ago primarily in response to the Stellar sea lion crisis that swept over everyone. The member organizations are assessed a certain amount of dues every year and we have no outside funding at this point.

CLAYTON

**Ms. Becky Clayton, Director of Education, Florida Aquarium of Tampa
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Education is the foundation on which conservation will occur.
- Surveys show that people care about health of oceans, but they lack the basic understanding and knowledge of the issues.
- One current focus is on teachers, which have reached 600 last year with marine science education. It is the only statewide program in the state, but now no funding is available for that program.

COLLINS

**Admiral Thomas Collins, Commandant, U.S. Coast Guard
Washington, D.C., Nov-22-2002, Featured Speaker
Invited Testimony**

Key Points:

- We can do all that we are being asked to do in the future-and we will do it all with the same operational excellence for which we are now known-if we are provided the appropriate means to do it.
- Consider the Coast Guard's Rescue 21 project and our efforts to address long-standing shortfalls in our coastal Search and Rescue capability. Rescue 21 will replace the National Distress System, our aging and hard-to-maintain maritime 9-1-1 rescue communications system which also doubles as our coastal command and control system.
- The Coast Guard also is rebuilding the numerical strength, experience levels and professionalism in our coastal small-boat stations. The material condition of our small-boats is also being improved, along with their equipment allowances.
- Improving our Maritime Domain Awareness (MDA) is a high priority Coast Guard Homeland Security goal. Enhancing our MDA capability will also improve performance in fisheries, drug and migrant enforcement, search and rescue, marine safety and environmental protection.
- The establishment of Marine Protected Areas may well be appropriate to address certain identified risks, but two cautions need to be borne in mind. First, if the at-risk species or eco-system is threatened by non-maritime sources. Second, enforceability must be a key criterion considered before adopting any new regulatory regime.

Recommendations:

- Concerning MPAs, I suggest that we must adopt a systems approach and make sure that we are tackling the right problem. In many cases, that problem is ashore.
- I would like to emphasize the importance of the MTS to the nation and the necessity of ensuring that ocean and coastal management decisions don't affect the MTS in unacceptable ways.
- We need a systems approach to oceans policy.
- We need a governing body that can set strategic direction and provide a mechanism to coordinate ocean and coastal policy, both at the national and the regional levels. There are a number of existing models to consider in crafting such a governing structure. The most obvious is the Office of National Drug Control Policy-there are others. Perhaps it is time to consider the feasibility of a National Oceans Policy Advisor.
- We must put increasing emphasis on awareness and prevention.
- It is important that we address the many important issues necessary to strengthen the MTS-issues such as the need to implement a systematic approach to planning and development to incorporate environmental and concerns; the need to further identify port vulnerabilities and design plans to address them; and the need to find ways and means to fund the growing needs of the MTS.
- We are strongly advocating the establishment of a quantitative Ballast Water Treatment performance standard; protocols for testing, verifying and reporting on BWT technologies; and a program to help promote shipboard testing and operation of promising BWT technologies.

COLOMA-AGARAN

Mr. Gilbert Coloma-Agaran, Chairperson, Board of Land and Natural Resources

Honolulu, HI, May-13-2002, Official Welcome Panel

Invited Testimony

Key Points:

- Hawaii is ocean rich and land poor. Ninety-eight percent (98%) of goods are shipped to the islands. One of the most pressing issues is marine debris. In the past four years, 150 tons of nets and line have been removed from the island. There is a need to limit introduction and control spread of invasive species.
- In state and territory Marine Protected Areas (MPA) “no-take” does not mean “no impact” where tourism is a critical component of economy. Hawaii has been discovered by cruise ship industry resulting in a 1/3 increase in port-calls over the previous year. An expansion of facilities is needed, but funds, restriction cause difficulties.
- After being excluded from some fishing grounds because of incidental take of leatherback turtles, 35-40 longline boats have left.
- Hawaii has been moving forward with sustainable use of its ocean space for aquaculture. It issued the first commercial lease in state waters for open ocean project.

Recommendations:

- Establish marine debris policies focusing on dumping or discarding fishing gear. Establish international committee to work with net manufacturers to develop methods of tagging nets to identify fisheries discarding gear. Establish international bounty program to buy back discarded nets and incentives programs for new methods to recycle and reuse nets for other products.
- Improve fisheries technologies to avoid catching birds, mammals, and turtles. Fund Western Pacific Region Fishery Management Council to conduct bycatch avoidance research for swordfish and tuna longlining. Consider allowing Hawaii swordfish fleet to return to excluded grounds now that new avoidance measures by National Marine Fisheries Service (NMFS) are in place. Share improvements with foreign fleets. Enact legislation requiring bycatch avoidance techniques for all longline products sold in U.S.
- Promotion and Marketing of the Environmentally Sustainable Seafood Products supports adoption of gear changes. Pacific Seafood Research and Education Center will help bridge the gap between seafood users, producers, and scientists.
- Establish a national maritime industry low interest loan program administered by Department of Transportation to improve shipping infrastructure. Institutionalize current recommended activities relating to ballast water and hull fouling from national aquatic nuisance task force.
- Designate lead agency for open water aquaculture and enact legislation granting authority for aquaculture leases in Exclusive Economic Zone (University of Delaware). Establish large-scale, national research and development effort to close the life cycles and develop mass culture techniques for important marine species. National initiative is needed to map state and federal ocean waters for potential sites. Possibly pre-permitting designated sites should be included. Establish large-scale ocean engineering research and development program for next generation technologies (ocean cages).
- Support establishing innovative partnerships where resources and assets are brought together to create solutions. Educate constituencies by developing outreach programs that are nontraditional and focus getting information to specific user groups.

COLWELL

Dr. Rita Colwell, Director, National Science Foundation, and Chair, National Ocean Research Leadership Council

Washington, DC, Nov-13-2001, Federal Agencies Panel

Invited Speaker

Key Points:

- National Science Foundation (NSF) contributes 70% of federal funding for basic academic research in ocean sciences. Research vessels need state-of-the-art technology. The Federal Oceanographic Facilities Committee (FOFC) is developing a long-range renewal plan for academic research fleet.
- Ocean observations:
 1. Long time-series data is key for managing living resources; understanding ocean ecosystems; and resolving uncertainties about role of oceans in climate change.
 2. New infrastructure and hardware beginning with integrated network of Ocean Observatories must be provided. Advanced sensors for chemical and biological measurements must be incorporated.

Responses to Questions:

- Detailed responses were provided to specific questions concerning: linkage of NSF Ocean Observing Initiative with broader systems; steady state requirements for oceangoing fleet and facilities and agency support of

- research; NSF plan for under-ice research; value of Measurements of Earth Data Environmental Analysis (MEDEA) and defense/intelligence data source products; design and development of more robust data archive and distribution system; an understanding of open ocean versus continental and coastal zones in controlling climate change; pathways to incorporate NSF resulting in a national/local policy; an understanding of how climate change affects marine resources; better integration of interdisciplinary research; and integration of Non-Governmental Organization(s) (NGO) and industry with science funding and proposal selection.
- In an effort to build effective observations system, potential partners need to be educated.

Documents Recommended:

- “Ocean Sciences at the Millennium” NSF: Written statement of National Science Foundation.
- [www.geo-prose.com/projects “Charting the Future for the National Academic Research Fleet_a Long Range Plan for Renewal” National Ocean Research Leadership Council \(NORLC\).](http://www.geo-prose.com/projects/Charting%20the%20Future%20for%20the%20National%20Academic%20Research%20Fleet_a%20Long%20Range%20Plan%20for%20Renewal)

**Boston, MA, Jul-23-2002, Convene/State Representatives Panel
Invited Testimony**

Key Points:

- National Oceanographic Partnership Program (NOPP) provides a valuable forum for addressing shared needs of importance to the science community, including oceanographic facilities and ocean education.
- The increasingly complex nature of ocean science and technology requires fresh and unconventional partnerships among all members of the ocean science community. As Federal agencies, they must be agile, resilient, and interconnected, just like the science and technology itself.
- The National Ocean Research Leadership Council (NORLC) can identify those areas in which agencies can leverage efforts of common interest, through coordination and collaboration.
- NOPP can serve as a mechanism for making strategic investments for programs of high national priority that serve to advance those areas of shared interest.

Recommendations:

- Three specific roles for the NOPP should be:
 1. To provide a valuable forum for addressing shared needs of importance to the ocean science community, including oceanographic facilities and ocean education
 2. To facilitate and coordinate the transfer of research results into applications that meet societal needs
 3. To provide a mechanism for identifying and developing oceanographic research directions that cut across agency missions.
- The NORLC is nicely positioned to provide leadership for the broad research endeavor and to lead the necessary interagency cooperation. [discussion provided]
- The Commission should take the connection between the ocean and human health into consideration because it is beginning to be understood that epidemiology is really but a subset of ecology. We're finding that climate does play a major role in many infectious diseases, and that the oceans play a role in determining climate. We've found that something as simple as sea surface temperature actually controls the cholera epidemics that occur twice a year in massive amounts on Bangladesh. Algal toxins create a serious problem—60,000 individuals in the U.S. alone. There is a lot to do and the Commission should take this all into account.
- Yes, the NORLC can play a role on formulating the ocean strategy.
- Work more closely with the Office of Science Technology Policy (OSTP).

Responses to Questions:

- Connectivity is very important. As a matter of fact, the cyber infrastructure, one of the most ambitious connectivity efforts ever is in progress. The cyber infrastructure is the connection, in this case, of high-speed computing to every part of the country. Investing in information technology will continue.
- The advances that have been made in biology have been extraordinary. It is the era of biology. But it is important to recognize that biology is built, on physicists, chemists, mathematicians, even social and behavioral scientists who understand the data about our living world. It is an interdisciplinary era with a focus on understanding ourselves and the organisms around us.
- It is hard to have an organized method when working in the environment because every time you tug on something in nature, you find that it's connected to everything else. So, it's a matter of being in the 21st century with 21st century tools and not just looking at the catch limit, for example, but the focus is on the effect that is has on the rest of the biota on the human aspect of it, and on the environment. A holistic approach is critical.
- The reason that policy development moves forward at a speed that far outstrips the research necessary to form that policy wisely is because the enemy has been identified, and it is us. Scientists are beginning to understand that cooperation and collaboration are necessary but it has not worked well in the past. Each has worked according to their own subset of disciplines. Working together would allow us to achieve more than the sum of the parts.

COMAN

**Mr. Maurice Coman, Sierra Club
New Orleans, LA, Mar-08-2002
Public Comment**

Key Points:

- There is concern about wetlands loss and contamination.
- Think about economic issues related to wetland loss and contaminated waters.

CONNAUGHTON

The Honorable James Connaughton, Chairman, White House Council on Environmental Quality

Washington, DC Sept-17-2001

Invited Testimony

Key Points:

- Industry leaders, national security advisors, environmentalists and scientists, as well as Congress, have sought a unified federal policy to protect our oceans while advancing sustainable economic growth, discovery and global security.
- Living and coastal resources are threatened by pollution and human activities. We are losing 20,000 acres of coastal wetlands each year. The Gulf of Mexico suffers from an enormous dead zone that continues to increase in size each year. We are losing millions of acres of coral reefs, the tropical rainforests of the ocean, each year worldwide. Increasing coastal development presents new stresses and greater vulnerability to extremes of weather and changes in sea level.
- Our economy depends on the oceans. Half of the U.S. population now lives in coastal areas. More than 30 percent of the nation's gross national product is generated in the coastal zones. Increased growth will continue with over 40 percent of new commercial and residential development taking place along the coast. It is predicted that by 2025, 75 percent of Americans will live on the coasts.
- Ninety-five percent of the international trade flows through our ports. Twenty-two percent of domestic oil is found in the outer continental shelf. Commercial fishermen harvest nine billion pounds of fish per year with a value of \$3.1 billion.
- Coastal tourism accounts for 85 percent of tourism-related revenues. Those total revenues generate \$700 billion annually.
- National security efforts mandate consistent and strong ocean policy. The recent events have indicated some of the vulnerabilities and we need to pay attention to those that exist as they relate to our coasts.
- Only a small percentage of the ocean has been explored. Only four manned submersibles in the world - none of them operated by the United States - are even capable of descending to the oceans maximum depth.

Chicago, IL, Sept-24-2002, Featured Speaker

Invited Testimony

Key Points:

- The United States delegation to the World Summit on Sustainable Development was extraordinarily successful on a number of fronts.
- In the area of oceans, we achieved particularly dramatic successes. First, the Plan of Implementation contains strong, positive oceans language. Second, a number of important oceans-related partnerships were announced.
- The opening paragraph of the oceans section of the Johannesburg Plan of Implementation reiterates and recognizes the United Nations Convention on Law of the Sea and Chapter 17 of Agenda 21 as the basic legal and policy frameworks, respectively, for oceans activities. The second paragraph focuses on sustainable fisheries. There is a call to quickly rebuild depleted fish stocks on an urgent basis and, where possible, not later than 2015.
- With respect to maritime safety and the protection of the marine environment, the Implementation Plan calls on states to implement the IMO conventions and protocols and to develop stronger IMO mechanisms to secure such implementation. IMO is urged to finalize its action on ships ballast water and sediments.
- Finally, there is a call for strengthening science and capacity in marine science. States are called upon to strengthen the Intergovernmental Oceanographic Commission, FAO and other relevant international science bodies. An important new development is the call for establishment of a regular process for global reporting and assessment of the state of the marine environment. Relatedly, the Plan has twelve specific references to satellite/remote sending and earth observation.
- We developed major new initiatives and partnerships to manage and conserve the vital resources of our oceans and coasts, and provide integrated, watershed approaches to manage water and land resources. The key U.S. ocean initiative was our "White Water to Blue Water" partnership. It is a cross-sectoral,

- ecosystem approach to ocean and coastal management, including land-based sources of pollution, watershed management, fisheries, coral reefs, sustainable tourism and other issues.
- Ocean efforts are strengthened further through the “Clean Water for People” initiative, launched by the U.S. and Japan at the WSSD.
- The U.S.-led “Geographic Information for Sustainable Development (GISD)” initiative is an international alliance that can bolster our ocean efforts; as remotely sensed data can be used to support activities such as the management of coastal and ocean resources, flood monitoring, and sustainable agriculture.

Responses to Questions:

- Will need to look closely at reorganizing proposals. Pay attention to near-term feasibility and long-term vision.
- Watershed management plans will continue to be emphasis to assist agriculture sector.
- Need to continually improve the accountability and operational implementation at the entity that owns the environmental issue.

COOKSEY

**Ms. Sarah Cooksey, Administrator, Delaware Coastal Program
Washington, DC, Nov-14-2001, State/Local Perspectives Panel
Invited Testimony**

Key Points:

- States are the key to a coordinated and comprehensive National Ocean Policy, and they take the lead in protecting natural resources.
- A partnership established by Coastal Zone Management Act (CZMA) is remarkably productive. More than 97% of national coastal areas fall under a state coastal zone management plan.
- Most governors firmly believe that all federal activities within or outside of coastal zones that affect the zones should be subject to a consistency review process.
- These governors support both the National Academy of Sciences' report on Individual Transfer Quota (ITQ) and the legislation that dedicates and equitably distributes a meaningful portion of Outer Continental Shelf (OCS) mineral revenues to all states and territories.

**Charleston, SC, Jan-15-2002, State Governor Panel
Invited Testimony**

Key Points:

- Ultimate success of outcome of the Commission efforts depends on state government actions.
- States need guidance to help sort out complex issues, such as conflicts between man and nature, and balance multiple use conflicts. Examples include ocean shorelines and interdependent species management (horseshoe crab).
- Guidance is also needed for conflicting federal mandates (i.e., dredging permits, Army Core of Engineers, National Marine Fisheries Services, Environmental Protection Agency).
- Federal marine programs have proliferated without necessary coordination between states, academia, and resource users. Programs lack sufficient funds.

Responses to Questions:

- Ocean management “super council” may function like a wheel by going out to a regional, smaller council.
- Look at CZMA model for ocean plans: federal goals with states developing plans within those goals.
- A collaborative process is needed to deal with ocean issues.
- Federal consistency process is one important way to get at federal agency conflicting mandates.

Documents Recommended:

- www.southerngovernors.org “Resolution Regarding Reauthorization of the 2002 Farm”

COON

**Mr. James Coon, Vice President, Trilogy Excursions
Honolulu, HI, May-14-2002, Tourism, Development, and Coastal Management Panel
Invited Testimony**

Key Points:

- Ocean tourism industry in Hawaii is highly segmented and dynamic.
- There is a need to balance sustainable ocean tourism growth model and make adjustments in how things are done. Conflicts will arise, but conflicts left unaddressed will net results that will destroy the very dynamics that make Hawaii such a successful model for ocean tourism.

- Poor communication and planning by state and federal agencies exists. A better dialogue is needed between commercial users and government with clear and obtainable objectives. The private industry needs to partner with government to reach financial and conservation objectives.

Recommendations:

- In response to degradation of habitat, greater coordination among agencies is needed. Ocean Resources Inventory must be created to determine carry capacity for each resource and site. Expand day-use mooring system statewide and limit the number of ocean tourism businesses allowed to operate in a given area at a given time.
- To improve communication and planning by state agencies, a better dialogue between commercial users and government is necessary with clear and obtainable objectives. Private industry needs to partner with government to reach financial and conservation objectives.
- Ocean tourism industry needs a business friendly and environmentally focused government.

COUSTEAU

Mr. Jean-Michel Cousteau, President, The Ocean Futures Society

Los Angeles, CA, Apr-18-2002, Education and Ocean Policy Panel

Invited Testimony

Key Points:

- One of the most important topics facing us today is creating an ocean “literate” society. Children are the hope for our future-this is where major investments must be made.
 1. The sea and its mysteries can be used to engage students to think about how they are connected to the sea and how the ocean plays a role in our collective future.
 2. Create an informed public that understands the value of the sea and support responsible governance.
 3. Avoid problems from the onset, rather than operate in an eternal mode of crisis management.
 4. To achieve this, we must change our approach to one where parts are integrated into a holistic understanding of how the ocean ecosystems work.
 5. Individuals with a solid understanding of how the ocean works and how it is connected to our lives are needed.
- Most environmental education programs are activities that test, measure, and impart isolated facts about particular aspects of ocean science, while issues relating to moral and ethical obligations to nature and other people are less often considered:
 1. In addition to teaching basics, teach the connectivity of one region of the sea, ecosystem or suite of species to the others.
 2. A watershed perspective is needed (i.e., understanding that some effects are dependant on what we do on land rather than what we do in the sea).
- The Ambassadors of the Environment program is a good example as it places young people into the natural environment to learn and explore in living laboratories and outdoor classrooms.
- Marine sanctuaries offer wonderful opportunities to be centers of learning and connection where students can be engaged in educational and life changing activities.
- The fundamental principles of natural science and ecology that apply to all systems must be focused.

Recommendations:

- National Marine Sanctuary System should be our number one priority as they connect our most treasured marine resources, are national in scope, and are one of the most important elements to create a more literate ocean society.

CRAVEN

Dr. John Craven, Founder and President, Common Heritage Corporation

Honolulu, HI, May-14-2002, Oceans and Climate Panel

Invited Testimony

Key Points:

- There are no alternative energy resources on the horizon that can be developed in a timely manner.
- To conceive of an alternative development strategy, a concept of complementary and supplementary energy resources must be adopted and it must be recognized that the greatest untapped pool is the cold deep ocean water.
- A supplementary energy resource has been developed for U.S. military submarines: pressurized water nuclear reactor.
- Pressurized water reactors at 300 feet or more depth could feed 1000 megawatts of power each.

CROCKETT

Mr. Lee Crockett, Executive Director, Marine Fish Conservation Network
Washington, DC, Nov-14-2001
Invited Testimony

Key Points:

- The following are highlights of the five-year review of Sustainable Fisheries Act, "Caught in the Act."
 1. Overfishing is allowed to continue. Inadequate overfishing definitions exist in many fisheries.
 2. Rebuilding plans take too long.
 3. Nearly all councils have failed to develop required bycatch reporting systems.
 4. Most councils' identified Essential Fish Habitat (EFH) in an appropriately precautionary manner. Several councils designated Habitat Areas of Particular Concern.
 5. National Marine Fisheries Service's (NMFS) responses to inadequate assessments of fishing on EFH are inconsistent.

Recommendations:

- Eliminate loopholes and strengthen Magnuson-Stevens Fishery Conservation and Management Act (M-S Act):
 1. Prohibit overfishing of all stocks, and include a margin of safety to compensate for scientific uncertainties.
 2. Make it a high priority to avoid bycatch. Require managers to further reduce this practice annually.
 3. Keep bottom trawling, dredging, and other damaging fishing practices from destroying sensitive seafloor habitats.
 4. Stop managing ocean wildlife as a series of unconnected parts. Instead, consider needs of ocean ecosystems.

Washington, DC, Jan-24-2003

Public Comment

Key Points:

- MFCN strongly supports the use of precautionary approach in managing ocean and coastal resources. We suggest that the Commission not recommend limiting its use to instances where there are "threats of serious or irreversible damage" - rather it should be used to prevent this from happening. The network recommends the definition of precautionary management included in written comments because it is less limiting.
- Our Board generally supports separating quote setting from allocation, because of their experience with the councils inappropriately manipulating stock assessments and quotas. However, we do not support giving this task to the SSCs because they are still subordinate to the councils and not truly independent.
- MFCN thinks that the Working Group's recommendations will do little to rectify problems with council composition. In our view the Secretary of Commerce should be legally required to appoint a balanced membership for each council. We also recommend that the Commission address the conflicts of interest of many council members by recommending that any member who has disclosed a financial interest be prohibited from voting on any matter before the council that would affect that financial interest.
- The Network generally supports initiatives to reduce excess fishing capacity as long as such programs ensure that capacity is permanently reduced by eliminating vessels and permits.

Recommendations:

- MFCN strongly supports the Working Group's statements on the need to protect and restore biodiversity. However, we encourage the Commission to go beyond studying biodiversity and the causes of its decline. Where existing knowledge is adequate, action to conserve, protect, and restore biodiversity is necessary.
- The network has long argued that U.S. fisheries should move from single species management to ecosystem-based management. We strongly support the Stewardship Working Group's recommendation that we begin phasing in ecosystem-based management. We recommend that the Commission make it clear that ecosystem-based management includes all species, not just those that are commercially important and that its primary goal be the conservation of biodiversity. We disagree with the Working Group's recommendation that current fishery management council boundaries be used to delineate ecosystems. Ecosystem delineation should be a science-based process.
- The Network is deeply concerned that privatizing public fish resources will facilitate the corporatization of our ocean fisheries with potentially devastating impacts on coastal communities. We are equally concerned that poorly regulated IFQs will do little to improve the conservation of ocean fish. Because of these concerns we believe that Congress must place a moratorium on new IFQ programs unless and until legislation to establish national standards for the design and conduct of IFQ programs is signed into law. The Network believes that such national standards, at a minimum, must: promote the conservation of ocean fish by providing additional and substantial conservation benefits to the fishery; limit the duration of IFQ programs and quota shares to seven years; provide for a fair and equitable initial allocation of quota

shares; ensure that IFQ programs and shares are reviewed and renewed only if they are meeting or exceeding the conservation requirements of the Magnuson-Stevens Act; and define and prohibit the excessive consolidation of quota shares.

CROW

**Mr. Morgen Crow, Executive Director, Coastal Villages Region Fund
Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources I Panel
Invited Testimony**

Key Points:

- We believe that the current Community Development Quota (CDQ) program is a successful program. The Coastal Villages Region Fund (CVRF) has been able to participate in the program with its current goals, rules, and regulation, and has enjoyed many successes.
- CVRF administers the Community Development Plan (CDP) for 20 of the 65 communities currently participating in the CDQ program. These communities are in Alaska along the coast of the Bering Sea. The CVRF Board of Directors is made up of one fisherman from each of these 20 communities. These men and women provide stewardship for the Company, and guide management to make investment decisions that incorporate their core values and beliefs. [discussion provided]
- The people of Coastal Villages are participating in the Alaska Pollock fishery because it is very healthy today, and conservatively managed for tomorrow. This is just one example of how people in the coastal communities, in general, and the CDQ program specifically can enhance the process of continuing to protect our marine environment.
- The CDQ program has also proved to be a catalyst for increased cooperation and partnership between government agencies and local communities.

Recommendations:

- The Commission can enhance and accomplish several of the charges in the Oceans Act of 2000 by incorporating the Western Alaska CDQ program into permanent U.S. policy.
- The Commission and Congress should support removal of the restriction on the CDQ program, and adopt an exemption from the ownership caps for the CDQ participants.

Documents Recommended:

- "The Community Development Quota Program in ALASKA", <http://www.nap.edu/>

D

DAIGLE

**Mr. Doug Daigle, Hypoxia Program Director, Mississippi River Basin Alliance
New Orleans, LA, Mar-08-2002
Public Comment**

Key Points:

- There is a convergence of three problems: gulf hypoxia, coastal land loss and climate change.

DAMME

**Ms. Coralette Damme
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Water quality and health of our oceans are worrisome. We should be concerned that we are running out of fish, losing turtles and seagrass beaches.
- We must preserve biodiversity of healthy reefs for divers and medical implications.
- We need to develop an ethic of "ocean for ocean's sake."
- Industry must be held accountable for oceans.
- Damage to ecosystems could be avoided by not allowing offshore oil and gas drilling.
- Limit bycatch.

DANIELS

Dr. William Daniels, President, U.S. Aquaculture Society
Seattle, WA, Jun-13-2002, Aquaculture Panel
Invited Testimony

Key Points:

- Fish (e.g., seafood-both freshwater and marine) is a vital source of food (high quality protein) for people and has substantial social and economic value. And, aquaculture is a major source for fish and other aquatic organisms. [discussion provided]
- The development of aquaculture in the U.S. is in the national interest and requires a national policy. Development of marine aquaculture requires the integration of aquaculture into an overall coastal and ocean policy that respects the rights of states and local communities. [discussion provided]
- As with all human activities, aquaculture has social, economic, political and environmental impacts. These impacts should be considered within the context of other activities and cooperation is needed at national, regional, and international levels among sociopolitical and academic institutions and the fisheries and aquaculture sectors. [discussion provided]
- Aquaculture needs to be integrated into an overall national policy on coastal zone management and the oceans. [discussion provided]
- Marine aquaculture faces many challenges and obstacles as a relatively new industry. Many of these require special attention from Federal agencies and through additional funding. [discussion provided]
- The development and sustainability of marine aquaculture requires a sound scientific foundation, human resource capacity building, and open communication both at a National and international level. [discussion provided]

Recommendations:

- Continue to develop planning and legislation that recognizes the importance of aquaculture. Should provide an overall plan for mapping, management, development and conservation within the U.S. EEZ.
- Integration of aquaculture into coastal management can contribute to improvements in selection, protection and allocation of sites and other resources for existing and future aquaculture development.
- Suggest a framework of Integrated Coastal Management (ICM).
- Ensure that aquaculture is economically and environmentally sustainable under a variety of conditions and diversity of species grown, research is vitally important.
- Any ocean policy should enhance global and regional cooperation and advocacy on fisheries, aquaculture, and environmental issues through better use of existing networks among professional organizations.

Responses to Questions:

- When answering whether the U.S. should work to develop a stewardship with foreign countries for our aquaculture production, we should decide if we, as a nation, want to delegate responsibility of our food production to someone else. We should seriously consider the strong likelihood that they do not have the inspection system set up to verify the quality and safety of the food.
- Land grant institutions have worked on agriculture activities for a very long time. Aquaculture is relatively new. And, while aquaculture has been appearing more and more in the RFPs for funding agencies, competition exists between agriculture projects under the USDA funding. It is the same with the Sea Grant funding. Aquaculture receives a very small piece of the pie.

DANSON

Mr. Ted Danson, Founding President, American Oceans Campaign
Los Angeles, CA, Apr-19-2002, Featured Speaker
Invited Testimony

Key Points:

- Overarching appeal-Oceans should be governed for the public trust; ensure sustainable use of oceans that can be fully appreciated by future generations.
- Consider visionary changes to way we manage oceans; adopt a proactive, integrated, and adaptive approach rather than crisis-based.
- There is a need for enforceable measures to restore water quality as well as public education and incentives for land use.
- Planning, use of innovative and natural solutions, implementation of watershed clean-up plans, and increased funding also require enforceable measures as well.

Recommendations:

- Reduce the “polluted runoff” that enters coastal waters from streets, agricultural lands, construction sites, and other sources.

- Enhance the efforts to control pollution from sewage treatment plants, stormwater systems and industrial plants.
- Improve and enforce basic fishery management laws so that we protect essential fish habitats, eliminate overfishing and stop wasteful bycatch.
- Undertake a concerted effort to improve basic fish population information so that we make smarter fishery management decisions.

DAUGHTERS

Mr. Dennis Daughters, Engineer, City of Sarasota

St. Petersburg, FL, Feb-22-2002

Public Comment

Key Points:

- Beaches are important.
- Commission should include the need to provide adequate federal funding for our beach restoration.

DAVIDSON

Ms. Margaret Davidson, Acting Assistant Administrator, National Ocean Service, NOAA

Charleston, SC, Jan-16-2002, Partnerships at Work: Examples from Southeast Panel

Invited Testimony

Key Points:

- Elements of successful partnerships: early joint planning; stable multi-year funding at specified ratio and joint pursuit of funding; explicit expected outcomes, roles, and responsibilities for each party; mutual respect and consideration of all partners; joint pursuit of political and constituent support; open access to relevant data and information.
- State, local, and private sector partnerships in Southeast (S.E.):
 1. Coastal Zone Management
 2. Nonpoint Education for Municipal Officials (NEMO)
 3. Preservation of USS Monitor
 4. Physical Oceanographic Real-Time System (PORTS)
 5. Navigation programs-hydro surveys by private sectors
 6. Hollings Marine Lab
- Partnerships across National Oceanic and Atmospheric Administration (NOAA) and the Department of Commerce:
 1. National Ocean Economics Project
 2. Chesapeake Bay Office
 3. Center for Coastal Fisheries and Habitat Research
- Partnerships across the federal government:
 1. Marine transportation system
 2. Coastal observing system
 3. Coastal mapping
 4. Coastal brown fields

Responses to Questions:

- Consider the importance of partnerships as the recommendations are developed.
- U.S. does not have a national science policy, let alone a national ocean science policy.
- Partnerships will be increasingly necessary, not only for intellectual, but financial leveraging as well.
- The role of the government is to facilitate development of a vision and to ensure benefits do not accrue to just one organization, region, or institution. Also to ensure there is adequate leveraging, partnership, and funding available to all partnerships.
- Coastal observation systems: federal agencies can be a catalyst for a national framework, standards of protocols, definition of requirements, and stable/opportunistic funding. As an alternative to restructuring government, consider the Global Climate Change Research Program

DAVIS

Mr. Cameron Davis, Executive Director, Lake Michigan Federation
Chicago, IL, Sept-24-2002, Natural Resources Panel
Invited Testimony

Key Points:

- Nature-based recreation like kayaking and “birding” is a booming industry. More businesses are competing to show that they’re going beyond producing goods and providing services to caring for nature.
- Urban habitat allows large cross sections of society to see the value of fish and wildlife that otherwise might not get to interact with other residents of our biosphere. This can then translate into support for habitat legislation and funding initiatives.
- It’s not enough to protect the habitat that’s left. If nature is our life support system, our growing population needs more habitat. Cities may offer some of the best remaining chances to bring habitat back.
- The Lake Michigan Federation is launching an Urban Aquatic Habitat Initiative to restore coastal habitat following a basic three-step process: 1) developing biodiversity and habitat recovery goals, 2) implementing those goals on a site-specific basis, and 3) working collaboratively with volunteers and other stakeholders from plan development to actual restoration work.
- Annex 2001 calls for decision making standards that govern the conditions under which water may be withdrawn from the Great Lakes Basin.

Recommendations:

- We need a process by which to create a master action agenda that: (a) prioritizes the hundreds if not thousands of recommendations from all these documents, and (b) articulates what the ecosystem itself needs in terms of funding to be a healthy life support system for current and future generations.
- We need direct citizen group participation in commissions, task forces, and other bodies to oversee efforts for ensuring that real ecosystem and public health are protected.
- Bring fish and wildlife habitat back to our cities.
- Management regimes must achieve restoration.
- Direct citizen participation is needed in establishing clear restoration priorities.

Responses to Questions:

- Example of a biodiversity goal is the ability to provide the setting for indigenous species that thrive together as either a small community or a larger community to be able to reproduce in a viable way over time.
- The Lake Michigan Federation has learned many lessons of how to interact with the public. Need to use the media that people relate to and watch and read in order to get the message across.

Documents Recommended:

- Annex 2001 is on the Council of Great Lakes Governors website at:
www.cglg.org/projects/water/Annex2001.pdf

DAVIS

Mr. Mark Davis, Executive Director, Coalition to Restore Coastal Louisiana
New Orleans, LA, Mar-07-2002, Coastal Land Loss Panel
Invited Testimony

Key Points:

- Oceans, estuaries and fisheries are treated as boundless bountiful systems in province of special interests and agencies to divide. The result is a poor understanding of systems and management geared at balancing short-term stakeholder interests rather than sustainable stewardship. Examples include fisheries v. fishing; water quality v. pollution; subsidized energy production v. responsible energy production; and lacking adequate assessment of habitats essential to ocean health. Chief barriers to better stewardship are institutional. Framework is lacking that focuses on solutions and stewardship.
- Stewardship must begin with sound policy framework rooted in the fact that oceans are sensitive resources that we do not fully understand.
- A more holistic approach is needed that does not view fisheries, habitat, estuary health, water quality, and human usage as separate issues but part of the whole.
- Expand ability to understand ocean resources and to respond to their needs. Need to understand connection between estuaries and fisheries stocks and habitat and forage stock to overall health of Gulf fisheries.
- Examine how Coastal Wetlands Planning, Protection and Restoration Act has changed attitudes for cooperation. Outside that Act, attitudes have not changed.

DAVIS LEWIS

Dr. Nancy Davis Lewis, Director, Research Program, East-West Center – Cooperative International Efforts on Climate
Honolulu, HI, May-14-2002, Oceans and Climate Panel
Invited Testimony

Key Points:

- Pacific assessment focused on exploration of climate “vulnerability” in order to understand climate exposure and impacts and look for opportunities to enhance resilience. A new Pacific Climate Information System could link climate science with decision making.
- Public health in Pacific Islands is sensitive to climate variability and change largely through effects on infectious disease vectors and pathogens, fresh water, resources, and food supplies.
- Ways to enhance resilience of Pacific Island communities and resources include:
 1. Adopt flexible resource management approaches that recognize the dynamic character of coastal and marine ecosystems; provide the capability to adjust to conditions; and provide for the routine integration of climate information in planning and regulatory process.
 2. Reduce the risk of economic losses in the critical fisheries sector through innovative approaches such as regional revenue sharing, industry diversification, and stock enhancement, including aquaculture and mariculture.
 3. Pursue integrated coastal zone management principles to provide a framework for adaptation; engage experts from affected businesses and communities; and coordinate activities and decisions among sectors and across levels of government.
 4. Control the introduction of invasive and alien species. Enhance education and public awareness programs.

Documents Recommended:

- “Preparing for a Changing Climate: Pacific Islands.”

DEARRY

Mr. Allen Dearry, Chief, National Institutes of Environmental Health Sciences
Los Angeles, CA, Apr-18-2002, Environmental Quality and Human Health Panel
Invited Testimony

Key Points:

- Mission of National Institute of Environmental Health Sciences (NIEHS) is to develop science base to prevent contribution of the environment to human illness or disease.
- How massive quantities of toxic agents and polluting environment contribute to diseases and disorders is a matter of concern. Harmful algal blooms represent the most notorious marine hazard to man and animal. Vector and water-borne diseases are still a leading cause of death among children from all nations.
- Ocean influences on human health range from threats to public health associated with climatic events such as El Nino to benefits from marine bioprospecting for new drugs to treat human disease.
- The strategy of NIEHS is to bring together members of ocean sciences and medical communities to develop a multidisciplinary research program.
- Marine organisms offer a promising source of novel compounds with therapeutic potential. However, technical difficulties and lack of knowledge of the marine environment prevent scientists from more fully exploring use of marine life.

Recommendations:

- Develop Centers of Excellence in Oceans and Human Health.

Responses to Questions:

- Discussion of National Institute of Health (NIH) budget.
- One reason for NIH's popularity is the money is transferred out to research institutions around the country, and this builds consistency.
- NIH is working proactively and collaboratively with many agencies largely because the nature of environmental health science is interdisciplinary.

DELAHUNT

**The Honorable Bill Delahunt, Congressman, U.S. House of Representatives
Boston, MA, Jul-24-2002, Regional Coordination of Ocean Policy Panel
Invited Testimony**

Key Points:

- New England's economy and heritage have derived much from the sea. More than \$1 billion is generated in revenue.
- As an early and strong supporter of the legislation creating this Commission, I pledge any assistance I can as the Commission reviews the complex patchwork of Federal programs and jurisdictions that regulate and safeguard the offshore resources.
- Often the Federal officials reviewing new exciting projects lack the regulatory tools and resources to keep pace with industrial progress.
- Concerned that the legislation may advance without a full assessment of its impact on the public interest in the marine environment.

Recommendations:

- Recommend the Ocean Commission review legislation and initiatives in public waters and make recommendations to the Congress to help devise a more comprehensive management regime that achieves a responsible balance. This would be an invaluable contribution to the legislative process and ultimately to the long-term conservation and responsible management of new activities in the coastal zone.

DELANEY

**Mr. Richard Delaney, Director, Urban Harbors Institute, University of Massachusetts – Boston
Boston, MA, Jul-24-2002, Public Interest Panel
Invited Testimony**

Key Points:

- Over twenty years ago, the University of Massachusetts Boston recognized that one of the most promising frontiers for advancing science and education would occur at the interfaces of disciplines, and established its first graduate program in Environmental, Coastal, and Ocean Sciences (ECOS). This department is unique in that it brings together faculty with expertise in biology, chemistry, physics, geology, economics, management, planning, law, and policy.

Recommendations:

- The following eight recommendations are organized to correspond with section 2 “purposes and objectives” of the Oceans Act of 2000. The National Flood Insurance Program is the classic example of contradictory Federal policies and should be reformed to eliminate the costly subsidization of development in coastal hazard prone areas. The funding saved should augment a new very substantial land acquisition program dedicated to the protection of coastal critical habitats, open space and public access. [discussion provided]
- A new ocean policy should include a national system of marine protected areas that would provide the framework for comprehensive management of critical areas and a forum for agency coordination as well as opportunities for the application of stewardship principles while balancing the increasing number of competing uses of ocean resources. [discussion provided]
- Marine water pollution emanating from land based activities must be addressed at all levels of government as an integral part of ocean policy and include the full enforcement of the Clean Water Act. [discussion provided]
- The use of Comprehensive Harbor Management Plans should be utilized to reach consensus on water quality restoration plans, dredging strategies, maritime economic development activities and public waterfront uses. [discussion provided]
- Enhanced research and education capabilities and expanded public information and outreach efforts need to be supported as a basis for improving decision-making about ocean resources. [discussion provided]
- U.S. energy policy is inextricably linked to a successful ocean policy. Any new ocean policy initiative must be accompanied by a progressive energy policy that emphasizes conservation and renewable energy. [discussion provided]
- Institutional, budgetary and governance aspects of coastal and ocean resources must be elevated as a national priority and implemented through an integrated approach led at the Federal level by a new, independent Ocean Agency with a Congressional mandate to ensure the protection and sustainable use of coastal and ocean resources. [discussion provided]
- The U.S. should use its numerous opportunities to regain its leadership position in the international arena beginning with the ratification of the United Nations Law of the Sea Convention and the Kyoto Treaty and supporting the ocean and water quality provisions that were presented at the World Summit on Sustainable Development in Johannesburg, South Africa in August 2002. [discussion provided]

DEVOE

**Mr. Richard DeVoe, Executive Director, South Carolina Sea Grant
Charleston, SC, Jan-16-2002, Partnerships at work: Examples from Southeast Region Panel
Invited Testimony**

Key Points:

- Sea Grant conducts priority-driven research, transfers scientific results to the public, and provides educational opportunities from elementary to graduate level.
- The Sea Grant portfolio includes promoting sustainable fisheries; encourage development of responsible aquaculture; support quality community development in coastal areas; mitigate coastal hazards; create value through marine technology; and expand public literacy.

Recommendations:

- The mission, structure, and functions of the National Sea Grant Program should be maintained and part of the National Oceanic and Atmospheric Administration (NOAA)-Department of Commerce (DOC).
- Sea Grant should become the nation's primary university-based research, education, training, and technical assistance program in support of coastal, marine, and Great Lakes resource use, management, and conservation.
- Authorization and appropriation levels should be significantly increased to enable the program to meet the needs and expectations of its varied constituencies.
- Program should be positioned within NOAA to ensure effective contribute to the overall environmental, economic, and educational goals of the agency and nation.

Responses to Questions:

- The Sea Grant College Program is to be a three-legged stool: research, education, outreach. This is a model that works.
- The Sea Grant is set within the confines of a federal infrastructure that prevents it, so to speak, from spreading its wings.
- University administrators need to change their reward system. They must recognize that partnerships are the way to go and faculty should be given credit.

DIKMEN

**Mr. Ned Dikmen, Publisher, Great Lakes Boating Magazine
Chicago, IL, Sept-25-2002
Public Comment**

Key Points:

- Over the past two decades, numerous large-scale marinas in excess of 500 slips have been built throughout the Great Lakes and Canada to fulfill the demand of a large recreational boating industry. Sales in the recreational boating industry have fueled this growth.

Recommendations:

- It must be remembered that each lake inextricably affects the next lake and its surrounding infrastructure. Large-scale marinas should be of great concern for every county and municipality and state in the Great Lakes region. It is imperative that we scale them properly and allow for expansion, as the market requires. Therefore, before new marina building initiates, marinas should be reviewed with diligence and scrutiny for full approval from both local municipalities, and state and federal entities surrounding the Great Lakes.

DOBRIANSKY

**The Honorable Paula Dobriansky, Under Secretary of State for Global Affairs
Washington, DC Sept-17-2001
Invited Testimony**

Key Points:

- While the Stratton Commission performed its work with great vision, the world has changed markedly since 1969. In the United States, over 30 percent of the GDP and 40 percent of new commercial and residential development flows from coastal areas. Ocean industries play an ever increasing role in our economy including industries that exploit marine resources such as oil, gas, and fisheries. In addition, recent discoveries offer important economic and scientific opportunities for new uses of ocean resources with pharmaceutical, biomedical and energy potential.
- We now know that oceans are subject to degradation. In the United States, our attempt to address oceans-related issues has created a complex, legal and administrative framework. A review of that

framework to assess coordination and duplication of programs and policies and to assess ways to address ocean use conflicts is certainly needed. Building on the U.S. domestic framework and the provisions of the Law of the Sea Convention on traditional uses of the oceans, the Department of State and other federal agencies have also been actively engaged internationally.

DOBRZYNSKI

Ms. Tanya Dobrzynski, Oceana
Washington, D.C., Nov-14-2001
Public Comment

Key Points:

- Habitat destruction caused by harmful fishing gears further exacerbate fishery and ocean declines.
- There is a lack of information detailing status of resources and the nature and extent of human impacts on the marine environment.
- The burden of proof shifts to environmental and scientific communities when information is lacking.
- The agency should develop a gear certification system.

Recommendations:

- Advocate that National Marine Fisheries Service (NMFS) require observers or their collection systems to yield statistically valid information to document total mortality including non-target mortality and compliance with existing regs.
- Direct NMFS to use and extrapolate existing information where appropriate to fulfill Agency's conservation requirements.
- Exercise precautionary approach in the absence of data.
- Recommend that Congress provide Agency with funds necessary to obtain information on gear impacts and manage oceans in sustainable way.

DODDS

Mr. Willy Dodds, Chairman, Coastal Conservation Association, South Carolina
Charleston, SC, Jan-15-2002, Management of Living Marine Resources Panel
Invited Testimony

Key Points:

- Marine fisheries management challenges related to the utilization of coastal resources expanding at unbelievable rate.
- Recreational fishing is important for both recreation and for the economy, but also for the fostering of a deep altruistic appreciation for natural resources.
- Where fisheries are abundant, significant coastal communities are dependent on recreational fishing; likewise, where overfishing occurs, communities decline.
- Fisheries management system is layered: international & regional.
- 'Simple' works best for fishery management. The Coastal Conservation Association (CCA) has a simple principle-Fisheries management is most effective if it is done at the lowest possible level of government.
- A "one-size-fits-all" approach does not work (i.e., no fishing zones are broad-brush and often arbitrary closures).

Recommendations:

- Fisheries management should be aimed at specific problems and should have clear conservation objectives.
- A conservation ethic is needed for users, administrators, and managers of resources.

Responses to Questions:

- Try and remove the layers of federal management and simplify the process. Figure out who can do it and give them the responsibility.

DORMAN

Rear Admiral Craig Dorman, Vice President for Research, University of Alaska
Anchorage, AK, Aug-22-2002, Arctic Issues Panel
Invited Testimony

Key Points:

- In Alaska and the Arctic, when we think of ocean research and of ocean policy, human dimensions are central to all our deliberations and our objectives must be to protect and sustain economy and culture as well as the ocean environment itself. [discussion provided]
- Virtually all of the global climate models seem to indicate the magnitude and effects of warming and other

changes will be largest in the Arctic. Real human concerns are not just about 'climate' but also about the other elements of environmental change, such as the ecosystem changes in the Gulf and the Bering, Beaufort, and Chukchi seas-most notably weather.

- Connectivity-of Alaska to other areas and to other programs-is critical. [discussion provided]
- There is interested and capable research talent in Alaska.

Recommendations:

- Stop treating the Arctic as a 1-State issue. Alaska's delegation of 3, excellent as they are, should not be asked to shoulder the brunt of the load.
- Alaska and the Arctic should play a significant role in the Commission's deliberations. The Commission should pay some attention to how Alaska deals with policy and Federal R&D management.
- Alaska has quite a good idea of the sorts of Arctic issues we should be focusing on, and understand full well the immediacy of their human impact. The Commission should use this knowledge.

Responses to Questions:

- What is going to be required is a thoughtful integration of scientific and security related constraints and issues that the Commission itself, together with help from the Senate and the White House, will have to explain and justify a substantive change in our attention to these things.
- We are at the point where one starts with a physical model of the oceans. In a variety of cases, we are at the stage where they can be reasonably reliably committed and done, the computational capacity is there. There are already integrated efforts to attempt to at least model the physical environment. [discussion provided]
- Yes, the modeling centers we have such as the GDFL, and those in the Navy, NOAA, and NASA, are fundamentally adequate. This is the case thanks to the high performance computing programs that have been stimulated on the Federal level. So, the computational capacity, is there. There is great interest in the climate and climate change and extending the weather processes. So the fundamental structural capacity is there but we do need some reform in the operational perspective in our thinking process.
- With regard to the potential for significant impact from methane release and permafrost, this is something that has been widely debated, not proven. But certainly given the greenhouse gas potential of methane, this is a very significant issue and the potential feedback, positive feedback processes should this occur, are quite scary.
- With regard to research about methane release, the U.S. is led significantly by a number of European nations as well as by the Japanese. We have limited programs particularly associated with the clathrates of methane hydrates at the Universities. One of the things we are looking at is sequestration of carbon dioxide as a replacement as we extract the methane.

DOW

Mr. David Dow

Boston, MA, Jul-23-2002

Public Comment

Key Points:

- The town of Falmouth has begun a project to manage nitrogen loading from septic systems and fertilizer usage in town that has diminished the water quality in the coastal embayment. [discussion provided]

Recommendations:

- There are airshed issues that need to be addressed that are beyond the scope of local/state managers and must be addressed at a national level. Atmospheric nitrogen deposition is only one example, but one should also consider mercury deposition which has lead to fish health advisories for fish consumption in our local freshwater ponds. Acid rain has led to low pH levels in freshwater ponds.
- In order to address the long term changes in the piscivorous finfish populations that represent a combination of offshore fish harvesting and inshore habitat loss/degradation, there should be inter-jurisdictional coordination between local/state/Federal agencies and even within a given governmental level cooperation between water quality agencies and those that oversee fisheries.
- Federal resources need to be made available to deal with the shortage of wastewater disposal infrastructure in coastal areas that have experienced rapid population growth in recent times, since localities lack the financial resources to address this problem.
- The state Executive Office of Environmental Affairs (EOEA) has a National Estuary Program in which the University of Massachusetts-Dartmouth, School of Marine Science & Technology provides technical support to assess the nitrogen loading problems in different watersheds within the commonwealth. Since many local planners lack this level of technical expertise, it is important to find a mechanism to help them out.
- Since much of the atmospheric deposition entering the Waquoit Bay watershed is attenuated by the forests, wetlands, and vegetated boundaries along streams before it reaches the bay, other areas of the country should consider adopting the Land Bank Program found on Cape Cod where a property tax surcharge is approved by a town to purchase open space. The Commonwealth of MA helps support the Land Bank Program; it is a successful local/state partnership.

DOWNEY

**Mr. Robin Downey, Executive Director, Pacific Coast Shellfish Growers Association
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- Shellfish cannot be grown in water that does not meet extremely stringent water quality standards. There is a very real, very tangible relationship between the health of our marine environment and the health of our business. And so we straddle the line between environmentalist and business interest every day.
- Populations along the shorelines have increased exponentially and we have lost shellfish growing areas to non-point pollution, from failing septic systems, increased impervious surfaces and road runoff, and agricultural wastes.
- As shellfish farmers depend on water quality and they are physically there working in the environment every day—they have become the first line of defense for coastal water quality.

Recommendations:

- The industry urges the Commission to support environmentally sustainable marine aquaculture development by forming a separate marine aquaculture advisory committee to advise NMFS.
- More of our resources should be put into the research and development needed to achieve the 5-fold increase. The U.S. lags embarrassingly far behind other nations in support of aquaculture development, which helps to explain the huge trade deficit we are currently facing.

DURAND

**Mr. Bob Durand, Secretary, Executive Office of Environmental Affairs, State of Massachusetts
Boston, MA, Jul-23-2002, Convene/State Representatives Panel
Invited Testimony**

Key Points:

- Massachusetts is culturally and economically invested in the ocean and its people have always considered the continental shelf to be an extension of the state.
- Governance of ocean resources within U.S. territorial waters historically has been dictated by the practice of "first come, first serve."
- Regional management efforts, such as the regional fisheries management councils, should not be dictated by a "one size fits all" approach.
- Sound science, innovative approaches, and regional management flexibility are key to balancing biological sustainability with economic sustainability.
- Current state regulations articulate priorities for the use of all tidelands subject to the public trust, and require that any private use of tidelands be mitigated by some type of public benefit.
- In Federal waters, no fee structure exists, except for the extraction of hard minerals, oil, and gas.
- The regulatory structure for offshore development is complex, overlapping, and not well coordinated in state and Federal waters.
- The comprehensive mapping of marine ecosystems and habitats is fundamental to understanding the marine environment and appropriately managing underwater habitats.
- The solution to many of the region's fishery management problems lies with conservation engineering or the modification of fishing gear to minimize the impact on ocean bottom fisheries habitat, to reduce by-catch, and provide fishermen access to fishing grounds where they might otherwise be prohibited.

Recommendations:

- Strengthen the Federal government's role in ocean governance, in partnership with states.
- A more comprehensive EEZ management and leasing authority is needed to provide planning, coordination, regulatory oversight, leasing, and environmental protection for the full range of EEZ uses, including open ocean aquaculture.
- Establish a Federal EEZ leasing structure as a means of ensuring that the public receives benefit from privatization of public resources. Lease payments could be used to help support ocean and coastal management efforts, or related projects, such as monitoring and mapping.
- Charge NOAA's Ocean and Coastal Resource Management division with overseeing the development of a coordinated and proactive framework for environmental protection, economic use, and scientific exploration for the EEZ, as well as state territorial seas. [Further description provided.]
- The Commission is urged to support mapping and exploration of all our ocean areas. The goal should be to develop information by the year 2012 on our ocean areas comparable to terrestrial maps that currently guide management efforts on land.
- The National Marine Fisheries Service and the regional fisheries management councils should support conservation engineering efforts.

- The Federal Government should provide incentives to fishermen and gear designers to work collaboratively with a minimum of regulatory hurdles.

Responses to Questions:

- The ecosystem approach that many of us have alluded to is critically important. As part of our biodiversity initiative, a biomap of MA was created. Far too often management has been conducted species by species, animal, insect and plant life by animal, insect and plant life. Instead, focus should be on the intact habitat in which they exist. A GIS database was developed that not only identified core habitat areas, but also supported and created a mechanism by which that habitat area could be explored by developing supporting natural landscapes. It is critical to have information and maps from 3 miles out to 200 miles out so long-range protection can be made about those areas.
- There should be areas designated out there that have that special designation of MPA so that not only the marine fish species are protected, but also the ecosystem as a whole.
- The CRA, Conservation Reinvestment Act, may be the vehicle.
- The Gulf of Maine Council may provide a good model-to work between the states' programs and the potential extension into some regional entity that has some broader or new mandate from the Federal level.

DUSTAN

Dr. Phil Dustan, Science Advisor, Cousteau Society

Charleston, SC, Jan-16-2002

Public Comment

Key Points:

- U.S. ocean policy needs a foundation of knowledge. When scientific evidence is inconclusive, dictate a precautionary approach to management.
- Three areas need and deserve the highest priority in the Commissions policy formulation:
 1. Coral reefs degradation
 2. Marine Protected Areas (MPAs)-quality, not size, matters more
 3. Marine Mammal-consolidate and strengthen measures to protect marine mammals

Recommendations:

- Coral Reefs: 10 recommendations are provided
- MPAs: 10 recommendations are provided
- Marine Mammals: 10 recommendations are provided.

Documents Recommended:

- Dustan, P. "Ecological Decline of Coral Reefs in the Florida Keys 1974-2000"

E

EARLE

Dr. Sylvia Earle, Explorer-in Residence, National Geographic Society and Founder, Deep Ocean Exploration and Research, Inc.

Seattle, WA, Jun-13-2002, Official Welcome Panel

Invited Testimony

Key Points:

- Very little is known about the oceans and we have only seen, let alone fully explored, only 5% of the ocean. A whole century after the first national park was established, the National Marine Sanctuary Program was brought into being formally with legislation. It has taken a long time to get here.
- The 20th century taught us that the ocean is our life support system. We are absolutely dependent on it, and its limited resources. The ocean is vulnerable to our actions and we have the capacity to change the way it works.
- The biggest problem facing us regarding the oceans is our ignorance, our lack of knowing.

Recommendations:

- Consider a new location for the ocean agencies. We view the ocean and what is out there in today's world differently than we did in the 1970s when the decision was made to use the Department of Commerce.
- An ocean ethic is needed that allows us to think globally with our oceans. This ethic needs to parallel the land ethic of the 20th century, an ethic that would transcend walls to think about the value of the oceans in new ways. Should use common sense practices without using up the natural systems that sustain us.
- Revisit the Magnuson-Stevens Fishery Conservation Management Act and consider the consequences of policies that seemed to make sense at the time but need to be adjusted in keeping with today's realities.

- Recommend creating an independent oversight body, an independent Federal agency, a scientific advisory committee. It would oversee the conservation of fishery resources, their habitats and related ecosystems, components of U.S. waters, with specific emphasis on precautionary principles, promoting sound based decision making, ecosystem based fishery management, fostering interagency coordination in research and management.
- The Commission should look at what it is doing today in terms of the future, in 25 or 100 years from now, and think of how those in the future will regard us at this point in time. Think of the recommendations, the decisions, the influence you have on our nation's policy, on the world's policy with respect to the ocean. Do not hesitate to think big; do not think of what people today will think of you, rather, think of what those in the future will think of you.

ECKERT

**Dr. Scott Eckert, Senior Research Biologist, Hubbs Marine Lab - Sea World Research Institute
Honolulu, HI, May-13-2002, Management of International Living Resources Panel
Invited Testimony**

Key Points:

- Sea turtles are ancient and valuable participants in the global marine ecosystem. Sea turtles are members of the "global commons" and must be managed as such. By neglecting this point, we will not only fail to restore sea turtle populations, but the consequences will be severe and enduring for domestic industry and policy.
- Sea turtles are a shared international resource. Declining nesting turtles in Mexico are traced to increased use of large-mesh gillnets by Chile and Peru.
- Protecting sea turtles requires a multilateral approach, including a federal mandate.

EDMONDS

**Mr. James Edmonds, Chairman, Port Commission, Port of Houston Authority
New Orleans, LA, Mar-07-2002, Marine Transportation Panel
Invited Testimony**

Key Points:

- Concern for maritime port security. The challenge is how to implement security strategy that insures seaports and maritime industry against terrorism while maintaining flow of cargo and preserving efficiencies. Port security covers a wide range of issues, waterways, industries, and facilities and impacts public and private facilities, both waterside and landside. It is critical to move first line of defense off our shores to ports of origin. There must be a partnership with trading allies and maritime customers to insure cargo as declared and verified.
- It is imperative that all federal agencies share databases, improve lines of communication, and provide appropriate information to local agencies and police. All ports must have security plans based on specific needs and requirements and not on mandated national standard. There is a fundamental need for financial assistance. Customs Service is in need of personnel and new technologies to increase speed and volume of container inspections. Navigation charts are old and outdated. New surveys and data are needed. Implementation of low visibility navigation systems should have high federal priority. Continue funding further development of beneficial uses of dredged material. There is a continued need for dredging.
- Nonindigenous species are an issue worthy of addressing and have little receptivity around the world. Waterway security is in place but is lacking. The Coast Guard is coordinating with the Port and local policy but is undermanned. The lead agency for Port security should be the Coast Guard. Only 3 percent of containers are checked. The goal is 5 percent. Security plans have evolved from emergency preparedness plans. Working with local-based groups in each port can help push security coordination. Automated ID systems are working examining for security and other issues.

EDWARDS

**Mr. Robert Edwards, Chair, Port Commission
Seattle, WA, Jun-13-2002, Official Welcome Panel
Invited Testimony**

Key Points:

- The Port of Seattle and the people of King County are proud of the Terminal 5 redevelopment and clean up, a superfund site, and the regional efforts to protect the Chinook salmon, yet unfinished, by elimination of untreated sewage discharges and cooperative clean up of the lower Duwamish River. Strong relationships, cooperation and partnerships made these successes possible.

EHRMANN

**Dr. John Ehrmann, Senior Partner, Meridian Institute
Seattle, WA, Jun-14-2002, Ocean Governance, Coastal Zone Management and Resource Coordination Panel**

Invited Testimony

Key Points:

- Federal natural resource agencies and tribes should work collaboratively to develop a process to achieve coordination through inter-regional and interagency teams to address ecosystem problems that extend beyond governmental boundaries and agency jurisdictions.
- Federal agencies should establish a lead person in every local office (e.g. Extensions-land grant and sea grant, Resource Conservation and Development Councils (RC&Ds), conservation districts, etc.) responsible for working with watershed groups.
- Simplify: make Federal grants more accessible, timely, flexible and transferable; and expand existing Federal grant programs
- Empower agency representatives who work with watershed groups to make decisions and commitments and to clarify what decisions they can and cannot make.
- Assist in building sustainable, local capacity by funding leadership and facilitation training.
- Concerted efforts should be undertaken to be proactive in species conservation.
- Establish a “clearinghouse” to provide one-stop shopping that would enhance the flow of information about watershed protection and restoration, technical assistance and funding, and other relevant data.
- All the pertinent Federal agencies and organizations that oversee or use water should form an inter-governmental group or caucus to provide assistance to state, tribal, local government, and private watershed interests for protecting stream flows and related watershed issues.

Recommendations:

- It is important, firstly, to have a clear understanding of what the particular statute requires. Secondly, the government has the responsibility to make it very clear that they are the final maker, and they believe certain kinds of inputs are required to make a decision. But, at the same time, open space for the kinds of processes that were described to help them formulate the best way to achieve that end. If we say you have six months, we give you flexibility of how you're going to go out and try to do it. If you don't do it, we're going to make a decision.

EICHBAUM

**Dr. William Eichbaum, Vice President, Endangered Species, World Wildlife Fund
Chicago, IL, Sept-24-2002, Governance Panel**

Invited Testimony

Key Points:

- Despite the many programs and regulations that affect coastal and marine resources, areas and activities, there are few, if any, basic principles or processes for establishing authority and accountability in the management of marine resources and the uses of marine space. The United States manages its ocean resources on a sector-by-sector regulatory basis.
- A broad spectrum of coastal and marine issues must be considered for managing resources and safeguarding ecosystem integrity while minimizing conflict. Better integrated governance is essential for the coastal and marine areas of the U.S.
- Fragmentation among federal and local agencies and the lack of participation and coordination of interests at the local level are two fundamental flaws to the existing systems of ocean governance and management. Single-purpose and uncoordinated laws that characterize the present system of various local, state and federal authorities should be addressed as a starting point for developing a coherent and purposeful national ocean policy.
- A few durable mechanisms have been created to coordinate policy, identify and resolve conflicts and ensure the undertaking of good marine stewardship. These bodies include the Coastal Zone Management program, the National Marine Sanctuary program and the National Estuary program. These three programs demonstrate that it is possible, under the existing legislative framework and in certain situations, to improve marine area governance.

Recommendations:

- If we are to address the numerous demands and stresses on the coastal marine environment we need a coherent and pragmatic national system for ocean governance.
- The United States is in need of a coherent system of governance that is based on a set of overarching principles and processes that address: guiding principles of a federalist system; institutional arrangements and responsibilities (national marine council, regional marine councils, improve existing systems, improve existing tools)

- Marine zoning for the protection of ocean resources is increasingly seen as a powerful management tool for addressing current problems we are facing. Zoning in the near shore environment is a relatively low-cost, effective management option of dealing with conflicting uses and interests. The concept of Marine Management Areas (MMAs) based on a comprehensive system of zoning to can provide a variety of options for the management of species, habitats and uses of marine resources and waters.
- A guiding example is Australia's National Ocean Policy.
- Establishing basic principles and effective processes for the governance of the ocean and coastal areas is a prerequisite both to economic investment and to sound environmental stewardship and would make a more reasonable, less adversarial approach to resolving conflicts possible.

Responses to Questions:

- Regional Councils should be formed ad hoc and last as long as the issue does. Description provided.
- National Council should set priorities in a very limited number of areas-should not be sweeping-defined critical national interests in the marine environment.
- Difference between Marine Protected Area and refugia is explained.

EMANUEL

Mr. Rahm Emanuel, Democratic Nominee for Congress

Chicago, IL, Sept-25-2002

Public Comment

Key Points:

- Has proposed creation of a Great Lakes Fund, to give the resources needed to protect and invest in this the most precious of natural resources. The Trust reflects our values as a community; clean and healthy drinking water, access to clean beaches, dry basements and clean rivers. Highlights include: preventing new and eliminating current pollution; restoring and protecting habitat for fish and wildlife; flooding and property damage; and conserving land and water. Number one is to ban oil and gas drilling under the Great Lakes

EMERSON

Mr. Peter Emerson, Senior Economist, Environmental Defense

New Orleans, LA, Mar-08-2002

Public Comment

Key Points:

- Urge the strengthening of M-S Act by lifting the moratorium on implementation of new IFQ programs. This could provide significant economic returns, higher dockside prices producing additional revenues of 46% for red snapper, fleet harvest cost saving of 55%. This could also "save" 1.8 million fish each year.
- End the legislative paradox. The moratorium forces bad decisions.
- Provide help where it is needed. The Gulf of Mexico reef fishery is prime candidate for IFQ program.
- Respond to legitimate concerns. IFQs evoke concern due to privileges they create, possible windfall profits, potential for decreasing employment. Congress needs a sound policy.
- Amend M-S Act in three ways: strengthen stewardship incentive by allowing civil action; help IFQ programs achieve their objectives by removing 3 percent cap; and make sure IFQ programs are achieving through regular review and evaluation of benefits and costs.

ESTABROOK

Mr. Norman Estabrook

Anchorage, AK, Aug-22-2002

Public Comment

Recommendations:

- Vigorously support efforts to establish an international, integrated ocean observing system. [Further description provided.]
- There is a need to accelerate efforts to conduct detailed seafloor mapping.
- Recommend increased support for mariculture, particularly in the development of technologies that can augment traditional practices of fisheries harvesting.

ETNOYER

Mr. Peter Etnoyer, Staff Scientist, Marine Conservation Biology Institute

Honolulu, HI, May-14-2002

Public Comment

Key Points:

- People should realize that the government's data collection efforts benefit many sectors, ranging from the commercial to the nonprofit.
- No take zones in Marine Protected Areas (MPAs) are a cost effective and efficient management strategy with demonstrated benefits for biomass increase and less demonstrated benefits for biomass overflow.
- Beach suffers the brunt of development pressure because of belief that marine protection efforts stop at the water's edge.
- The fundamental issue is water quality.

Recommendations:

- Continue to support and encourage data distribution efforts.
- Articulate quantifiable no-take targets for National Marine Sanctuary. Management needs a number or range of numbers.
- Encourage responsible local and municipal wastewater management and water quality monitoring programs.

EVANS

Mr. Christopher Evans, U.S. Executive Director, Surfrider Foundation

Seattle, WA, Jun-13-2002

Public Comment

Key Points:

- The nation lacks a standardized set of beach health indicators that can be used to measure the effectiveness of coastal zone management.

Recommendations:

- The Coastal Zone Management Act-Coastal Zone Enhancement Grants Program should be amended to facilitate the creation of a national standard of beach health indicators and provide incentives for state coastal zone management agencies to maintain records on beach health indicators.
- Continue to fund completely the BEACH Act to ensure that the program is fully implemented by all states and territories. Not only will the monitoring of ocean water quality for recreational health protect the health of the beach going public, it will provide an important tool in measuring water quality problems and will raise awareness about this important issue for coastal ecosystem health.
- Amend the Clean Water Act to remove the 301(h) waiver program
- Support legislation such as H.R. 1310 to reform the Corps of Engineers to better serve all coastal interests.
- Congress should pass and the President should sign into law new legislation to establish a national system of fully protected marine reserves that protect, within biologically sound, viable borders, the "best places" in America's undersea lands. The primary purpose of this system is to protect and recover biodiversity within America's EEZ.
- The ocean, the single defining feature of our planet, was regarded as sacred, habitat, and an elemental force in global life. A remarkable paradigm shift is now occurring. Some say there is a powerful resurgence toward the original ocean ethos. This is a good thing and we strongly urge this Commission to use this paradigm shift as a filter when it writes its recommendations to the President.

Responses to Questions:

- Responding to the question 'what are the principal justifications that states use for 301(h) waivers', it is noted that applicants use a variety of justifications, including:
 1. The belief that current discharge of blended effluent (primary and secondary) is not harming the environment;
 2. The belief that secondary treatment provides no reliable or significant disinfection or risk reduction from a sanitary engineering perspective;
 3. The belief that monitoring requirements for facilities operating under 301(h) waivers are more stringent, and that removing the waiver would result in less frequent monitoring and thus fewer beach postings and advisories;
 4. The belief that nonpoint sources produce more significant impacts than point source discharges; and
 5. The belief that waste water treatment plant upgrades (to secondary treatment) are prohibitively expensive. [Further description provided.]
- Responding to the question 'is self-monitoring acceptable', Surfrider Foundation reports instances where permittee monitoring and independent monitoring produced major discrepancies, and for this reason mandatory independent monitoring of all waste water treatment plants should be considered. [Further description provided.]

- The Surfrider Foundation's definition of a "fully protected marine reserve": A marine protected area that prohibits dredging, hooking, dragging, netting, blasting, drilling, spearing and dumping, has strict water quality protection provisions and is fully accessible to non-extractive vessel traffic and recreational use.
- A 'paradigm shift' or new 'ocean ethos' is emerging, that (once again) gives human recognition to the ocean as a defining feature of our planet; a place that is sacred and an elemental force in global life.

EVANS

Dr. David Evans, Assistant Administrator for Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration

Boston, MA, Jul-24-2002, Ocean Research Advisory Panel

Invited Testimony

Key Points:

- Ocean.US, established under the National Ocean Partnerships Act, is the ocean agencies' effort to begin the implementation of an integrated and sustained ocean observing system. The interagency Ocean.US office's overall goal over the next decade is to integrate existing and planned elements to establish a sustained ocean observing system to meet the common research and operational agency needs in the following areas:
 1. Detecting and forecasting ocean components of climate variability;
 2. Facilitating safe and efficient marine operations;
 3. Ensuring National security;
 4. Managing resources for sustainable use;
 5. Preserving and restoring healthy marine ecosystems;
 6. Mitigating natural hazards; and
 7. Ensuring public health.
- The integrated ocean observing system will comprise of four main activities: [discussion provided]
 1. Operations and routine observations;
 2. Long-term research observation and observatories;
 3. Technology development to support the Ocean.US objectives and tools; and
 4. A web-based "commons" for access to models, algorithms, numerical techniques, etc. to foster improved productions by users.
- Ocean.US is staffed by personnel assigned by the signatory agencies, presently and Navy, NOAA, and NSF. And NASA is assuming the responsibility of providing a leader from the office no later than September, 2002.
- Governance: currently there is a very informal system that constitutes the Ocean.US framework. There is an MOU between nine agencies, nine of the 12 NOPP agencies that says they will participate to the extent that they have interest; that they will contribute resources that are in some way proportional to what they think they are getting out of it. And they will donate some people. But, the level of organization, the governance mechanism, is not much beyond a handshake-it is probably the lowest level of organization that one might imagine for such an important activity.

Recommendations:

- Develop recommendations that can help streamline and make our government more efficient.
- Urge NOAA to start now earmarking some funds for the development of biological sensors, so they can get to the same level as the physical and even chemical sensors.
- Recommend the Commission provide some impetus for the living resource community to get more involved with Ocean.US, including both the community at large, but also the people who have the resources to make things happen right now.

Responses to Questions:

- Ocean.US is headed toward success. The current funding situation is difficult right now but the attitudinal portion of it is positive. The executive committee meets regularly and the people who have authority over the programs are the people who come to those meetings. They come with the attitude of trying to figure out how to make the program work. The economy has changed over the last 18 months. And the availability of funds for accelerating initiatives, even those with very high potential payoff is greatly constrained. It is difficult to be optimistic about the receptiveness of OMB to even very important issues right now. There are other priorities that are consuming their attention.
- The Department of Commerce has a lot of difficult procedures. There is a huge sensitivity to procedural issues at DOC, as there is in NOAA. It would be possible to look at other agencies to help restructure and facilitate DOC's bureaucracy.
- The living resource community has not come together as well yet, and there is not a large group out there who are determined to make it happen. It really does get back to what will the fish people think that they are going to get out of this? Will they perceive there to be some value by participating in this activity?
- There are very explicit connections between this as a Federally focused activity and all the grass roots efforts that are emerging in regions around the country. For example, in the Arlie workshop, you will see that the

- vision for building the coastal component of the observing system really is to put together a consortium of all kinds of regional activities. This is a good approach because the measurement requirements, and the users of the data will vary from region to region. It is very important to put together these systems together so they consider the users and products, and that somebody wants to take ownership for them. [discussion provided]
- NOAA has not stepped up to take ownership of this whole effort because it would be difficult for any one agency to "step up" and take ownership. The uses to which the data will be put will fall naturally under many agencies. The Defense Department, NOAA, NSF, and NASA all have completely different missions. No one with an operational mission is particularly happy about the prospect of turning over the data collection portion of the job to some other entity.
 - This effort must continue even if no other funds are received, and that is actually what is happening.

EVANS

The Honorable Donald L. Evans, Secretary, U.S. Department of Commerce

Washington, DC Sept-17-2001

Invited Testimony

Key Points:

- NOAA experts are working on a comprehensive, in-depth analysis of the size and composition of the U.S. ocean economy. More than half of our population lives in coastal areas with an additional 3,600 people said to be moving to the coastal areas on a daily basis. Water-borne cargo contributes more than \$740 billion to our gross domestic product. The total volume of domestic and international marine trade is expected to more than double over the next 20 years. Currently, the marine transportation system of the U.S. supports more than 100,000 commercial fishing vessels.
- Satellites help us understand the intricate linkage between the oceans and the atmosphere. Computers relay scientific data to large geographic areas and monitor complex natural systems. New deep-water equipment allows a glimpse at the depths of the oceans in unprecedented ways.

EVANS

Ms. Nan Evans, Manager, Ocean Coastal Resource Management Program, Oregon Dept. of Land Conservation and Development

Seattle, WA, Jun-14-2002, Ocean Governance, Coastal Zone Management and Resource Coordination Panel

Invited Testimony

Key Points:

- An integrated ocean governance structure should include the following:
 1. A comprehensive legislative framework
 2. Defined governance structure and process
 3. Identified and supportable area of jurisdiction and interest
 4. Accountability
- Commission needs to involve jurisdictional interests and key stakeholders as co-equals for ocean planning and management.
- A regional governance area must be based on knowledge of the ecological and economic coherence of ocean and coastal areas.
- State and Federal interests must be structurally integrated: appropriated management scales; research and monitoring; funding; capacity building; communication and coordination.
- Policy/framework plans must be developed by many players (like OPAC) to guide integrated management.
- Mechanisms (formal or informal) must exist to require accountability to plans and policies through political and budgetary processes.
- Funding must be available for research and monitoring programs, public education and outreach, enforcement, and technical capacity.

Recommendations:

- Presidential and Federal agency leadership in Ocean and Coastal stewardship is necessary to bring out the best in citizens for the common good and future generations.
- Make meaningful investment in ocean and coastal management at the national, regional and State level.
- Require Federal research and information collection activities be integrated with State and local management needs and require information transfer from Federal agencies to state and local governments

Responses to Questions:

- It is hard to say if a department of oceans is the right choice but we do know that we have to follow the money because that will reflect where the priorities are. Regardless of whether there is a department of oceans, there needs to be a mechanism to integrate the budget choices and to drive the budget policy. It

- is important that it is not compartmentalized. It has to be networked and have all the affected parties and parties with any responsibility at the table. That is state, local, and Federal agencies. It will include industry interests and public interests. And then be driven top down at the same time it is driven bottom up.
- We need to put together a working mechanism concept of this coordinating body, to which we all keep referring. An ocean management act somehow has to empower agencies and interests that do in fact have a defined scope of interests and jurisdiction simply to get at the same table together and say, yes, these boundaries do exist, but we have the authority to go forward and solve cross boundary issues. That is one of the things missing right now.
 - Regional Councils have to have both the state and the Federal government empowered to work on the councils. The fishery management councils, of course, do not provide for that. We have to get over the boundary 3-mile issues. The way to empower both the Federal government and state government is to think on a regional level.

EVERTET VAIL

Mr. Edmund Everett Vail
Los Angeles, CA, Apr-19-2002
Public Comment

Key Points:

- Performance update of the California Coastal Commission is that unprecedented aberration of local control over the planning process of Malibu will be complete by September 15, 200•

EVERTS

Mr. Conner Everts
Los Angeles, CA, Apr-19-2002
Public Comment

Key Points:

- The meeting has been informative.
- The Sea Grant Program out of La Jolla has been a success. Other successes are the Santa Monica Urban Runoff Recycling Facility Program and the Southern California Wetlands Recovery Project.

F

FAREWELL

Dr. Tom Farewell, President/CEO, Oceanic Institute
Honolulu, HI, May-14-2002
Public Comment

Key Points:

- While fisheries are declining, global aquaculture is growing at a rate of 12 percent per year. But U.S. is not a major player in any way, shape or form.
- Aquaculture was not a recognized activity by the Department of Commerce until it was an adopted policy in 1999. Still waiting for implementation of that policy. There has been no major investment in aquaculture technology.
- Aquaculture has not been admitted as component of animal husbandry or agriculture as we know it by Department of Agriculture.
- Need to think about food safety and the quality of the product we are offering to the people of America.
- Hawaii is trying to move technology to a new level, to an advanced level where we are dealing with a system that is environmentally, technically and economically the right thing to do.
- No sustained research program to really take this program to its full opportunity in the Pacific.
- Have proved that through better advanced technologies coastal fisheries restoration is possible in areas that are depleted. Now extending that to ecosystem-based management trials here along the coastline where we are able to do things you cannot do on an expansive coastline elsewhere.

Recommendations:

- Take the time to form a panel devoted to aquaculture and investigate the subject thoroughly.

FARR

**The Honorable Sam Farr, Congressman, U.S. House of Representatives, California
Washington, DC, Nov-13-2001, U.S. House of Representatives Panel
Invited Speaker**

Key Points:

- A strong bipartisan effort has been developed in Congress via the Oceans Caucus.
- One concern is fisheries and how they affect local communities. Current fishery policy results in slow and awkward transition from promotion to regulation. Management programs have suffered in terms of capacity reduction; cooperative research; and Marine Protected Areas' (MPA) ecosystem-based management.
- National Marine Fisheries Service (NMFS) is now one of the most regulatory agencies in U.S. government. It is driven by crisis; council-based management needs to operate better. Appropriators in Congress lack confidence in NMFS and are reluctant to give big increases; authorizing committees will not give new authority fearing new funding.
- Ocean observing systems are important for understanding, managing, and protecting coastal resources. Ocean exploration is critical. Presidents Panel on Ocean Exploration is excellent.
- The public's attention must be captured on the issue of education and outreach. No investment in outreach is wasted.

FELANDO

**Mr. Philip Felando, Fisherman
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- The Commission needs a viable person who knows the industry in order to reduce the shortage of seals, otters and other fish.

FELDMAN

**Mr. Fred Feldman, Board of Ocean Advocates for Conservancy
Seattle, WA, Jun-14-2002
Public Comment**

Recommendations:

- We need a cohesive Federal national salvage policy. Should identify a Federal agency to take the lead for managing such a policy, such as the Coast Guard, Navy or other agency who is best suited for the role. Once the appropriate agency assumes responsibility, there should be some high profile issue that will start things off.

FELLER

**Ms. Erika Feller, The Nature Conservancy
Washington, DC, Apr 03, 2003
Public Comment**

Key Points:

- Key components of The Nature Conservancy's work with coral reef conservation are to greatly expand the area of coral reefs and associated habitats under protection; eliminate threats to the biological integrity of these areas posed by unsustainable fishing, pollution, coastal development, and other factors; and improve the management effectiveness of marine protected areas.
- Our work will also seek to build resilience in the face of chronic, large-scale threats such as climate change into MPA selection, design, and management.
- The Conservancy urges the Commission in their report to recognize the impacts of climate change on coral reefs; recommend the need to manage for that change through support for targeted research on the attributes of coral reef systems and marine protected area networks that make them resilient; and support for the development of a global network of protected, mutually replenishing, resilient coral reef areas.
- We encourage the Commission to include a recommendation to better understand resilience of corals to bleaching, explicitly identify areas that are naturally resistant to coral bleaching, incorporate them into protected areas, and take active part in global monitoring efforts on resilience to bleaching.
- We encourage the Commission to include the identification and protection of spawning aggregation sites for important reef fishes within the scope of protected areas.

- We encourage the Commission to direct increased attention to better understand connectivity, larval dispersal, and recruitment within and among coral reefs, and to incorporate this information into the design or redesign of representative, resilient MPA networks.
- On the subject of International Management of Living Marine Resources, we encourage the Commission to expand recommendations on global leadership to have significant impacts on coral reef management in the countries where coral reefs are found.
- We urge the Commission to include in its recommendations the need to build upon and expand the multi-faceted coral reef research, management, and capacity-building programs that are currently implemented through the NOAA's National Ocean Service, the U.S. Agency for International Development, and the Department of State, as well as the U.S. engagement in and support of the International Coral Reef Initiative.

FENICAL

**Dr. William Fenical, Director, Center for Marine Biotechnology and Biomedicine, Scripps Institution of Oceanography
Los Angeles, CA, Apr-18-2002, Marine Biotechnology Panel
Invited Testimony**

Key Points:

- We are just now recognizing the role of oceans in the future of human treatment.
- Major opportunities exist for fundamental scientific discovery and commercial development.
- U.S. needs to emerge as world leader in this activity.
- Multidisciplinary programs are needed which facilitate this activity.
- The National Institute of Environmental Health Services (NIEHS) and National Science Foundation (NSF) Collaborative Program: "The Oceans and Human Health."

FISHER ABT

**Ms. Taffi Fisher Abt, President, Mel Fisher Center, Inc.
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Industry is concerned about submerged cultural resources and any ocean or coastal policies that may affect them.
- Professional salvage, archaeology, and conservation work can be accomplished and should be financed as much as possible without tax dollars.
- Be careful of wording recommendations. Any government claiming a pre-1900 warship because of technology or loss of life is just performing a grab.
- Sometimes professionals have misguided conceptions about issues such as "in situ" and "intact situations."
- Commission should consider submerged cultural resource plans that truly have the resources at heart.

FLEMING

**Ms. Elizabeth Fleming
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Fish are regulated as commodities, but they are wild animals.

FLETCHER

**Ms. Kathy Fletcher, Executive Director, People for Puget Sound
Seattle, WA, Jun-13-2002, Living Resource Management in the Pacific Northwest Panel
Invited Testimony**

Key Points:

- A policy is needed to restore the marine ecosystem—an ocean restoration policy.
- If we try to maintain current conditions our marine ecosystems will not make it; if we continue to "balance" ecosystem damage with hoped for mitigation, our marine ecosystem will not make it.

Recommendations:

- Congress and the President should commit to the Clean Water Act's primary goal of ending the discharge of pollutants in fishable and swimmable waters:
 1. Need adequate funding for enforcement and effective oversight by EPA.
 2. Phase out "mixing zones".
 3. Require that urban run-off meet water quality standards and support monitoring and enforcement.
 4. Enforce the law with meaningful penalties that spur compliance, and permit fees that reflect the cost of effective permit programs.
 5. The "fund" in Superfund must be reauthorized.
- Marine Protected Areas:
 1. Enact legislation to establish a National system of fully protected marine reserves that protect hotspots of marine biodiversity and the system of habitat types that will allow depleted marine resources to rebound.
 2. Support the continuation of the Northwest Straits Initiative.
 3. Marine Sanctuaries, like Olympic Coast NMS, need to identify and establish protected areas within their boundaries, both in intertidal and subtidal.
- Habitat Protection and Restoration:
 1. The Estuary Restoration Act should be funded.
 2. Catastrophic oil spills need to be prevented: need Federal funding for a tug at Neah Bay.

Responses to Questions:

- It is possible to define what ecosystem management is, how it should be done, and come up with a way of doing it. The premise of the exercise should not be revolved around making fish harvest decisions. By its very nature, you need the people that are involved in all the aspects of the marine environment, the harvest, etc. To go in this direction, it would be necessary to discuss reforming the fisheries council process.
- Models exist, such as the ones right here in Puget Sound, that could be used as examples of ecosystem management.
- The Northwest Straits Initiative should get continued support because it is an extremely promising effort. A combination of top down and bottom up approach is best. There is a need for both, especially with respect to the outer coast there is a tremendous need for national policy in this area.
- One of the potential roles of the marine protected areas is to use them as a tool, apart from the strategy, to help keep up with inadequate science.
- Volunteer based restoration projects significantly contribute to restoring habitat at a meaningful scale. However, on the other hand, the overall effort of restoring at a large scale cannot be done by volunteer projects.
- The premise of the Estuary Restoration Act is to provide some funding, not 100%, to these partnerships. There needs to be funding. Portions of the Act involve some serious money because it involves research; you have to know what you are doing.

FLETCHER

Dr. Madelyn Fletcher, President, National Association of Marine Labs

Charleston, SC, Jan-16-2002, Partnerships at Work: Examples from the Southeast Panel

Invited Testimony

Key Points:

- The National Association of Marine Laboratories has a high degree of networking among member institutions and synergistic interactions with other national/regional organizations (e.g., Consortium for Oceanographic Research and Education, National Association of State Universities Land Grand College, etc.).
- A serious need is to ensure ocean and coastal policy decisions are based on sound science.
- The need for investment in the infrastructure of the nation's coastal and great Lakes laboratories.
- The need for sustained and integrated observations of coastal waters.
- The need for investment in ocean and coastal science education for all grades, K through graduate--especially in the areas of training and recruitment for retiring marine scientist in both academia and federal agencies.

Recommendations:

- Increase funding for ocean science, primarily in the areas that support critical research and for sustained coastal and ocean observing systems with long-term monitoring efforts of coastal and marine laboratories.

Responses to Questions:

- Need to be open to any type of partnerships.
- Would like to see government provide some vision and structure, but in those areas that nourish diversity people and programs.

FORD

Mr. Tom Ford
Los Angeles, CA, Apr-19-2002
Public Comment

Key Points:

- Thoughts about how we obtain fish: we know certain methods of commercial fishing are detrimental to the habitats. Getting rid of trawl gear, imposing reserves, would help.
- How can U.S. boats or families compete with foreign fish, particularly farmed fish, coming into our markets?
- Pollution and waste from aquaculture is a problem.
- Both fishermen and consumers need to keep up with changing conditions, issues, and education.

FORSTER

Mr. John Forster, Forster Consulting
Seattle, WA, Jun-13-2002
Public Comment

Key Points:

- Aquaculture is the business of growing food in water; in order to grow a lot of it there is a need for a lot of water. This resource should be used more fully to supply our future seafood needs.
- The U.S. presently imports over \$10 billion of seafood per year, much of it produced by aquaculture. This should not be the case.
- Some forms of aquaculture, notably salmon farming, have inspired vigorous opposition and claims of lack of sustainability. What critics fail to understand is that marine aquaculture today is a "work in progress." If it is allowed to progress it can supply our seafood needs indefinitely.
- Today, almost every maritime nation on earth has an active marine aquaculture program. The concept is embraced by the European Union and countries such as Australia, Chile and Norway. By comparison, the U.S. lags well behind.
- The primary reason the U.S. lags behind is due to lack of perceived need compounded by a cumbersome permitting system that discourages investment.

Recommendations:

- The most important things that the Commission could do to help marine aquaculture in the U.S. would be to recognize its importance for the security of our future seafood supply and to recommend a simplified permitting system.
- Marine aquaculture is a legitimate and necessary use of our ocean waters. Please say so in your recommendations to the President and to Congress.

FOSS

Mr. John Foss, Sustainable Fisheries and the Small Families Fishery Association
Seattle, WA, Jun-14-2002
Public Comment

Key Points:

- The Sustainable Fisheries and the Small Families Fishery Association bought directly from small family producers and pays a bit higher prices for their hard work and their well cared for fish. These fishermen have sustained sales growth every month since they opened. This is by selling fish that are harvested, and selling no other species.
- Speaker would like to appeal to the Commission's sense of fiscal responsibility. Speaker is not a fan of sustained aquaculture.
- In the speaker's fishery, many fleets are not able to go out fishing this year-about twenty thousand dollars lost this season because of the lack of salmon. The salmon farms are going broke because of the world glut of farmed salmon that is delivering a very low price.
- Domestic aquaculture is failing. The salmon farms are asking for more money for development and research of species for farming cod and halibut. But, the same cycle will take place in that the fleets will be beached because they cannot afford to fish due to the low price. There will be a low price because of the worldwide glut on those species.
- If money is continually poured into failing open water near-shore aquaculture, we're never going to be able to support as many families as we could support by restoring and preserving the wild capture fishery of the current wild populations.

FOX

**Dr. William Fox, Director, Office of Science and Technology, National Marine Fisheries Service
Seattle, WA, Jun-14-2002, Science and Policy Interface in Fisheries Management Panel
Invited Testimony**

Key Points:

- While accurate, precise and complete scientific information will not of itself guarantee successful fishery management, it is an essential ingredient and is recognized as such in our national fisheries law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976 as amended (MSFCMA).
- Improving data gathering capability requires some or all of the following elements
 1. Consistent outreach to industry and other interested constituents
 2. Careful development of valid technical and scientific protocols
 3. The testing and refinement of these lessons in well-designed pilot studies
- Scientific information for fishery management should possess the four “r’s” as penned by Dr. Michael Sissenwine: relevant, right, respected and responsive.

Recommendations:

- Increase investment in social science-provide a better understanding of the economic and social effects of fishery management and the dynamics behind overcapacity, laying out potential mechanisms for resolving it along with the fiscal and social costs and benefits in doing so.
- Improve stock assessments-gain significant precision and accuracy through research on improved methodology and the full introduction of acoustical technology and additional major gains will come from long-term, at least interdecadal, forecasting.
- Invest in technology-data that is collected by hand off logbooks can be done simply and cheaply by electronic technology such as satellite technology and sensors aboard fishing vessels.
- Must do more funding of university programs. There are too few students being trained in the fields of science that are nearly unique to the mission of NOAA Fisheries, stock assessment and fishery economic assessment.

Responses to Questions:

- For the independent peer review system NOAA created a Center for Independent Experts. The University of Miami was established as a pilot project. They set up the mechanisms and found the individuals that were willing to serve in that role. The idea was to create a pool that will be supported by the public to provide independent review.
- NOAA has done some studies on how to make a coherent national system that is not piece-meal. It should deal with data collections, economics, social analysis, and biological analyses. We have a major requirement study for fishing information system that was requested by Congress. We produced an acquisition plan, a stock assessment improvement plan, and requirement plans that deal with science on a regional and a national basis. The research process is not a top down process and the planning process is not a top down approach. It's really more of a bottom up and collegial approach.
- NOAA has a plan on recruitment that was developed by NMFS. There are certain types of expertise that are almost unique to NMFS. It is really difficult for faculty members whose expertise is in fishery management, fishery science, and stock assessments to get funding from sources other than agencies that do that job. The NFS does not fund those types of research. There are a lot of economists but we have half a dozen available national scholarships and the Sea Grant program specifically for that. Last year we did not get one applicant. It is a very, very serious problem.
- Congress requires us to produce a strategic plan for research on a biennial basis, as well as other reports to Congress. We make a very strong effort to try to develop our budget around those documents. We all know that it is amazing what comes out on the budget from what you submitted in the beginning-there are so many layers. Congress earmarks funds for research as well as for data collection, and they are very different. A large share of those earmarks go to institutions other than the Federal government. We work with those institutions but the government loses the ability to say these are the questions that need to be focused on.
- The scientific committee, which is a part of the fishery council system, should be given a greater role in describing the constraints within which the fishery management program should be developed and should not be overridden by the council for policies and short term economics without some consideration. This is from a conservation standpoint and from the human dynamics, the effect on human dynamics, standpoint. A statutory fix is required in order to make that aspect work.

FRANK

**Mr. Tom Frank
Charleston, SC, Jan-16-2002
Public Comment**

Key Points:

- Concerned about connection between land-use planning and transportation as it affects estuaries in the Charleston area.

FRASER

**Dr. Gordon Fraser, President, Northeastern Association of Marine and Great Lakes Laboratories
Chicago, IL, Sept-25-2002
Public Comment**

Key Points:

- The Northeastern Association of Marine and Great Lakes Laboratories (NEAMGL). NEAMGL is a regional association of the National Association of Marine Laboratories (NAML), a nonprofit organization of approximately 120 member institutions that encompass a variety of academic, research, and public service programs.
- Despite the importance of the lakes to the people in the basin and to the United States and Canada as a whole, we understand only a small part of how the lakes function as an ecosystem.
- Areas of future attention: Great Lakes fisheries; future climate change; watershed hydrology and biogeochemistry; social science and the concept of sustainability in the Great Lakes; food web dynamics; health issues in Great Lakes Area of Concern (AOC's); and chemical, hydrodynamic and ecosystem models.
- Critical research objectives include development of multi-media models to link air, water, and land processes, basin-wide models to compute the transport and fate of pollutants of concern in the lakes as a connected hydrologic system, aquatic ecosystem models to address such issues as nutrients, trophic transfer of chemical contaminants, toxics cycling and bioaccumulation, exotic species, and fisheries production and dynamics, and models to assess impacts of global warming and water level control on lakes.
- Critical needs to accomplish these objectives include computer hardware and software, training for modelers, and funding for development of large, coordinated, multi-disciplinary, multi-institutional, research programs that have policy and management value.

FREDRICKS

**Mr. Richard Fredricks, President, Maritime Solutions (BWT), Inc.
Boston, MA, Jul-23-2002
Public Comment**

Key Points:

- The U.S. must address the threat posed by aquatic nuisance species. The introduction of aquatic nuisance species into new waterway environments via vessel ballast water discharges has been identified as one of the four greatest threats to the world's oceans and the coastal waters they touch.
- Shipping moves over 80% of the world's commodities via a world fleet of more than 45,000 vessels and, in so doing, transfers approximately 10 to 12 billion tons of ballast water across the globe each year. Ballast water is essential to the safe and efficient operation of modern shipping, providing balance and stability to un-laden ships. However, it also poses a serious ecological, economic and health threat.
- It is estimated that at any one time, from 3000 to over 4500 different marine species are being carried in ships' ballast water around the world. This includes bacteria and other microbes, small invertebrates and the eggs, cysts and larvae of various species. The problem is compounded by the fact that, virtually all, marine species have life cycles that include a planktonic stage or stages. As a result, whole ecosystems are being changed. In the U.S., the European Zebra Mussel *Dreissena polymorpha* has infested over 40% of internal waterways and may have required over US\$5 billion in expenditure on control measures since 1989.

Recommendations:

- Higher-level technology needs to be employed to assure shipboard safety, to reduce sediment loading in ballast water, and to provide for a higher level of effectiveness in the mitigation of biological invasions.
- Congress and the Administration should provide the U.S. Coast Guard with the mandate and support that it will need to address and deal with the threat of aquatic nuisance species. More specifically, the time frame proposed by the Coast Guard for the implementation of mandatory ballast water management must be accelerated; the summer of 2004 is too late.

FREILICH

**Dr. Michael Freilich, Professor, Oregon State University
Washington, D.C., Oct-30-2002, Satellite and Data Management Panel
Invited Testimony**

Key Points:

- Satellite measurements of oceanic and air-sea interaction quantities now play a fundamental role in oceanographic and climate research, as well as in weather and ocean state prediction. The technical ability to make accurate and useful ocean measurements from space has been demonstrated and consistent, decadal time series of a few key ocean quantities have been obtained.

- Spaceborne ocean observations have revealed new phenomena and allowed scientific studies of processes on critical space and time scales that were previously inaccessible using only data from in situ observing systems.
- Several significant obstacles must be surmounted before a comprehensive satellite ocean observing system for research and operations will become a reality. These challenges include the need for better temporal sampling and spatial resolution than is possible with individual satellite missions and present instruments; development and refinement of spaceborne techniques for measuring additional ocean quantities such as sea-surface salinity and the variables that control internal oceanic mixing processes; and, most importantly, national and international commitments to acquire simultaneous, multi-decadal ocean data sets.
- Continued progress requires surmounting three main technical and programmatic challenges:
 1. Developing and demonstrating techniques for extending the set of ocean variables that can be measured accurately from space, including (for example) sea-surface salinity and quantities related to deep ocean mixing processes;
 2. Increasing the temporal and spatial resolution of the full suite of spaceborne ocean measurements to extend both the geographical (e.g., into the societally critical coastal zone) and the phenomenological extent of the data sets; and
 3. Extending the duration of the full, simultaneously measured ocean (and associated forcing) data set to allow resolution of important decadal ocean and climate processes - time scales well beyond the design lifetime of individual satellite measurements, but well within the demonstrated capability of operational satellite constellation programs.

Recommendations:

- Need to establish predictable and efficient programmatic mechanisms for transitioning techniques and satellite missions - originally developed and demonstrated in the research context - to the operational observing systems designed to supply consistent, accurate, and timely measurements for decades into the future

FRENCH

Dr. Mike French, Director, Technology Assessment Division, Department of Natural Resources, State of Louisiana
New Orleans, LA, Mar-08-2002, Offshore Energy Panel
Invited Testimony

Key Points:

- Drilling has increased nationwide but gas deliverability is not keeping up with demand. To fully develop OCS, potential must develop deep subsurface reservoirs. Development of new technologies is needed to fully develop potential OCS.
- Environmental impacts and perceptions of offshore development on onshore ecosystems and life needs to be addressed by more attention and funding for impact assessment and amelioration. Louisiana incurred substantial costs in building and sustaining infrastructure for offshore development activity, but does not share in wealth from offshore development other than 27% share in narrow 3 mile wide transition zone.
- Address the restoration and amelioration of environmental damage and sharing costs of infrastructure support.
- Divert part of existing healthy revenue cash flow stream to conservation. Stimulate more activity by foregoing some up front revenue and getting back revenue later on. Production limits are used to "sunset" subsidies. Need to separate past poor environmental practices from current practices.

FRIED

Dr. Stephanie Fried, Staff Scientist, Environmental Defense Hawaii
Honolulu, HI, May-14-2002
Public Comment

Key Points:

- Northwest Hawaiian Islands reserve is vastly different from other reserves [discussion provided].
- Main opposition to designation appeared to come from Western Pacific Fisheries Council. Used federal funds to run major campaign against what it should be normally doing.

Recommendations:

- Support the Executive Orders which are law, and support the citizen-based Reserve Council

FRIEDL

**Mr. Bill Friedl, Marine Technology Society
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- Reiterate points made by Andrew Clark in Washington D.C.
- Hawaii has a robust and dynamic technology-based ocean community and world-class ocean oriented academic institutions, but because it is so far removed from Washington, D.C., it is often overlooked.
- The best way to assure talent and attitude of Hawaii's technology-based community as part of nation's ocean future is to assure ocean development programs are open, competitive, and dynamic.

FRY

**Mr. Thomas Fry, President, National Ocean Industries Association
Washington, DC, Nov-13-2001, Ocean Business Organizations Panel
Invited Speaker**

Key Points:

- Offshore oil and gas industry has served as an incubator for innovation/catalyst for leading-edge technologies. There is not currently a reliable economic means of importing natural gas from overseas. Policymakers have limited industry's access to hydrocarbons.
- States have misused Coastal Zone Management Act to stall or halt offshore development on public lands.
- Flower Garden Banks National Marine Sanctuary partnership with oil and gas industry is a good example of how to utilize science and partnerships to achieve multiple-use goals: energy security and environmental conservation.
- The U.S. leads the world in public sector funding of gas hydrate research.
- The Senate should ratify United Nations Convention on the Law of the Sea (UNCLOS).

Recommendations:

- The following changes should be made to the Coastal Zone Management Act (CZMA):
 1. Clarify territorial scope of state's consistency review of private permits.
 2. Require single consistency certification/determination for all Outer Continental Shelf (OCS) exploration and development permitting activities.
 3. Department of Interior (DOI) Secretary should determine information requirements for consistency certifications and legal criterion for overrides.
 4. Objective, functional deadlines must be imposed to ensure timely appeal decisions.

Responses to Questions:

- The written response elaborates on each CZMA recommendation.
- Executive Order and Congressional statute placing entire OCS lands off East and West coasts is a good example of negative impact on industry. Neither is necessary because of Outer Continental Shelf Lands Act (OCSLA).
- Conservation and Reinvestment Act should be considered. It is a similar type of revenue sharing legislation.

FRYER

**Ms. Patricia Fryer, Deep Submergence Science Committee - United Nations Convention on the Law of the Sea
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- A portion of the scientific community sees remotely operated vehicles (ROV) as eventual replacements for occupied submersibles.
- Both types of vehicles are needed because there are aspects of submergence science that are best carried out with on-site human presence.
- There are six critical areas in which occupied submersibles exceed the capabilities of ROVs:
 1. Engagement of the operator.
 2. Visibility from vehicle.
 3. Maneuverability.
 4. Unobtrusiveness.
 5. Reliability.
 6. Capacity for education, outreach, and recruitment.

FUJITA

Dr. Rod Fujita, Senior Scientist, Environmental Defense
Los Angeles, CA, Apr-19-2002, Marine Protected Area Policy Panel
Invited Testimony

Key Points:

- Marine Protected Areas (MPAs) are useful tools for solving multiple problems. Marine reserves can protect marine biodiversity.
- Major problems with current fisheries management include:
 1. Failure to provide a stable regulatory environment.
 2. A lack of adequate measures to deal with and reduce scientific uncertainty.
 3. Excessive fishing capacity, fostered by perverse economic incentives.
 4. A lack of sufficient scientific understanding of fish populations and ecosystems.
 5. Inadequate attention to maintaining healthy ecosystems that sustain fisheries.
- Marine reserves can help achieve the primary goal of fisheries management—the protection of sufficient spawning biomass to sustain fisheries.
- Reserves can change management from a single species to ecosystem approach; be helpful where fishing mortality is poorly known, like sport fisheries; and can help fill ecosystem gaps in fisheries management by protecting representative habitat types. Recent information indicates certain game species are many times more abundant in reserves than in fished areas.
- Reserves are more cost effective than harvest-control for at least two reasons: There is a greater assurance that a given number of fish are actually protected; and each fish is likely to create more eggs within the reserves because they are larger and older.

Recommendations:

- Reject any policies, such as the Freedom to Fish Act, that pre-empt the ability of the federal government or states to establish marine reserves.
- Amend Magnuson-Stevens Fishery Conservation Act (M-S Act) to emphasize need to protect marine biodiversity and ecosystem health with marine reserves, perhaps modeled after California Marine Life Management Act and Protection Act.
- Define biogeographical provinces and inventory the nation's marine biodiversity to support a national network of marine reserves.
- Create legislative mandate for existing federal agencies, more funding for MPA management and research for a new Oceans Department to protect marine biodiversity and ecosystem health with a national network of marine reserves.
- Embed fisheries management within a department/agency with a mandate that reflects the understanding that natural ecosystems and biodiversity must be maintained in order to sustain fisheries.
- Amend the M-S Act to focus on bringing fishing capacity into balance with the productivity of target populations and ecosystems in ways that create incentives for conservation and stewardship. Lift ban on Individual Fishing Quota (IFO).

Responses to Questions:

- A clear mandate to establish marine reserves would be helpful without specific siting recommendations.
- Marine reserves provide a haven for low productivity stocks to rebuild their populations. Reserves can reduce probability that some species would be listed under Endangered Species Act (ESA).
- An Oceans Department with mandate to protect ecosystem health is in step with the nation's goals.
- Regional councils and other smaller management entities seem to work better and match jurisdictional boundary to ecosystem boundary.
- The policy question is do you pursue economic activities everywhere in the ocean before knowing impact, or do you take precautionary measures first and study effects as you go along?

FURY

Ms. Sandra Fury, Manager, Health and Environment, Chevron
New Orleans, LA, Mar-08-2002, Offshore Energy Panel
Invited Testimony

Key Points:

- Oil and gas industry is worldwide leader in offshore technology. Development operations are clean and ready to contain and capture oil spill should one occur. Industry has reduced impact to wetlands by 90% since 1982. There is concern about offshore fisheries and hypoxia, discharges only under strict permit limits, and structure providing important habitats. Safety is top priority.

- The oil and gas industry has a difficult time working with the American people. There is a lack of knowledge about energy. Industry and government must work together to demonstrate energy production does not compromise environmental quality. Administration's May 2001 National Energy Policy establishes basic principles that are applicable to national ocean policy.
- Texas, Louisiana, Mississippi and Alabama successfully balance interests and "adequately consider" energy development.
- API, NOIA, Offshore Operators Committee, and state trade groups conduct public outreach and education oriented toward environmental stewardship activities. API website has media and education information. Industry associations and companies are active in coastal communities sponsoring beach, marine life, wetlands programs each year along Gulf. Industry also supports research, education and outreach with federal agencies.
- Public education includes rigs-to-reefs program, API website "Adventures in Energy," API "Energy and Society" K-8 program, and education in Florida about mercury in OCS drilling fluids. Partnering with state or federal agencies to provide information and develop local and state knowledge is an option. Many companies sponsor high school and college scholarship interns. Offshore energy supports "ocean and coastal literacy."
- MMS environmental studies are needed for understanding oceanographic issues and data surrounding future deep water drilling. Industry already releases quite a bit of information, but more opportunities might exist. Installation of pipelines has improved with technologies.

Documents Recommended:

- www.api-ec.api.org/
 - Meeting the Environmental Challenge: Oil and Natural Gas Operations in the Gulf of Mexico. 1999 API/NOIA
-

G

GADEN

**Mr. Marc Gaden, Communications Officer, Great Lakes Fishery Commission
Chicago, IL, Sept-24-2002, Natural Resources Panel
Invited Testimony**

Key Points:

- There exists no binding, centralized authority to compel cooperative fishery management on the Great Lakes. Instead, eight states, the province of Ontario, two nations, and two intertribal agencies have the right to manage their piece of the fishery in the manner they choose. To complicate the matter, fishery management occurs in the context of ecosystem management, an approach to management that involves many layers beyond just the fishery.
- Great Lakes fishery management rests on three pillars:
 1. The sub-national governments (states, the province of Ontario, and the two U.S. intertribal agencies), operating through their own agencies and collectively through A Joint Strategic Plan for Management of Great Lakes Fisheries;
 2. The U.S.-Canadian Great Lakes Fishery Commission, operating under a binational treaty; and
 3. The federal governments, operating through various federal laws and initiatives.
- Together, the bi-national, national, and sub-national management agencies approach the Great Lakes from the same general perspective and with the same goals in mind.
- Many issues remain unresolved and new issues continually emerge. To assist fishery and environmental agencies in dealing with these problems, agencies, through the Joint Strategic Plan, have identified broad procedures that foster cooperation; consensus, accountability, information sharing, and ecosystem management. The Joint Strategic Plan is designed to be a bottom-up process, where management decisions are driven by science generated by field researchers

Recommendations:

- The Joint Strategic Plan is one of the best examples of cooperative fishery management anywhere on earth.

Responses to Questions:

- The Great Lakes Joint Strategic Plan can request third-party nonbonding arbitration.

Documents Recommended:

- The Joint Strategic Plan is available online at www.glfc.org/fishmgmt/sglfmp97.htm

GAGOSIAN

**Dr. Robert Gagosian, President and Director, Woods Hole Oceanographic Institution
Boston, MA, Jul-23-2002, Science Panel
Invited Testimony**

Key Points:

- Many of the important global science programs are isolated from each other in their approach, objectives, and goals. And, they are focused on the narrower objectives of the individual facilities themselves and not on the broader scientific questions or strategic mission that all the observatories should be addressing.
- Data and understanding lead to models and validation, which then leads to prediction. The predictions from numerical simulations can never be better or more comprehensive than the data used to initialize the model, nor the underlying physical and other processes of the model.
- To complicate the issue further, each observatory seeks its own funding, thereby competing amongst the other observations.
- Ocean.US currently has an important role at NOPP, however, it is mostly a coordinating role for the various programs.
- The nation has the technology and the science potential. Priorities must be focused and the funding coordinated towards a common goal.

Recommendations:

- One initiative under one umbrella, could call it the Planet Ocean Initiative, could encompass all these elements. Under this Initiative, a coherent, logical sequence of programs and requests can be coordinated.
- NOPP is a coordinating body, an interagency organization representing the Federal agencies which fund the majority of ocean related research and education in this country.
- Expand NOPP's function by creating a major ocean initiative for this country under an umbrella organization that will initiate it, manage it, and coordinate the major needs for the ocean Federal agencies. Most importantly, it would be responsible for making sure that the highest level of intellectual content is reached.

Responses to Questions:

- Yes, a science plan can be built for the next five to ten years-a visionary approach as opposed to the disconnected individual approach. A reason for the difficulty in the past is that "ocean sciences" is really a misnomer. It is really a set of sciences that work on the ocean and consequently, it's all of science. This country has not done a very good job of prioritizing within disciplines, or in cross-disciplines. Your example of success in funding the Cold War was true. It worked because there was one issue: The Cold War and there was a societal imperative. The major ocean issues are coastal ocean, deep-sea exploration, ocean life, and ocean and climate change. If these focused umbrellas were prioritized, there would be fewer, more cross-cutting, projects.
- To create an ocean exploration program for the U.S., an interagency group would need to sit down and actually look at the areas with the capability for the biggest advances. Exploration on the whole does not have a particular problem to solve so it would need to be broken down into segments of problems to solve. It should have a Federal structure such as in the Oil Drilling Program Initiative. It could be under the umbrella of something like the Planet Ocean Initiative and under something like a NOPP-type structure. When people go in to talk to their Senator about one of the many ocean-related issues, they would all say they are interested in the "Planet Ocean Initiative" and it all begins to come together in Congress' mind.
- NOPP would be made up of the Federal agencies, and would be the mechanism by which the agencies could get the resources to accomplish what they want for their mission. Yes, it would mean "new" money, or actually "more" money. The money could flow into the agency but there would have to be firewalls so the money is targeted and does not get directed elsewhere.
- One possibility of combining research-oriented scientists with policy makers is to have one major organization that deals with the science, but have members of that organization be in another organization that had policy makers involved. The science would be translated and transitioned to another group. A second possibility would to have a large coordinating office for the science folks to have frequent meetings with the "board" of that group, and get the policy makers' input from the very beginning.
- On the subject of data policy and agencies being more open with their Federally funded data, it is already happening. Some of the funding already requires data to be open, almost immediately, to everyone. On the other hand, if our field is compared to the biomedical field, there is still a long way to go.

GALLWEY

**Mr. Patrick Gallwey, Executive Assistant to the Director, Port of New Orleans
New Orleans, LA, Mar-07-2002, Official Welcome Panel
Invited Testimony**

Key Points:

- Welcome remarks and a brief description of Port.

GARNER

**Mr. John Garner, North Pacific Crab Association
Anchorage, AK, Aug-22-2002, Official Welcome Panel
Public Comment**

Key Points:

- There are many safety, conservation, economic, and social goals to be accomplished by rationalizing the crab fisheries of the Bering Sea. But care must be taken to ensure the program is fair and balanced, considering the needs of each sector of the industry.
- Any system of allocation of quota or shares to harvesters has implications for the investors in the fishery, including the processing sector.
- When the North Pacific Fishery Management Council considers converting the fishery in the Bering Sea to a 'individual fishing quota' managed fishery, the fishing season will become elongated and slower paced, allowing safety and conservation issues to be squarely addressed.
- At the same time, however, harvesting capacity developed by vessel owners and processing capacity created by processors, will become surplus. These will have several implications that must be dealt with, including 'stranded capital' and transfer of revenues to other sectors that successfully bid on the now surplus capacity.
- This is the first attempt (by any Council) to undertake a comprehensive rationalization plan; one that includes captains and crew, vessel owners, processing plan owners, and community interests.

Recommendations:

- Provide the North Pacific Fishery Management Council the tools needed to establish a comprehensive program designed to address the needs of all parties that might be affected by a (significant and needed) rationalization of the Bering Sea crab fisheries.

GARRETT

**Mr. Howard Garrett
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- Many once-great fish stocks are now gone and once-productive shoreline nurseries are destroyed. Whole food webs are loaded with deadly toxins.
- We have begun to re-define the oceans from vessel highways, industrial sites and free-for-all fishing holes to vital natural systems that must be protected and nurtured, but these is a long way to go.

Recommendations:

- A coherent set of policies to govern human behavior is needed, devised around principles of respect and appreciation for the complex and intricate trophic relationships and chemical and atmospheric pathways that make up marine habitats.
- We need an ocean restoration policy on national and global scales.

GARRISON

**Ms. Karen Garrison, Co-Director, Oceans Program, National Resources Defense Council
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- Recognize through new laws, policies, and institutions that the oceans are a vital public asset and must be managed as a public trust.
- Proposals for cabinet-level oceans department; overarching policy for protecting ecosystems of biodiversity, the regional ecosystem councils, and new federal mandates to create a network of marine reserves were all seconded at the meeting.

GAYDOS

**Dr. Joseph Gaydos, Staff Scientist and Veterinarian, Univ. of California, Davis
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- There is a need for more scientific research on our oceans and the wildlife and organisms they support.
- As others have stated, there is a need for a better scientific understanding of our oceans.
- Management decisions regarding our oceans need to be based on sound science, not economics or political will.
- Science-based decisions, however, are not possible if the science does not exist.

Recommendations:

- The Commission should recommend the creation of a dedicated program that supplies long-term funding for independent researchers to study our oceans and its resources. This ocean-specific Federal grants program could be modeled after grant programs administered by the U.S. Dept. of Health and Human Services' National Institutes of Health or the Federal Government's National Science Foundation.

GEEVER

**Mr. Joe Geever, Fisheries Program Coordinator, American Oceans Campaign
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- Marine Life Management Act is a dramatic shift from traditional single species management to measures that account for ecological interaction. It has led to an impressive compilation of science on near-shore ecosystems and creative new ideas how to manage these resources.

GEIGER

**Dr. Jamie Geiger, Assistant Regional Director, Northeast Region, U.S. Fish and Wildlife Service
Boston, MA, Jul-24-2002, Regional Coordination of Ocean Policy Panel
Invited Testimony**

Key Points:

- The U.S. Fish and Wildlife Service is significantly involved in many coastal issues-on fish, wildlife and habitat issues affecting our nation's coastal resources. The hallmark of all our efforts is partnerships which are inclusive, interactive, adaptable and based upon sound science. The second hallmark of our efforts is to be accountable for our actions and do our best to meet short-term and long-term fish and wildlife conservation goals and objectives.
- Our broad areas of concern related to stewardship of ocean and coastal resources and protection of the marine environment are:
 1. Water quality and quantity in the Northeast [discussion provided];
 2. The health of fish and wildlife [discussion provided];
 3. Aquatic nuisance species [discussion provided]; and
 4. Watershed health assessment techniques [discussion provided]

Recommendations:

- Cooperation and coordination between and among state and Federal agencies are critical. The key to this partnership are frequent and interactive communication, using the best available science and decision-making, personal interrelationships between and among key resource managers, a real focus on listening to the concerns of our partners and ensuring that people are fully engaged in the process of management to the fullest extent possible.

Responses to Questions:

- The infrastructure that exists is the Aquatic Nuisance Species Task Force, which was established by Congress under the Aquatic Species Nuisance, Prevention and Control Act. Many Federal agencies here are members of that task force. If you identify them early enough and you take concerted action, you can stop or hinder the problem. But right now, we're still looking for appropriate tools to deal with the issue. The current strategy is preventing the organisms from getting into the U.S., then keeping them under control and the final thing is to try to have eradication techniques to eliminate the population. So far we've been not very successful in all three. [discussion provided]

- San Francisco Bay probably has, as you correctly pointed out, more non-native species than native species. And, the importance of San Francisco as a port of entry is extremely critical. The verdict is still out in terms of the ultimate effect on management of native fish and wildlife species, but from the broader perspective, restoration of fisheries populations has been successful.
- A strategic plan or action plan has not been developed to put more resources into the emerging issues of fish and wildlife health and diseases. Discussions have been initiated with the USGS and with some of our NMFS colleagues. Much more is needed.

GERSEEN

Ms. Ruth Gerseen, Recreation and Equestrian Coalition

Los Angeles, CA, Apr-19-2002

Public Comment

Key Points:

- Economic strangleholds are before the land use plan for Malibu; designation of Environmentally Sensitive Habitat Area (ESHA) is crippling one; designed to remove all trace of horses from the area of the Coastal Commission's oversight.

GILCHREST

The Honorable Wayne Gilchrest, Congressman, U.S. House of Representatives, Maryland

Washington, DC, Nov-13-2001, U.S. House of Representatives Panel

Invited Speaker

Key Points:

- Natural resources are diminishing: our endless frontier is gone.
- The next frontier is an intellectual one to understand issues from a scientific perspective.
- Ocean ethic is fundamental.

Responses to Questions:

- Federal and state programs that deal with coastal areas must be less fragmented and more cohesive.
- Conservation dollars need to protect coastal resources.
- Chesapeake Bay Program has worked to communicate and provide information.
- Convincing Congress of the need to explore the southern hemisphere is not easy. The process would start with Secretary Evans and the Vice President and proceed to the House members.

GILES

Ms. Suzanne Giles, Water Quality Program Coordinator, American Oceans Campaign

Washington, D.C., Nov-13-2001

Public Comment

Recommendations:

- Reauthorize Coastal Zone Management Act (CZMA) with strong nonpoint pollution control provisions.
- Policies that protect areas from harmful coastal development need to be developed and enforced.
- An effective system of Marine Protected Areas (MPAs) is necessary.
- Establish an ocean budget that comprehensively details efforts and funding dedicated to ocean-related activities.

GILL-AUSTERN

Mr. Gary Gill-Austern, Attorney, Alliance to Protect Nantucket Sound

Boston, MA, Jul-23-2002

Public Comment

Key Points:

- The Alliance to Protect Nantucket Sound is organized to protect Nantucket Sound from the industrialization assured by the largest wind power plant in the history of the U.S. coming to the shores of Cape Cod.
- Until programs are developed to fill these "regulatory gaps" no one is served, including in particular Federal, state, regional and local regulators. "Regulatory gap" describes among other things the situations where there is nothing that says to the regulator, "you may not do it."
- A threat exists today. This threat will use public Federal land to destroy the peace, the tranquility, the recreational public usage, the natural ecosystems and basic public access to one of the nation's most beloved coastal areas.

Recommendations:

- No authority exists for the Federal government to convey rights to develop certain projects, including the Cape Wind project. The Commission has a responsibility to recommend appropriate policy principles in this void.
- Congress should confront the gaps in HR 5156, a just-introduced bill that proposes new measures that would broadly authorize any use of the outer continental shelf not already authorized. There should be clear policy and a commitment to specific protocols.
- Please vote a resolution that would speak nationally, while at the same time send to the ACOE the message that there should be no action on the Cape Wind project until all responsible Federal agencies have the benefit of your deliberations and your recommendations. We urge the Commission to vote a resolution entitled Towards Protecting the Federal Public Trust. [discussion and draft resolution included]

GILLIGAN

Dr. Matt Gilligan, Professor, Marine Science Program, Savannah State University

Charleston, SC, Jan-15-2002, Education Panel

Invited Testimony

Key Points:

- Diversity: nothing is more important than a U.S. ocean policy that respects and embraces national diversity.
- Under-representation: many groups are profoundly under represented at the professional levels of marine science, resource management, and in the technology workforce. The solution is education and participation.
- To accomplish inclusiveness, the following needs to happen:
 1. Insist upon minority representation in programs, panels, and on boards.
 2. Insist upon discerning criteria for the evaluation of proposals for federal awards that address broader impacts on society and infrastructure of science, etc.
 3. Use oceans as a unifying thematic base in education to demystify science, view global issues, stimulate math and science achievement and performance in schools with a significant enrollment of under represented groups. Build cultural bridges.
 4. Reinvent the process by which individuals become ocean explores, scientists, and resource managers.
 5. Provide a level of capacity building and support to the places that have demonstrated their effectiveness

Recommendations:

- A good many former students have gone on to higher learning, including Ph.D. level. Additionally, many have gone on to start new science programs elsewhere.
- What is lacking is sustained funding and commitment on the federal.

Documents Recommended:

- Comments prepared by students directed to the U.S. Commission on Ocean Policy.
- Other literature, resources, and handouts from National Academy of Marine Laboratory's Diversity Panel

GILLIS

Ms. Karen Gillis, Bering Sea Fishermen's Association

Anchorage, AK, Aug-22-2002

Public Comment

Key Points:

- The Bering Sea Fishermen's Association (BSFA) was established by fishermen from over 30 villages in western Alaska wanting to become more involved in the development of new fisheries and to help local fishermen gain full economic value from local commercial fisheries.
- The BSFA is directed by a 13-member board and has been involved in a variety of ventures to promote conservation and development of western Alaska fisheries. [Further description provided.]
- The Essential Fish Habitat provisions of the Magnuson-Stevens Act are important provisions.
- We need to begin to seek a common understanding among the multitude of management agencies that don't currently agree on priorities for managing our fish and wildlife. The obvious lack of agreement on what constitutes a healthy ecosystem is problematic.
- For our members, it is imperative to understand what factors are contributing to the unexplained drop in western Alaskan chum salmon populations in recent years.

Recommendations:

- It is important for the Oceans Commission to understand and promote a unified vision for what "ecosystem management" means, and to ultimately answer the question "can an ecosystem be managed".

GODDARD

**Dr. Lisa Goddard, Associate Research Scientist, International Research Institute for Climate Research
Chicago, IL, Sept-25-2002, Climate Prediction Panel
Invited Testimony**

Key Points:

- Improvements for climate prediction rely critically on the establishment and maintenance of quality observing networks, particularly in the global oceans. Also crucial for improved climate prediction capability are increased computational and human resources and more coordinated management of current resources for model development.
- The current state-of-the-art in climate prediction employs a two-tiered dynamical prediction system; sea surface temperatures (SSTs) are predicted first, which then serve as the lower boundary forcing to atmospheric general circulation models (AGCMs).
- Unfortunately the skill of AGCMs in reproducing seasonal climate has not increased much in the last 10 years. Model results are especially sensitive to differing parameterizations of convection and cloud processes, which have implications for both local thermodynamics related to local radiation and global thermodynamics related to the global hydrological cycle and the global heat budget
- The future of seasonal-to-interannual climate prediction is coupled ocean-atmosphere models. In this “one-tier” prediction methodology, SST anomalies are generated by anomalies of the overlying atmospheric circulation instead of being imposed.
- Considerable research and development is still required for coupled models. Most coupled models have large systematic errors in reproducing the mean state and seasonal cycle as well as the interannual variability of the tropical oceans.

Recommendations:

- Encourage enduring and comprehensive observational networks.
- Bridge gap between optimal design of observing networks and their ultimate value in forecast systems.
- Encourage national coordination of efforts and resource investments toward development and improvement of climate modeling and climate prediction tools.

GOETHEL

**Mr. David Goethel, Owner/Operator & Commercial Fisherman, F/V Ellen Diane
Boston, MA, Jul-24-2002, Marine Industry Panel
Invited Testimony**

Key Points:

- The following items do not, at this time, have a clearly defined national policy and it is recommended that a policy should exist:
 1. Address capacity issues in commercial and recreational fleets. Need a census of fishing capacity and how much extra effort is needed. Then, create a policy to reduce excess capacity in an orderly manner instead of shifting it from fishery to fishery.
 2. Marine Protected Areas-The U.S. needs a coherent policy stating goals and objectives, stating no extraction of natural resources from these areas, defining what activities will be allowed on the ocean surface, and how to educate the public as to the benefit to the nation.
 3. National decision on individual fishing quotas and individual transferable quotas. The fishing industry needs to know whether or not IFQs and ITQs will be used as a tool of management and what the rules governing their use will be.
 4. Timely availability of fisheries data. The U.S. should set a date after which time all data necessary for management will be available within three months of collection.
 5. National policy on cooperative research.
 6. Establish meaningful management regime for trans-boundary stocks. Work with other nations.
 7. Educate American public on the effects of land-based activities on the oceans. Mandate Sea Grant or a similar agency to conduct educational campaigns explaining how many land based activities, such as filling of the tidal wetlands, fertilizer, pesticide and biocide runoff, even the improper disposal of birth control pills, are having serious and perhaps long term deleterious effects on our oceans.
- The following recommendations are regarding existing policies which are contained primarily in the Magnuson Act and the Sustainable Fisheries Act:
 1. Make sure overfishing definitions are standardized and workable.
 2. Should have better definitions of essential fish habitat. Current definitions consider essential fish habitat to be any place where any given fish swims.

3. Congress should rank the national standards. Congressman often seem to have a clear intent as to what the national standards mean to them and how they ranked them in importance. This is almost always not the way that the NMFS has interpreted them.
4. Clearly state what is known and not known relative to any given species.
5. Address rebuilding schedules. Some of the rebuilding schedules for New England groundfish can only be met by virtually eliminating the commercial and recreational fisheries.
6. Change the Council Oath. Council members should represent the fish, not be perceived constituents of user groups.
7. Create, within the Sustainable Fishery Act, the ability to test experimental management techniques.
8. Create National Standards to consider ecosystem interactions. Management actions on one species will affect many others.
9. Adequate funding-if the U.S. is serious about having well managed oceans, the taxpayer must get serious about paying for it. Our agriculture system receives billions of dollars and feeds much of the world. Our oceans receive millions, which allows little more than an ocean policy triage.
10. Require bureaucrats to spend one week per year observing the industry they oversee.

Recommendations:

- There are people who would have a problem with paying a fee to fish. The government would need to front the money because it is a large sum but then the industry would pay it back over, say 2- to 50 years at low interest rate. As it currently exists, the industry cannot pay up front.

GOLD

Mr. Mark Gold, Executive Director, Heal the Bay
Los Angeles, CA, Apr-18-2002, Environmental Quality and Human Health Panel
Invited Testimony

Key Points:

- Thirty years after the passage of Clean Water Act (CWA), U.S. coastal waters still have numerous critical water quality problems. There have been great improvements in water quality from point sources, but stormwater runoff and nonpoint source runoff still need improvement.
- The effort to reduce stormwater and nonpoint runoff is nothing short of pathetic. The efforts are hindered by:
 1. Severe under-funding by two or three orders of magnitude or more.
 2. Efforts to move urban stormwater into point source provisions of CWA without clear and meaningful water quality standards are ineffective.
 3. Federal enforcement on municipal stormwater is non-existent
 4. Lack of true regulatory and enforcement of CWA for nonpoint.
 5. Section 6217 of the Coastal Zone Management Act (CZMA) is overly broad and lacks regulatory teeth. There are no implementation funds.
- Regulation of nonpoint pollution generally only occurs through the Total Maximum Daily Load (TMDL) approach. States and Environmental Protection Agency (EPA) need to proactively develop TMDLs and ensure implementation.
- Another major source of pollution is contaminated sediments. There is no national strategy to clean up sediments. Another concern is how to monitor coastal waters. Regional monitoring programs have not been adopted nationally.
- Other needs: no-take zones; preservation and restoration of coastal wetlands; intertidal zones and kelp beds.

Recommendations:

- A national contaminated sediment regulatory program is needed with sediment quality standards based on chemistry, toxicity, and requirements for dredging and disposal in environmentally sound manner.
- Army Core of Engineers (ACOE) should include a program with maintenance dredging.
- Standardized information is needed, especially relating to beach monitoring.
- Set minimum cap on T21 funds for environmental improvements.

Responses to Questions:

- Los Angles has separate sanitary sewers and storm drains; when it rains everything on the streets goes straight into the ocean.
- CZMA only has voluntary requirements for nonpoint program and lacks regulatory teeth.

GOLDBERG

**Ms. Cynthia Goldberg, Gulf Restoration Network
New Orleans, LA, Mar-08-2002
Public Comment**

Key Points:

- Millions of acres of wetlands have been lost throughout the Gulf of Mexico region.
- "Compensatory" mitigation, in theory, offsets damages that occur through development activities. Two studies by National Academy of Science (NAS) and Government Accounting Office (GAO) found compensatory mitigation falling far short of meeting goal of no net loss.
- NAS report found:
 1. Goal of no net loss of wetlands is not being met for wetland functions by the mitigation program, despite progress made in last 20 years.
 2. A watershed approach would improve permit decision making.
 3. Performance expectations in Section 404 permits have often been unclear, and compliance has often not been assured or attained.
- GAO report found that compensatory mitigation was not effective at mitigating adverse impacts to wetlands. Corps does not properly track mitigation taking place under in-lieu-fee arrangements.
- There is concern about Corps guidance in response to reports:
 1. Use of upland vegetated buffer strips, upland areas, ponds, and other waters for compensatory mitigation.
 2. There is insufficient monitoring of mitigation projects: only 5-10-years while NAS study states 20-years may be necessary.
 3. Implementation timing is inadequate. Mitigation allowed after project while NAS stated investigation should occur either concurrent or before project.

GOLDBURG

**Dr. Rebecca Goldburg, Senior Scientist, Environmental Defense - Marine Aquaculture and the Environment
Boston, MA, Jul-24-2002, Public Interest Panel
Invited Testimony**

Key Points:

- Aquaculture is the only available means to significantly supplement fisheries catches at a time when world population and affluence are increasing.
- Aquaculture effluent: Under the Clean Water Act, the EPA must develop industry-by-industry "effluent guidelines". EPA has never developed effluent guidelines for aquaculture. It is critical that these guidelines address the range of potential environmental impacts from aquaculture discharges by encompassing biological pollutants as well as the nutrients and other chemical pollutants more traditionally considered by EPA.
- Offshore aquaculture: The ACOE has taken the lead in regulating offshore facilities, issuing permits under the Rivers and Harbors Act of 1899 and the Outer Continental Shelf Lands Act. The ACOE does not, however, have a clear legal mandate under either of these statutes to protect the environment and lacks expertise to weigh the full ecological impacts of offshore aquaculture facilities.
- Transgenic fish: The FDA has decided to regulate transgenic fish and other animals as animal drugs. However, while FDA is the appropriate agency to regulate the safety of these fish as food, it lacks an environmental mandate and expertise necessary to protect against the potential ecological effects of transgenic fish. Under drug law FDA must keep all information about a pending drug application confidential and thus the public cannot generally participate by providing comments in FDA decision-making about transgenic fish.
- Aquaculture research-reducing aquaculture's dependence on wild fisheries: With the exception of salmon farming, U.S. aquaculture is dominated by small and mid-sized companies with a limited capacity to support research and development activities. Targeted research could help to reduce a number of aquaculture's environmental impacts.
- Protecting endangered wild salmon: The escape of Atlantic salmon from Maine salmon farms has been identified by NMFS and the USFWS as one of the major impediments to restoration of wild Atlantic salmon.

Recommendations:

- EPA should develop effluent guidelines for aquaculture.
- Through a combination of regulatory and legislative changes, offshore aquaculture facilities should be required to receive both discharge permits from the EPA and an approval from the NNFS based on a standard of "no significant adverse effect on marine resources."
- Congress should amend Federal law so that the approval of transgenic fish for commercial sale requires evidence of ecological as well as food safety, and the approval process is open to public participation.

- Appropriations to NOAA and other Federal agencies for aquaculture research should target key environmental goals: to reduce aquaculture's dependence on fisheries inputs by reducing the fishmeal and the fish oil content of feed and by emphasizing the farming of fish that feed at low trophic levels.
- NMFS and USFWS have proposed a number of reasonable measures to minimize the impact of salmon farms on endangered wild salmon and Federal officials should support these decisions and activities.

Responses to Questions:

- There is something to be said for telling agencies to do their job so things do not end up in court. There needs to be more emphasis on the non-marine agencies doing their job when it comes to the oceans.
- Governance structure for aquaculture in the U.S. is quite complicated because activities within states or state waters, and most of the aquaculture is in the U.S. freshwater, is heavily affected by state law. And the states vary enormously in their requirements and sometimes communities can vary enormously in their governance of aquaculture. Aquaculture is not over regulated at the Federal level. Aquaculture is often an afterthought.
- It is pretty much inevitable that aquaculture is going to grow. Certainly it has been growing. Hunting for animals as food has, for the most part, disappeared but fishing is not going to disappear, if for no other reason than fish have a much higher intrinsic rate of reproduction than land mammals. It's important to think of the future in terms of fishing and aquaculture, not one or the other.

GRASSLE

Dr. Frederick Grassle, Director, Institute of Marine and Coastal Sciences, Rutgers, The State University of New Jersey

Boston, MA, Jul-23-2002, Ocean Observing and Prediction Panel

Invited Testimony

Key Points:

- There needs to be more emphasis on the study of life in the oceans at the level of species and this is the goal of the Census of Marine Life (CoML) and the Ocean Biogeographic Information System, a component of CoML.
- The design of an observing system to answer basic questions about the biology of the oceans will build on capabilities needed for safe and efficient coastal ocean operations of all kinds. The following are examples of information of immediate economic and strategic importance needed for understanding processes controlling the distribution and abundance of life in the ocean:
 1. Management of commercial and recreational operations in increasingly congested estuaries, embayment, and open coastal areas requires tracking systems and real-time, high-resolution information on ocean circulation.
 2. Continuous monitoring and management of pollutants and pathogens from point and non-point sources is necessary to protect human health.
 3. Rapid deployment of an observational and predictive capability to make unknown environments known has become an essential element for success of military operations.
 4. Forecasts of weather and ocean conditions affect peoples' daily lives as well as the viability of every coastal business-responses of fish, marine mammals, drifting gelatinous animals, clams, and crabs respond to atmospheric and ocean weather.

Recommendations:

- Urge Congress to fund the infrastructure required to observe the ocean and foster regional partnerships among industry, academia, and government to sustain observing systems.
- The elements of the Integrated and Sustained Ocean Observing System (ISOOS) have been defined and the recommendations of the Ocean.U.S. Workshop should be implemented.

Responses to Questions:

- There has to be a national academic partnership of observing systems. There also needs to be a funding mechanism for phasing in regional systems, regional systems that respond to user needs in regions. It cannot be one size fits all. There should be strong linkages to science programs, which will emerge and have particular contributions at particular moments in time to the development of the system. It should be coordinated by Ocean.US and be a fully operational system.
- The whole constellation of satellites needs to be thought of in that context of a coordinated calibration/validation priority setting exercise.
- Yes, sensors are put on fish, sea lions and Orcas. The elephant seals work very well because they are so large. To my knowledge there are no examples of salmon or another fish that have worn sensors that were heard inside a predator. The Orca that was mentioned, that died about ten years ago and was found to have 15 sea lion tags in its belly, is very interesting. Yes, it is a good way to learn about the food chain.

- The Census of Marine Life group should be viewed as a cross-cutting science program that should be adopted in a number of different agencies. Business partners are very critical in the development of these regional needs. For example, forecasts have value, dollar value. The dollar-value forecasts are looked at, as are individuals' business plans, to see how they affect the bottom line. This is important because a lot of government funding is needed. In time, however, that government funding will transition to private funding, so the value added is increased.
- To convert this from a research project to a sustained national ocean observing system would cost about \$500 million.

GRAY

Mr. Jeff Gray, Manager, Thunder Bay Marine Sanctuary and Underwater Preserve

Chicago, IL, Sept-24-2002, Governance Panel

Invited Testimony

Key Points:

- Today, preserved by the waters on which they once served, the historic shipwrecks of the Great Lakes are arguably the world's best collection of shipwrecks. This underwater museum presents a unique opportunity to open windows to the past that would otherwise remain shut.
- Despite the incredible preservation of sites, shipwrecks are among the most fragile resource in the underwater environment. Unlike most natural resources, shipwrecks are non-renewable. Once a site or artifact is damaged or lost, it is gone forever. Removing artifacts from a shipwreck without conducting proper archaeology robs the site of its historic integrity, permanently diminishes its recreational and educational value.

Recommendations:

- Shipwrecks are underwater museums that need research, protection and management to ensure continued enjoyment and educational benefit for future generations

GRIFFIN

Major General Robert Griffin, Director of Civil Works, U.S. Army Corps of Engineers

Washington, D.C., Oct-30-2002, Featured Speaker

Invited Testimony

Key Points:

- The Civil Works Program of the Corps intersects National Ocean Policy in several key areas-navigation and shore protection.
- An emerging and increasing part of the Civil Works program is aimed at using the scientific, engineering and collaboration skills of the Corps to restore the Nation's environment.
- The Corps Civil Works program is done in close partnership with states and local governments and increasingly private non-profit groups like the Nature Conservancy and Ducks Unlimited. The most notable example of course is the Everglades restoration but much of this work is occurring in our oceans estuaries and coastal zone though efforts like the Coastal America partnership.
- Integral to almost all inland and coastal navigation and flood damage reduction projects is the consideration and management of sediment. We have initiated a new concept "Regional Sediment Management" which is an approach for managing sediments from projects incorporating principles of integrated watershed resources management.
- New Coastal Initiatives include participating with other Federal agencies to implement the Estuary Habitat Restoration Act - a nationwide program to restore a million acres of estuary habitat by the year 2010, and Corps and the State of Louisiana working together to restore and protect that State's shrinking coastal wetlands, and stem an ongoing loss of up to 20,000 acres per year. These initiatives are part of what we hope will be a new direction for the Corps of Engineers - one that gets us away from projects with a single focus, designed for a specific locality, and begin to look at watersheds as integrated systems, where what we and others do in one place has numerous consequences elsewhere.
- In the summer and fall of 2000, the Corps of Engineers held a series of 16 "listening sessions" around the Nation to hear what Americans thought were the major water challenges for the 21st Century. One of the frequently raised topics was the need to address water challenges from a watershed view, highlighting collaboration and integration.
- We have recently introduced an educational outreach program for kindergarten through 12th grade concerning our navigation mission through an interactive website. There are many opportunities for all of us to spread the message about the value of our oceans and the need for all Americans to take part in preserving and protecting our coastal resources. We need to work together to improve this dialogue.

Recommendations:

- Water experts and the public are increasingly looking towards integrated water management as the way to achieve environmentally sustainable solutions that can also be implemented faster and at a lower cost than traditional engineering projects. Assuring the success of this approach, however, will eventually require landmark legislation.

Responses to Questions:

- Watershed perspective is one key five elements in new strategic plan.
- The Corps is working to become more a "virtual team." We want to be more vertically aligned to produce a product.
- Much of the Corps monitoring is contracted through the USGS and NOAA, etc.
- A good example of how a consortium of Federal agencies might work is Coast Louisiana 2050.

Documents Recommended:

- Watershed Perspective for the Civil Works Program

GRIGG

**Mr. Richard Grigg, University of Hawaii
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- Coral reefs are important to people of the entire world.
- The many problems with coral reefs are symptoms of two larger issues: over population and a consumer driven economy.
- The Commission should incorporate measures to stem population growth and strive for sustainability.

GRIMES

**Dr. Jay Grimes, Dean of Marine Sciences and Director of the Gulf Coast Research Laboratory,
University of Southern Mississippi
New Orleans, LA, Mar-07-2002, Sciences and Education Panel
Invited Testimony**

Key Points:

- Reiterated key points made by Ocean Studies Board (letter from Ken Brink) and CORE (testimony of Thoroughgood).
- Microorganisms rule the earth. Critical scientists must be supported in their search for new and novel microbes in ocean. Recently authored report recommending support for interdisciplinary studies of marine diseases, focused on better molecular and computational tools and on understanding mechanisms of disease resistance in marine organisms.
- Elucidate connections between oceans and human health. Evaluate present state of knowledge about these connections. Suggest how current and future efforts may be directed to anticipate and respond to future health needs and threats. We must not overlook microbiological issues that affect seafood we eat, including: health of fishery; susceptibility of culture system to disease; misuse of antibiotics in aquaculture; seafood used in bioterrorism; nonindigenous species issues related to fish and microorganisms; and concerns about environmental contamination. Understanding comes from basic research. Mitigation capability comes from applied research and technology development.
- The cost to develop molecular tools is expensive but as clinical laboratories develop them, the costs come down. Sensor technology is on the way to happening. NIH, NSF, DOE, USDA, and EPA are involved in technology. A change in national policy to better link ocean health with human health could start with NOPP and getting NIH and NIEHS to the table.
- Industry is linked to ocean and human health issues aggressively or serendipitously by developing technologies in labs.
- A common policy approach among federal agencies concerning human health issues related to oceans would begin coordination.

GROAT

**Dr. Charles Groat, Director, U.S. Geological Survey-Department of Interior
St. Petersburg, FL, Feb-22-2002, Accommodating Growth Panel
Invited Testimony**

Key Points:

- The Department of Interiors has significant responsibility for coastal and ocean environments.
- Congress charged the United States Geological Service (USGS) to develop a comprehensive and integrated national Coastal Program to address diversity of issues facing coastal communities.
- Impacts of rapidly growing coastal populations place increasing demands on developing ocean resources and space for economic benefit; understanding and mitigating the economic and environmental impacts of development is critical.
- Increasing populations require a balance between sustainable resource use, environmental protection, assurance of safe communities, and reliable marine commerce systems. The federal government's challenges include providing the information and tools to understand and mitigate resource and hazard vulnerability, to support and assess development of public policy, and to assess consequences of policy, resource management, and development decisions.
- USGS has significant science capabilities and priorities including:
 1. Information and monitoring
 2. Research
 3. Integrated information, assessment tools, and decision-support tools and models.
 4. Partnerships and collaboration
- An excellent model for interagency cooperation is the National Ocean Research Leadership Council (NORLC) of National Ocean Partnership Program (NOPP).

Recommendations:

- Need an accurate inventory of projects and programs currently underway throughout federal, state, and local governments, academia, and the private sector.

Responses to Questions:

- National Ocean Partnership Program and Ocean U.S. is a good model for new way of doing business at the federal level because it is participatory, creates priorities, and is an open forum for identifying and setting those priorities.
- One way to focus the science on critical management issues is to have the management drive the science priorities.

GUTTING

**Mr. Richard Gutting, President, National Fisheries Institute
Washington, DC, Nov-14-2001, Fisheries Organizations Panel
Invited Speaker**

Key Points:

- U.S. policy has had profound impact on fisheries issues, including 200-mile legislation; "Fish and Chips" policy; fishing cooperatives; and aquaculture.
- There are several key issues of concern:
 1. Fishery process is overwhelmed by litigation, which leads to a breakdown in management and delivery of science.
 2. The United Nations Convention on the Law of the Sea (UNCLOS) must be ratified.
 3. Another issue is how to provide jobs and economic opportunities for coastal communities depending on ocean resources.
 4. A third issue is how to unlock tremendous potential in aquaculture.
 5. A final concern is how to incorporate environmental concerns and enhancement opportunities into fisheries management.

Responses to Questions:

- There is profound competition in the scientific community for the "best" science. A commission similar to the Marine Mammal Commission (MMC) or peer reviews could possibly help.
- Aquaculture enhancement and "fish for food" have difficulties with acceptance from local communities and environmental organizations.
- National Marine Fisheries Services (NMFS) is the authoritative source of information on status of fish stocks for the United States and the Food and Agriculture Organization of the United Nations is for global. There are some trends in reversing overfishing.
- The tools to deal with overcapitalization exist.

H

HADDAD

Mr. Ken Haddad, Director, Florida Marine Research Institute, State of Florida

St. Petersburg, FL, Feb-22-2002, Management of Coasts and Oceans Panel

Invited Testimony

Key Points:

- Monitoring may be perceived to be competing with investigative and process research funds when they are actually independent.
- Confusion about invasive species is caused by unclear roles of federal agencies. National Management Plan does not recognize that scope, diversity, and intensity of problem vary from state to state.
- Ballast water and sediment are becoming important to coastal states: plants, animals, pathogenic bacteria, and toxic dinoflagellates.
- Florida maintains that oil and gas exploration or development in territorial seas of coast poses risks to other Florida coastal interests. Important issues about stock enhancement are unanswered about the consequences of ecological and genetic interactions between hatchery and wild stocks. Stock enhancement can do more harm than good.
- The 1993 Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA) is considered a success.
- The southeastern Implementation Team for Recovery of North Atlantic Right Whale shows state-federal-stakeholder interaction.

Recommendations:

- Invasive Species: Coordinate the 20+ federal agencies dealing with nonindigenous species. Eliminate redundancy in federal agency initiatives. U.S. Fish and Wildlife Service (USFWS) should continue listing species under Lacey Act instead of new legislation. Support Invasive Species Council's (ISC) to validate the effectiveness of control methods through coordinated research. Encourage developing research at state and federal level with other stakeholders as full partners. Implement enforceable national requirements for ships entering U.S. ports. Form state and federal task forces to coordinate prevention message and respond to immediate threats.
- Minerals Management Service (MMS) should be implement a study program to address lack of information about offshore oil and gas for Eastern Gulf of Mexico, Straits of Florida, and South Atlantic. National Marine Fishery Service (NMFS) needs to improve communication about aquaculture within the agency and between science directors and stakeholders. Initiate a national policy that includes a clear position and direction of all agencies on addressing environmental issues relating to aquaculture.
- Commit federal resources to research aimed at uncertainties in stocking efforts. Conduct enhancement programs using responsible approach such as those outlined in American Fisheries Society Symposium 15 publication. Federal fisheries management needs to recognize and nurture partnerships with coastal states in all phases associated with Sustainable Fisheries Act.
- Implementation of the Marine Mammals Protection Act (MMPA) and Endangered Species Act (ESA) needs provisions to allow the scientific research community to obtain permitted exceptions to laws when appropriate (e.g., research is beneficial to marine animals).
- Continue to support Southeastern Implementation Team. Recognize it as model for other natural resource management issues.
- Nonpoint programs of Coastal Zone Management Act (CZMA) and Environmental Protection Agency's (EPA) 319 programs need to be reviewed, and a new model for state-federal partnership in coastal non-point program needs to be implemented.

Responses to Questions:

- Recognize interconnected relationships of habitat type and condition, population/community structures, and system ecology.
- There is increasing criticism about using products based on wild fish to feed aquaculture fish and shellfish. However, if aquaculture ceased to use fishmeal in feeds tomorrow, there would be no impact on landings of fish to make fishmeal because other agriculture production sectors would buy it all.
- Mechanism to harmonize aquaculture policy with suggestions for elements of a national aquaculture policy is the Joint Subcommittee on Aquaculture (JSA) with the Department of Agriculture as the lead agency. It is imperative that federal government recognizes potential for aquaculture development in individual states beyond regional approach developed with National Aquaculture Plan in 1980.

Documents Recommended:

- "Symposium 15" American Fisheries Society.

HALMAY

**Mr. Pete Halmay, Sea Urchin Harvesters Association of California
Los Angeles, CA, May-14-2002
Public Comment**

Key Points:

- Good data is needed (rather than good science). Fishermen have access to data. They don't trust one another because of the tragedy of the comments. They can't give out information to other fishermen. They don't trust their regulators.
- With electronic data gathering, you can gather data aboard the boat.
- Certain rights and incentives have to be given to the fishermen. Without that, you still have the tragedy of the comments.

HAMILTON

**Ms. Jessica Hamilton, Student, Oregon State University
Seattle, WA, Jun-14-2002
Public Comment**

Key Points:

- Integrated management-No overarching national ocean and coastal governance framework exists to coordinate among and within disparate public and private interests.
- State ocean management-Improved state-level capacity for management of an expanded territorial sea is needed.
- International leadership-the U.S. lacks effective leadership roles in international ocean affairs due to non-participation in key international treaties.
- Biodiversity, protected areas, and tourism-Loss of marine species diversity and abundance degrades both marine ecosystems and the industries that depend on them.
- Need better baseline data and more effective monitoring of fishing to more accurately assess and manage species.
- Nonpoint source pollution entering the coastal zone is a problem of national scope needing national level solutions. Such programs are massively under-funded.
- Current methods of monitoring, controlling and preventing marine invasive species, are not sufficient.
- Children in kindergarten through 12th grade are poorly educated about ocean science and management issues.

Recommendations:

- Recommend the Commission adequately employ the National Ocean Council and the executive branch. Coordination and organization should be part of the primary function. The Council should process decision making as well, and be held accountable for the nation's oceans in addition to the Federal agency representatives of the regional ocean councils who are members of the National Ocean Council. Establish a network of "Regional Ocean Councils."
- Through amendments to the Coastal zone Management Act and/or the Outer Continental Lands Act, expand and clarify the state role in management of the expanded territorial sea.
- USCOP should continue to work with the Bush Administration to ensure that ratification takes place as soon possible.
- The Federal government should speed up the processes for designating Marine Protected Areas and Marine Reserves, both through the National Marine Sanctuary Program and the fishery management council process.
- The polluter should pay - the entire marine transportation industry should be engaged and made at least partially responsible for costs associated with ANS reduction measures.
- A compulsory ballast management program needs to be implemented on a national level. Improvements to existing and new vessels entering the maritime transportation industry need to be made. More efficient ships capable of operating with less ballast water and doing so safely in the open ocean would reduce the risk.
- Incorporate ocean science and management curriculum into the national science standards. Include ocean and marine science and management issues within state and Federal K through 12 testing standards. Establish ocean education coordinators for each coastal zone state.

HAMMOND et al

**Mr. Dan Hammond et al, Graduate Students, University of South Florida
Washington, DC, Apr 03, 2003
Public Comment**

Key Points:

- The presentation was made by Mr. Hammond representing a group of University of South Florida graduate students which included Ms. Robyn Conmy, Ms. Lisa Fairchild, Ms. Janell Harvey and Ms. Monica Wolfson.
- Resources in territorial waters and in the EEZ are the common property of all Americans. These common resources are entrusted to the Federal Government on behalf of the people of the United States.
- In addition to the cost of extracting the resource itself, extraction of our property carries an environmental cost that is most often not accounted for. Because market price does not reflect externalities or subsidies, the costs of ocean commodities seem less than they really are.
- It is our opinion that a fund needs to be created, maintained, and dedicated to risk assessment, hazard mitigation and economic incentives associated with a given resource. The monies for this fund would come from various sources, like royalties, leases, licenses and registration fees, to be applied toward the privilege of using specific ocean resources. A portion of these funds could also include a substantial education effort that reaches schools and the general public.
- We also suggest enacting a bid and royalty program for the commercial fishing industry similar to timber and oil industries.
- Over the past 30 years, there has been a tendency for the ocean-related Federal agencies to grow, often at the expense of creative research and technology development in the public and academic sectors. We would like the Commission to recommend that these agencies outsource more of the tasks that have slowly been incorporated into regional Federal jobs.
- The Navy plays an important role in protecting not only our nation's resources and people, but those of other nations as well. We believe that the best way to use this strength is to emphasize the important link between understanding the dynamics of the ocean environment and its association with national security, keeping us generations ahead.

HANNA

**Dr. Susan Hanna, Department of Agricultural and Resources Economics, Oregon State University
Seattle, WA, Jun-14-2002, Science and Policy Interface in Fisheries Management Panel
Invited Testimony**

Key Points:

- In the 25 years since the Fishery Conservation and Management Act was first implemented, little systematic attention has been paid to economics in fishery management.
- We need to promote long-term economic productivity to achieve sustainable fisheries. It is time for a public investment in fisheries to achieve long-term economic profitability.
- Investment in property rights will provide economic security and predictability to fishery participants.

Recommendations:

- We must build long-term economic productivity of fisheries by introducing property rights, appropriately fund economics data and analysis, and improve the cost-effectiveness of management. [discussion provided].

Responses to Questions:

- One problem with having a moratorium in place is that once you have let the fishery become very economically depressed, you remove so much of the wealth potential from the potential investors in buying each other out, that you have stretched the limit of fishery to jump right into an individual fishing quota program.
- In fishers, they have become stabilized and have become more of a business planning climate, where you have assurances that your share, not quota, for a certain year translates into a certain amount of fish, you can do some reasonable business planning. You can make good market contracts and you can deliver fish on a schedule that makes economic sense. You don't have to fish when you are putting your life in danger.
- We need full funding of a comprehensive or coherent data direction system developed within NMFS for systematic nationwide ongoing data collection.
- Currently, NMFS has about a 26 to 1 ratio people working on the biological side of fisheries versus the social science/business side of fisheries. The proportion you need depends on how you choose to manage. NMFS has a large majority of biologists because that is how the Federal system has developed.

HARKINS

**Mr. Richard Harkins, Vice President of Operations, Lake Carriers' Association
Chicago, IL, Sept-25-2002, Invasive Species Panel
Invited Testimony**

Key Points:

- Our focus has always been on preventing additional introductions of non-indigenous species. In 1996, we teamed with the Northeast-Midwest Institute to invent systems that could be installed on ocean-going vessels to treat ballast water. There was no technology in existence to treat ballast water, not even that much research to draw on.
- From the mechanical performance of filters and hydrocyclone, it is clearly evident that filters show good results, but that the hydrocyclone is the wrong approach for reducing particulate and biota in ballast water.
- Successful treatment of ballast water is only one part of the solution for the Great Lakes. Another problem we must solve is that many ships enter the Great Lakes with no ballast onboard - NOBOB is the term we use. However, even though the ballast tanks are considered empty, there is always some residual ballast water and sediment in those tanks, and they are sufficient to sustain resting cysts.

Recommendations:

- We strongly encourage the U.S. Coast Guard to issue some Interim Standards that shipowners can try to meet. Also, we strongly encourage the U.S. Coast Guard to allow experimental testing to be done when a shipowner wants to try some technology or technique, providing "good science" is being followed. The U.S. Coast Guard must not make the rigors of the testing and evaluation so difficult that it makes installation and performance testing an economic hardship and burden for the shipowner.
- The only realistic goal is to prevent future introductions into the Great Lakes. To achieve that goal, systems must be designed that can be installed on vessels trading from the oceans.

Responses to Questions:

- Ballast exchange will become mandatory with the new NISA bill.
- Coordination of research efforts is very much lacking in ballast water research arena.

HARP

**Mr. Isaac Harp, Fisherman
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- Has served on Hawaiian Humpback Whale National Marine Sanctuary and Northwestern Hawaiian Islands Coral Reef Reserve Committees.

Recommendations:

- Need a plan for Northwest Hawaiian Islands that everyone can live with-not fight over.

HARRIS

**Dr. Jeff Harris, Californians for Local Coastal Planning
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- Malibu Beach is an example of responsible democratic and local approaches to ocean stewardship work.
- Irrational and authoritarian processes undermine ocean stewardship. California Coastal Commission (CCC) tendencies are to use authoritarian--top down methods.
- National Oceanic and Atmospheric Administration (NOAA) also decided not to investigate and react to the unreasonable processes and policies that have occurred since CCC got special legislation. No hint of these problems is in the current draft of NOAA's final evaluation despite testimony.

Recommendations:

- Encourage the Commission to have NOAA carefully reexamine its findings and methods, and make timely corrections so that credible ocean stewardship can occur in California.

HARRISON

**Ms. Verna Harrison, Assistant Secretary, Department of Natural Resources, State of Maryland
Charleston, SC, Jan-16-2002, Intergovernmental Partnership Case Study-Chesapeake Bay Panel
Invited Testimony**

Key Points:

- Concepts for a successful oceans policy:
 1. Smart land use
 2. Sustainable resource management
 3. Effective partnerships
 4. Adequate funding with accountability
- The need for a framework that ties concepts into policy, provides goals development, and offers strategies for success.
- The Chesapeake 2000 agreement is a good model. The five sections contain key concepts needed to build policy: living resources, vital habitat, water quality, sound land use, outreach, and stewardship.
- Of all lessons we have learned, perhaps the most important is the connection between land use and everything else.
- Initiate policies that provide incentives for local governments, communities, and developers to grow smart.
- Smart growth means smart business.

Recommendations:

- Do not limit your thinking to the first 50 or 100 or 1,000 feet of coastline-think upstream, from the headwaters of the rivers that feed the ocean-this is where the fate of a bay and/or ocean will be determined.
- Coastal Zone Management Act (CZMA) a good model for state/federal partnership.
- Remember the citizen, the voter, and the taxpayer who ultimately foots the bill.
- Oceans, coastlines, and bays are national treasures, thus require strong national participation managing these treasures.
- Emulate success through the use of successful models like the Chesapeake Bay Program.

Responses to Questions:

- Dealing with nonpoint issues has been done through the local zoning process and has not raised property rights issues.
- Chesapeake Bay Program has attempted to be incentive-based, additional funds, not sanction-based.
- Land preservation has to be a key element of anything we do.
- Success of the Chesapeake Bay Program is due in part to top-level attention, a game plan with goals, involvement of citizens to maintain support, and tributary teams.
- It would make sense to add “smart growth” strategies into the Coastal Zone Management Act (CZMA).

HARTMAN

Mr. David Hartman, Manager, New Hampshire Coastal Program, New Hampshire Office of State Planning

**Boston, MA, Jul-23-2002, Convene/State Representatives Panel
Invited Testimony**

Key Points:

- The challenges of the Ocean Commission will be finding the funding for new initiatives, reorganizing programs and agencies with new missions, and developing well-reasoned policies that can be embraced by a wide range of constituencies.
- It is critical, however, that people do not lose sight of the huge successes made in improving the health of our nearshore coastal waters and of the programs-Federal, state, and local-that continue to play important roles. [Further description provided.]
- One of the many areas of continuing interest to New Hampshire is that of Federal consistency.

Recommendations:

- Recognize the important future roles that existing Federal programs can play in ocean and coastal governance.
- Keep the Federal consistency process at least as strong as it is, and possibly reinforce it to make the states' role more assured than it is right now.

HARTWIG

Mr. William Hartwig, Regional Director, U.S. Fish and Wildlife Service
Chicago, IL, Sept-24-2002, Natural Resources Panel
Invited Testimony

Key Points:

- Coastal Habitat and Fish Passage-Habitat destruction is one of the most serious causes of extinction and population declines of aquatic species. Barriers impede and redirect river flows, which also prevents fish from accessing important habitat needed to spawn, survive through the early critical months of life, feed, avoid predators, grow, and mature.
- Chemical Pollution-Toxic chemicals have profoundly affected Great Lakes ecosystems. These chemicals accumulate through food webs and have affected the health of humans and animals including bald eagles, osprey, mink, and lake trout. Species like Lake Erie's blue pike is extinct, in part, as the result of pollution.
- Invasive Species-Prevention and control of invasive species continues to be a high priority of the Service. Invaders that became established have been implicated in causing population declines and habitat degradation. Up to 46 percent of the plants and animals Federally listed as Endangered have been negatively affected by invasive species. One of the most severe threats currently facing the Great Lakes is the invasion by injurious and nuisance species.

Recommendations:

- Coastal Habitat and Fish Passage:
 1. Increased protection of ecologically important areas, such as wetlands and riparian zones in the Great Lakes basin, from urban development, logging, mining, agriculture, and other uses that degrade habitat for fish and wildlife;
 2. Increasing the rate of wetland restoration in the Great Lakes and elsewhere; and
 3. Either eliminating, where possible, barriers to passage of fish and other aquatic organisms, or modifying barriers to allow passage of those organisms to their habitats.
- Chemical Pollution:
 1. Full implementation of best land use management practices in all watersheds to reduce nonpoint source chemical and nutrient pollution and minimize erosion;
 2. Sustained and increased efforts to minimize point source and air and water pollution of the Great Lakes basin and the Nation, by reviewing the protectiveness of water quality standards and revising those standards to achieve full protectiveness of aquatic and terrestrial species;
 3. Increased effort to clean up contaminated sediments in Great Lakes bays, harbors, and estuaries, especially at the 43 most highly degraded areas in the Great Lakes Basin which have been designated by the International Joint Commission as Areas of Concern, and at Superfund sites and other contaminated sites on the shoreline and in the Basin; and
 4. Closer and more timely coordination and cooperation among the various natural resource management and cleanup agencies to identify sources and effects of pollution, and achieve relevant and effective cleanups and environmental restorations.
- Aquatic Nuisance Species
 1. A mandatory ballast water management program for all ships entering U.S. ports and the Great Lakes, so that risk of species invasion via ballast water is greatly reduced;
 2. Prevention of introduction of aquatic invasive species into the U.S. via other pathways;
 3. A strengthened program for early detection and monitoring for aquatic nuisance species;
 4. Enhanced ability to rapidly respond to invading species by eradicating them before they become well established in the U.S.;
 5. Either equipping the Chicago Canal electrical barrier with a backup generator or connecting the barrier to a second power grid, which would virtually eliminate the possibility of the barrier becoming inoperable because of power loss; and
 6. Convening an International Panel of Experts to recommend the best approach to preventing the exchange of exotic organisms between the Great Lakes and Mississippi River basins, and make recommendations to Congress and the President on how to proceed.

Responses to Questions:

- Salmon are not native to Lakes and therefore hard to say if their introduction has benefit.

HASTINGS

Dr. David Hastings, Assistant Professor, Eckerd College

St. Petersburg, FL, Feb-22-2002

Public Comment

Key Points:

- Through pollution, changes in climate, coastal development, and especially overfishing, we have and are altering the ocean.
- We need a national ocean policy driven by sound science. Education and research are the backbone of sound science.

HAYES

Mr. Denis Hayes, President, The Bullitt Foundation

Seattle, WA, Jun-13-2002, Featured Speaker

Invited Testimony

Key Points:

- Issues have regional implications but are global in scope
- Get serious about saving wild marine fauna. [discussion provided]
- Sea needs wilderness areas too. [discussion provided]
- Enforce the Clean Water Act: agriculture and urban nonpoint; Wastewater treatment 301 (h) waivers are a problem [discussion provided]
- Halt abusive operations on fish farms. [discussion provided]
- Begin reversing the process of climate change. [discussion provided]

Recommendations:

- Enact Fisheries Recovery Act, HR 2570.
- Enact the Ocean Habitat Protection Act, HR 4003. [discussion provided]
- Enact new legislation creating a system of marine reserves that fully protect sample of all major ecosystems in nation's biogeographic regions. [discussion provided]
- Abolish 301 (h) waivers from CWA.
- Stop "clear cutting" the ocean floor. [discussion provided]

HAYES

Mr. Jesse Hayes, President, Hayes Oyster Company

Seattle, WA, Jun-13-2002

Public Comment

Key Points:

- Permit conditions on the draft NPDES permit (dated 22 April 2002) are inappropriate. The treatment criteria should be based on the facility's treatment of sewage wastes in addition to its treatment of industrial wastes.

Recommendations:

- Stop the illegal dumping of dairy waste into the Tillamook estuary. This waste runs through five rivers, through the bay and into the Pacific Ocean through one small bar.

HEASLEY

Mr. Nate Heasley

Charleston, SC, Jan-16-2002

Public Comment

Key Points:

- Concerned about privatization of fisheries, in particular, fishing cooperatives and potential implementation of the Individual Fishing Quota program. Both management techniques fail to fairly compensate American people for use of their resource and does not protect independent fishermen. It also places additional burdens on the taxpayers.

Seattle, WA, Jun-14-2002

Public Comment

Key Points:

- The discussion about privatizing American's fisheries disturbed me. For me, that is not an issue at all because American's fisheries are not available to be privatized. They are a resource of the American people, and they will remain that way.
- One of the detrimental effects of creating a quota system is that once it is created, especially if it is created in a way that it looks like a property right, it is gone.
- The idea that fishermen pay for all the science and the research that goes into maintaining the fishery, is a good one. One of the ways they can do that, especially in a quota system, is that they are given a guarantee of a specific amount of fish each year. You could accomplish this by imposing a fee to pay for the resource management.
- The lack of fisherman representation in these hearings is causing a skewed presentation on ITQ.

Recommendations:

- Encourage the Commission to take action as soon as you can and not necessarily wait for the final report to make recommendations on ITQs. If you wait for the final report, the debate may be over.

HEATHCOTE

Ms. Susan Heathcote, Research Director, Iowa Environmental Council

New Orleans, LA, Mar-08-2002, Pollution and Hypoxia Panel

Invited Testimony

Key Points:

- Nutrient pollution is one of the most serious water quality problems in nation and is a major threat to coastal water quality. It is the leading cause of pollution of Iowa's surface water and groundwater. Iowa has some of the most nutrient rich waters in the world with nitrogen and phosphorous. Iowa must do something about its contribution to the Dead Zone in the Gulf. Agriculture is a dominant source of water pollution in Iowa: field farms, livestock manure, intense production of corn soybean and hogs. We must move forward with funding and implementation of Action Plan agreed upon in 2000. We are encouraged by changes in the Farm Bill, particularly increased conservation funding for new Conservation Security Program.
- Adopt policies that encourage diversification of agriculture landscape. Add new crops to corn-soybean rotation, especially perennial crops like alfalfa and grass. Move away from concentration of livestock in large confinement facilities back into smaller diversified farms. There is a long-term need to completely reshape agriculture focus away from grain to wider diversity of food and fiber, including fruits and vegetables. More incentives are needed, not just subsidies for commodity crops.
- Improve farm management including applying fertilizer at correct time in the right amounts. All farms should be required to develop nutrient management plans with nitrogen and phosphorous budgets for inputs and outputs and accounting of all nutrient losses. Provide incentives for demonstrated efficiency in nutrient utilization through record keeping and monitoring of air and water. Natural wetland and riparian filters are needed to reduce nitrogen pollution.
- If we don't solve water quality problems in Iowa and the upper Midwest, we're not going to have an effect on hypoxia. Adaptive management approach is the best way. We need a different direction, not just implementing what is already on the books. We need to really examine agriculture policy. Reducing yield by limiting nitrogen application is complicated by real economics of crops. The whole infrastructure is geared toward commodity crop production.
- The answer to lowering concentration of livestock and diversifying farming is not really the size of operation but the concentration of animals on the land. We need better manure management and reuse. Attitude of farming community is changing. There is more effort toward solving nutrient problem and more discussion about hypoxia. Networks are forming like Clean Water Network which includes agriculture groups.

HELVARG

Mr. David Helvarg

Washington, D.C., Nov-13-2001

Public Comment

Key Points:

- Stratton Commission occurred at the time of the last great wave of public interest in the oceans.
- Everyone is a stakeholder in this new opportunity.
- Create a vision for which people are ready by placing all marine agencies together. Create independent agencies that can connect people to the coast.

HERRMANN

**Mr. Adelheid Herrmann, Native American Fish and Wildlife Society
Anchorage, AK, Aug-22-2002
Public Comment**

Key Points:

- Those most dependent on a resource should be involved in the public policy process that addresses those management issues. Grassroots stakeholders should be included in the process at the highest levels.
- The tribes in Alaska are very concerned about their environment, their resources, and the health of their people.
- Environmental regulations are necessary but they are a financial burden. Financial resources are needed to help our communities to build the infrastructure to allow them to live in a healthy environment.
- Policy can be set at many levels (local, regional, state, Federal, and international). But compliance to policy is another issue.

Recommendations:

- Develop policies in ways that inclusive of local stakeholders, keeping in mind the grassroots people who are going to have to live with those policies.
- Produce a straight forward explanation of how the tribes and rural residents can use the policies for their own benefit.
- Policies should always have an implementation plan that states who is responsible for implementation and what resources (and from where) will be needed to implement actions.

HIGGINSON

**Mr. Charles Higginson, Council on Ocean Law
Washington, DC, Sept-18-2001
Public Comment**

Key Points:

- I suggest that you consider having a meeting with the U.N. or you may write to the director of the Sea Office in New York to ask him for comments. I also recommend to you the Secretary General's report to the General Assembly on the status of ocean issues globally which he is preparing and will be available shortly from the agenda item of this year's General Assembly.
- Our final point is laying great stress on the environment. I think it's very important to bring the fishermen of the U.S. into this Commission's report and make them feel that it is in their interest to cooperate and to suggest ideas on how best to go forward.

**Boston, MA, Jul-24-2002
Public Comment**

Key Points:

- The Environmental Committee of the Cruising Club of America has done research and funded experiments in waste systems for yachts so that with our new processes, the wastewater can be clean enough to meet environmental concerns.
- It does not make sense to us that regardless of how clean our wastewater is, discharge from yachts will not be allowed.
- Yachtmen do not use their pump-out stations, because they are not pleasant. If more technology would be fostered to clean our wastewater in yachts, it would be a productive and useful approach to this problem. The industry, however, has not been interested because of the number of areas that have no discharge.

Recommendations:

- Set or consider having the Federal government set national standards for the release of wastewater from yachts and to apply those standards rather than just a straight no-discharge zones.

HILBORN

**Dr. Ray Hilborn, School of Aquatic and Fishery Services, University of Washington
Seattle, WA, Jun-14-2002, Science and Policy Interface in Fisheries Management Panel
Invited Testimony**

Key Points:

- Research in U.S. fisheries management is dominantly an applied problem directed to producing better outcomes from our fisheries management.
- Within the U.S. the dominant funding source for fisheries management research is NMFS through Congress, with States making important contributions. There is little real planning involved in data collection programs, but rather the politics of the moment.

- The funding situation in the U.S. is similar to other countries, but differs radically from many of the more progressive countries where fishery managers and industry representatives determine research expenditures on a fishery-by-fishery basis, and most of the costs are recovered from the commercial industry.
- In the U.S. almost all science is done by NMNFS and the States. There is a growing trend towards cooperative industry/government data collection programs and for a few fisheries consultants working for the industry to participate in the stock assessment process.
- The major problem in U.S. fisheries management is that we generally think that regulating catch levels IS fisheries management. Fisheries management also involves determining who is allowed to fish, and allocating the catch among users.
- All parties involved in fisheries management, including commercial fishermen and conservation oriented NGOs, want the same thing-sustained marine ecosystems.

Recommendations:

- The Commission recognize that fisheries management is much more than setting catch levels; provide for a method other than councils to make allocation decisions and find a way to break the “race for fish”.
- The Commission should recognize that if the U.S. fisheries are profitable, then the fishing industry could pay for research and management costs.
- Let local fishery managers, scientists, industry and councils make the decisions about what research programs to conduct.

Responses to Questions:

- One of the mistakes we have made is that it doesn't have to be all or none. You could retain forty percent of the quota in public ownership on an annual basis. You could grant part of that to the processors, fifty percent to the harvesters, and retain forty percent to the public. It doesn't have to be all or none.
- It is clearly a social choice to determine who is allowed to fish and allocating the catch amount for users. There is a lot of science to determine which aspects of the system work and which do not.
- The five to ten percent estimate given for budget recovery for research and management of fisheries, is a rough estimate of how much of the landed value goes into the expenses for research, management, enforcement within Australia and New Zealand that is recovered on a fishery by fishery basis. We should move in this direction-we must have profitable fisheries in order to do that.

HILL

Mr. Thomas Hill, Chairman, New England Fishery Management Council

Boston, MA, Jul-24-2002, Marine Industry Panel

Invited Testimony

Key Points:

- It is widely known that New England groundfish stocks were declining precipitously prior to 1994. Today NMFS assessments of those same stocks show biomass levels for 12 groundfish stocks, collectively, have more than doubled since then.
- Council management actions have accounted for significant reductions in fishing effort since the mid-90s through limits on the numbers of days available to fish, the use of closed areas, trip limits and gear restrictions.
- Trawl vessels in our region use the largest mesh in the world to reduce catches of juvenile fish.
- An eight-inch twine top requirement, implemented several years ago on all scallop dredges, has reduced the bycatch of groundfish during scallop fishing.
- The Council also has been on the cutting edge of seeking new and better avenues to integrate management information needs with research efforts and to foster the participation of fishermen in collaborative fisheries science.
- The Northeast Fisheries Science Center is an extremely well respected institution that produces high quality information that has stood the test of peer review time and again. However, the Center does not have adequate funding to meet the existing mandates of the Sustainable Fisheries Act.

Recommendations:

- Maintain the regional organization of fisheries management and science. The character of our fisheries can only be maintained through local governance and the complex problems will be addressed most effectively by using the knowledge and information of fishermen who have chosen to participate in the process.
- The Council's job would be more straightforward, and the industry and public would be better served, if Congress would allow the Council to make value judgments as to which standards might be optimized in a given management action. This was the originally intended purpose of the Magnuson-Stevens Act-regional Councils making regional judgments in developing fishery management plans.
- Develop a more simplified process to accomplish meeting environmental standards, promoting transparency, and providing for full public participation. A legislative solution will fully resolve this issue.
- Appointments to Councils should be made on the basis of a person's knowledge of the broad range of issues that now constitutes fisheries management, in addition to safeguarding the interests of fishing ports and gear types.

- Councils should be allowed more flexible rebuilding timeframes in light of new and improved scientific information.
- Urge the adoption of proper safeguards, tools, and funding, as well as the flexibility to accomplish the task of proposing a number of remedies, on a regional basis.

Responses to Questions:

- Conservation engineering is going on all the time and bottom-trawling impacts and gear impacts is a subject matter that is being addressed, but it is not addressed in a comprehensive enough manner. A major theme for NOAA might be conservation engineering work.
- There are inherent value judgments, which is why it is important to emphasize the quality and caliber of council people that are making those judgments. Non-scientists on the councils may not be qualified to make value judgments on the science. They are working with a lot of technical information and it is difficult to find people who assess policy and science, both.
- Some people believe a number should be chosen and people should live by it—that it's a physical responsibility to a population of fish, if fish are our primary responsibility. There are a number of people who believe that our decisions should be modified based on impacts to communities and on practicality.

HIMES

Ms. Amber Himes, Orca Relief Citizen's Alliance

Seattle, WA, Jun-13-2002

Public Comment

Key Points:

- There are only 78 killer whales left in the Puget Sound ecosystem. The three factors which contribute to the decline are the presence of toxins in our waters such as PCBs, the decrease in available prey, and the increase in the number of whale watching boats. Of these factors, the first two are issues that need to be addressed over the long term. Whale watching is something that can be addressed now.
- We must do something now in order to decrease the stress put on these animals.

Recommendations:

- Drastic measures must be taken immediately in order to secure the survival of the few killer whales we have left.
- Need new whale watching guidelines.

HINKEY

Dr. Lynne Hinkey, NOAA Coastal Services Center

Charleston, SC, Jan-16-2002

Public Comment

Key Points:

- Need minority role models in communities and in mentoring positions to encourage minority students to enter these fields.
- Hiring by federal agencies will not solve the problem.

Recommendations:

- Consider mechanisms to reverse current approach to getting minorities into marine fields and replace it with bottom-up recruiting approach: fellowships, partnerships, and funding for competitive salaries at the Marine Science Institute and in local and state resource agencies. Federal positions are essential to keeping minority marine scientists or managers in the community as role models, rather than just listing them in Silver Spring statistics.

HIRSHON

Mr. Robert E. Hirshon, President, American Bar Association

Washington, DC, Nov-13-2001, Ocean Research, Education, and Policy Organizations Panel

Invited Speaker

Key Points:

- United Nations Convention on the Law of the Sea (UNCLOS) codifies rules with respect to freedom of navigation and overflight; defines limits of, and resource specific nature of, coastal state jurisdiction in an economic zone beyond the 12-mile territorial sea.

Recommendations:

- Support early action by Senate to approve the UNCLOS.

Responses to Questions:

- A clear and unequivocal statement supporting ratification of UNCLOS to Administration and Congress would be an important step.
- Administration does not need to resubmit UNCLOS.

HOGARTH

Dr. William Hogarth, Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration

**Charleston, SC, Jan-15-2002, Management of Living Marine Resources Panel
Invited Testimony**

Key Points:

- Multiple mandates have become unwieldy. The agency has been subjected to litigation. These mandates are not responsive to current state of fisheries, and current funding is inadequate.
- Enforcement is a key element of management system. Cooperative programs with Coast Guard and states are working well.
- While National Oceanic and Atmospheric Administration (NOAA) supports quality research, (e.g., monitoring, assessments, strategic research) it is under-funded.

Recommendations:

- The long and cumbersome National Environmental Policy Act (NEPA) process must be examined.

Responses to Questions:

- The responses to questions contained discussion and information that address the following issues:
 1. Suggestions for streamlining efforts of fishery management councils, and changes underway at National Marine Fisheries Service (NMFS) to streamline national security concerns were discussed.
 2. A comprehensive summary of stock assessments by region was discussed.
 3. Science has not been the basis of many responses. Address science voids in fisheries management
- Where investments are required in fisheries management and how a state's share is determined were issues that were discussed.
- Essential Fish Habitat (EFH) cannot be separated from fisheries management.
- Recommendations on science funding—where “best science available” is not sufficient.
- A plan under National Environmental Policy Act (NEPA) can take two years, and by then stocks have changed.

Los Angeles, CA, Apr-19-2002, Marine Protected Area Panel

Invited Testimony

Key Points:

- Confusion and tension over Marine Protected Areas (MPAs) come from:
 1. Continuing uncertainty on the terminology used to define an MPA or what activities will be prohibited if an MPA is established.
 2. Mistaken belief that there is some specific percentage of the marine environment targeted to be set aside from all use.
- What are MPAs and how they are used?
 1. The term is broadly used to describe specific marine areas given some sort of special protection. There are many types of MPAs and management practices. MPAs can offer both short and long-term protection.
 2. If established, MPAs must include enforcement of any conservation measures that have been enacted and the monitoring of effectiveness to verify that the site is fulfilling goals for which it was created.
 3. MPAs are most effective when used in conjunction with other management measures and are difficult to develop in isolation.
- Maximum stakeholder participation is an overarching need through all phases of MPAs.
- National Oceanic and Atmospheric Administration (NOAA) FY 2002 budget contained \$3 million to help implement the Executive Order, the same level of funding requested by the President for FY 2003.
- Executive order 13158.

Recommendations:

- MPA needs definition. There should be some sort of a mandate for various kinds of MPAs.
- Consider ways to better integrate MPAs with other existing approaches for the conservation of marine resources.
- MPA Advisory Committee is close to starting work.

HOLLINGS

**The Honorable Fritz Hollings, United States Senate
Washington, DC, Nov-13-2001, Senate Members Panel
Invited Testimony**

Key Points:

- With respect to fisheries, 56 different species are overfished. Many problems exist with ocean management. The key is to educate the public.
- It is difficult to focus laws on ocean issues. It took four years to get this Commission approved through the Oceans Act. It was opposed by the oil industry, the Defense Department, and the State Department.

Charleston, SC, Jan-15-2002, Official Welcome Panel

Invited Testimony

Key Points:

- About 20 years ago, we began to have troubles. The Oceans and Atmospheric Subcommittee and the National Ocean Policy Study were abolished.
- It took four years to get the Oceans Act of 2000 passed.

HOPKINS

**Mr. Doug Hopkins, Oceans Program Manager, Environmental Defense
Washington, DC, Nov-13-2001, Conservation Organizations Panel
Invited Testimony**

Key Points:

- Environmental impacts must be considered and minimized in context of all issues: research, education, marine operations, governance, stewardship, investment, and development. Economic benefits will only flow if conservation and sustainable use become high priorities for all agencies.
- Highest priorities include ending overfishing; rebuilding overfished stocks; and reducing nonpoint pollution.
- It is questionable whether National Marine Fisheries Services' (NMFS) mission and institutional structure align with sustainable fisheries and ecosystem protection.
- Councils often settle for lowest common denominator for consensus.
- Marine reserves are tools to protect ecosystems and to stimulate productive fish and shellfish populations.

Recommendations:

- Review Magnuson-Stevens Fishery Conservation and Management Act and Sustainable Fisheries Act (M-S Act) implementation by NMFS. Redesign fisheries management (policies for cooperatives and community-based management systems).
- Reduce nonpoint pollution; implement strong nutrient standards, coupled with market-based incentives for compliance (i.e., small-scale nutrient stripping wastewater treatment technologies).
- Reduce plastic and other marine debris. Reduce potential for bio-invasion of exotic species.
- Aquaculture industry must be sustainable with technology: forcing regulation, standards, and incentives.
- Support Outer Continental Shelf (OCS) moratorium and presidential deferrals within Alaskan waters. Cleanup is infeasible.
- Prioritize federal research and development to facilitate large scale skimming vessels with greater recovery and storage capacity in broader range of sea conditions.

Responses to Questions:

- Concerns surrounding congressional moratoriums are the greatest obstacles for establishing new Individual Fishing Quotas (IFQs). The moratorium should be replaced with national guidelines for IFQs. More than 60 IFQs exist in over 15 countries.
- It is not necessary to pursue "all or nothing" extractive approach for marine environment.
- Too much responsibility has been delegated for setting limits. Instead, limits must be set scientifically, with the help of Fisheries Management Councils (FMC).
- Sustainable economic development and stimulus for coastal communities depends on:
 - Improving rigor of National Environmental Policy Act's (NEPA) environmental assessments.
 - Developing market-based incentives to encourage sustainable development.

Documents Recommended:

- "Sharing the Fish: Toward a National Policy on Individual Fishing Quotas" National Academy of Sciences (NAS) 1999.

HOWTON

**Mr. Chuck Howton, General Services Administration, Committee Management Secretariat
Washington, DC Sept-17-2001
Invited Testimony**

Key Points:

- At any one time in the U.S., there are about a thousand commissions in addition to this one. Those commissions represent more than 50,000 American citizens and conduct more than six thousand meetings. One of the roles of our office at GSA is to provide that information to the public on an annualized basis through an electronic database.
- Congress, when it enacted the enabling statute for the Commission, incorporated the centerpiece of the Federal Advisory Committee Act, and that is the part that governs the meeting process and recordkeeping.

HUSICK

**Mr. Chuck Husick, Boat U.S. Advisory Council
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Deeply concerned about state of the ocean environment.
- EPA is unwilling to use best available science in their deliberations.
- EPAs proposal to establish a no-discharge zone for Florida Keys would prohibit the use of available technology for treating waste on recreational and other vessels.

Recommendations:

- Need help to enlighten EPA regarding passing law that will certify and regulate a new device whose performance is far superior to anything on the market today. Existing law refuses to recognize technology improvements.

HUTCHINS

**Mr. Harry Hutchins, Executive Director, Puget Sound Steamship Operators Association
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- The Puget Sound Steamship Operators Association (PSSOA) encourages sustained maritime trade in concert with the modern principles of environmental stewardship and works to eliminate factors that unreasonably increase the cost and complexity of doing business in Washington State ports.
- The PSSOA and other industry groups have attempted to push the safety envelope as far as possible without unbalancing the equilibrium existing between the Puget Sound trade region and its most ardent competitor in Canada and the province of British Columbia.
- An issue that has not been addressed adequately is the pressing need for consistency of regulation along the coast and throughout the nation.

Recommendations:

- PSSOA recommends the Commission recognize the region's accomplishments and trade competitiveness sensitivity. In formulating your plans and recommendations, we encourage you to complement the efforts of PSSOA and share their sensitivities.
- The PSSOA urges the Commission to formulate your recommendations so that all regulations apply consistently throughout the nation.

HYKES-STEERE

**Ms. Victoria Hykes-Steere, Inupiat from Unalakleet
Anchorage, AK, Aug-22-2002
Public Comment**

Key Points:

- Attended law school to study in the school of marine affairs.
- Our Alaskan villages depend on fish, wildlife and gathering for a majority of the food put on the table and to continue a relationship with the land and sea begun thousands of years ago.
- Claims are made that Alaska's fishing industry is the best managed fishery in the world. This is not true.
- Hatchery salmon from Japan, Russia, and Alaska are depleting the carrying capacity of the sea. They are larger than wild stock and are better able to compete for food.

Recommendations:

- The choices the Commission makes have the power to destroy our world. It is not a legal issue, but a moral issue.
 - To protect the wild salmon stocks and keep our communities economically viable and off welfare, hatcheries that release salmon into the Bering Sea should be shut down.
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I

INSLEE

The Honorable Jay Inslee, Washington State Representative

Seattle, WA, Jun-14-2002

Public Comment

Key Points:

- I am convinced that unless this nation leads the world in a realistic, progressive, and common sense response to global warming, all of the crumbs that the various industries that are now dealing with arguing from the biosphere involved in the oceans will be that.
 - Last week the White House issued a report under the White House auspices, which found global warming to be significantly caused by human activity and that it will have very serious impacts on America continentally.
 - While the federal government reached this conclusion that we have a massive change in our climactic system that we are causing, the executive branch of the U.S. government has decided that the response will be one of adaptation rather than confrontation.
 - This is a policy of failure when it comes to the management of the ocean's resources, and this has the capacity to dramatically change the role of the oceans.
-

J

JACKALONE

Mr. Jack Jackalone, Senior Regional Representative, Sierra Club

St. Petersburg, FL, Feb-22-2002, Economic Development Panel

Invited Testimony

Key Points:

- Ecological effects of offshore drilling in the Gulf of Mexico on Florida's economy were discussed.
- Do not tamper with federal consistency.
- Chevron's track record of drilling at Destin Dome includes oil spills, offshore drilling pollution, and illegal water pollution.
- The only route to national security through energy independence is breaking fossil fuel industry's hold on renewable energy research and making use of available sources of nonpolluting, decentralized natural energy.

JAFFE

Ms. Mindy Jaffe, State Representative, Hawaii Legislature

Honolulu, HI, May-14-2002

Public Comment

Key Points:

- Concerned about possible reopening of lobster fisheries, coral reefs and coral reef fisheries of Northwestern Hawaiian Islands. Understand that is not true.
- WESTPAC Regional Fisheries Management Council is a big problem-the 800-pound gorilla.
- Letter written to Bush Administration requesting reversing of E.O. for protecting Northwestern Hawaiian Islands was based on incomplete information and new letter was sent to Commerce Secretary endorsing E.O. [discussion provided]

Recommendations:

- Would like to see Northwestern Hawaiian Islands E.O stand.

JASNY

**Mr. Michael Jasny, Senior Policy Analyst, Natural Resources Defense Council
Los Angeles, CA, Apr-18-2002
Public Comment**

Key Points:

- The focus has been on “direct take” and “incidental take” of marine mammals but now there is new awareness of other types of impacts.
- A key element to any solution is developing a comprehensive, integrated system to monitor key elements of ecosystem health. National Ocean Partnership Program’s Integrated Ocean Observing System is a good start.
- Develop new regulatory structures and enforcement mechanisms to reduce pervasive impacts on marine mammals; ones focused on habitat protection and on specific impacts rather than individual sources.
- Fisheries management must move away from single species; non-consumptive uses of the ocean must be recognized; development of MPAs encouraged; and coordinated national policy for protection and restoration of ocean ecosystems
- Develop a national policy to protect and restore marine ecosystems; the systems of which living marine resources are apart of have not focused on sustaining efforts to protect in the oceans.

JENNINGS

**Mr. Jeff Jennings, Mayor Pro Tem, City of Malibu
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- Unenforceable regulations should not be put into place.
- Malibu has a very aggressive clean water program.
- The relationship between state, federal, and local programs.
- Local efforts are essential to fulfilling goals in any national and state efforts; the temptation is to put in more regulations when some are working well-this produces resistance.
- Flexibility, education, encouragement, rewards, and site specificity are all important for a regulatory program to work.

JIMENEZ

**Ms. Marcia Jimenez, Commissioner, City of Chicago Department of the Environment
Chicago, IL, Sept-24-2002, Official Welcome Panel
Invited Testimony**

Key Points:

- Lake Michigan provides countless recreational options, and supports research and education that benefits millions.
- What is absent is a long term plan for restoring and protecting this great natural treasure - a system wide plan that will address key issues associated with the Great Lakes such as international shipping that has brought in many invasive species, the value of the drinking water supply to those within and without the Great Lakes basin, drilling in the lakes, toxic sediment cleanup and much more.
- We must manage the resource of the Great Lakes for our collective use and for the future. Municipalities are on the front lines of management, as we care for the shores of the lakes and safeguard most of the interactions between people and the water.
- Controlling invasive species is a critical example, and one for which the federal government’s leadership and cooperation is essential. Non-native nuisance species can permanently and tragically alter the ecosystem, with devastating effects on commerce and recreation, and on the regional economy.

Recommendations:

- The City of Chicago, and other cities and rural areas around the Great Lakes, need federal support for the development of a Great Lakes protection and restoration plan.
- We must all protect the recreational and economic value of our beaches. Chicago tests daily the levels of e. coli bacteria at each of the city’s beaches to make sure they are safe for public use.
- Federal policy must above all seek to protect the Great Lakes, for all they mean to us as a natural environment, an economic resource and a cornerstone of our shared culture and identity. Clearly we must clean up pollution that has been introduced to the Lakes and prevent further degradation.
- Inspections of large ships coming into the lakes and enforcement must be enhanced and funded. I urge you also on a federal level to consider policies to prevent the introduction of invasive species through the ballast water of ships entering US ports, particularly fresh water ports such as the Great Lakes.
- Part of a funded strategy for protecting and restoring the Great Lakes would almost certainly include the infrastructure investments cities need to make.

- Finally, I believe it is imperative for Mayors and other local government officials to have ongoing and meaningful opportunities to influence the development and implementation of the policies you have been charged with reviewing.

Responses to Questions:

- Important issues include: importance of beaches to economy, keeping beaches open, water quality and Federal support for upgrades, repair and replacement of water and sewer infrastructure.
- There needs to be a body for enforcement of ballast water controls on ships in Great Lakes.
- Mayors and municipalities should have an equal voice and vote in what and how the Great Lakes are managed.

JOHNS

Mr. Timothy Johns, Chief Operating Officer, Estate of Samuel Mills Damon

Honolulu, HI, May-14-2002, Ocean Use and Management

Invited Testimony

Key Points:

- Topics of discussion included the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve's impetus and rationale; legal mandates; goals of the protected areas; stakeholder investment; reserve choice; and current status and timetable.

JOHNSON

Mr. Charles Johnson, Executive Director, Alaska Nanuuq Commission

Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources II Panel

Invited Testimony

Key Points:

- To Alaska natives, subsistence is the most important issue after self determination. Subsistence is not sport. Subsistence is what provides for our cultural, spiritual, and nutritional health. It gives you a perspective that you are part and parcel of the ecosystem, that you are participating in the events of nature.
- Co-management started in Alaska in 1977 when NOAA signed a co-management agreement with the Alaska Eskimo Whaling Commission (AEWC). The 1970 Endangered Species Act had classified the bowhead whale as endangered with as few as 700 animals. The classification meant the subsistence harvest had to be regulated. The whaling captains, who formed the AEWC claimed that there were more than 10 times that number. They stated that most of the whales, which were only being counted in open leads, were being missed and were passing under the ice.
- The agreement between the AEWC and NOAA has been a tremendous success because:
 1. The whaling captains were willing to share their knowledge
 2. NOAA was willing to consider this traditional knowledge
 3. The whaling captains were willing to accept quotas and had the resolve to strictly enforce these quotas on themselves
 4. NOAA was willing to allow AEWC to participate and manage the subsistence harvest.
- In 1994 the Alaska Nanuuq Commission formed to participate in the negotiation of a polar bear treaty between the U.S. and Russia. There are now Alaska Native Marine Mammal Commissions for most species of marine mammals that are used for subsistence. [discussion provided].
- Co-management has proven to be very beneficial, not only for the species, but also to the management agencies. [discussion provided]

Responses to Questions:

- On some of the Councils there are representatives from areas that are not on the ocean or don't have species. That is the biggest problem with the International Whaling Commission (IWC). For example, why is Switzerland on there? What do they have to do with whales? But, the IWC did some good work. The whaling captains and NOAA showed IWC the fact that the whales were actually blowing through the ice and not avoiding the ice and it convinced the IWC that in fact there were more whales than was needed.
- The unique treaty between the U.S. and Russia involved the native representatives from both countries. When the Russian Ambassador signed the treaty in Washington in October 2000, he noted that it was the most democratic treaty that Russia had ever signed and for the first time Native peoples of Russia were involved in management. We can provide, along with the Alaska Eskimo Whaling Commission, some strong examples of how we can manage shared species, like the U.S. and Russia did. We have some cooperative agreements working with the Native peoples of Chukotka, particularly on whales and walruses. We can apply this to other species as well.
- Yes, the U.S. & Russia polar bear treaty was at the very highest level of the two governments. The Department of State and the U.S. Fish and Wildlife were involved on the Alaska side and the foreign ministry and the Administrator of Natural Resources on the Russian side. [discussion provided]

- The problems with putting whales and seals at the NMFS, and walruses and polar bears at Fish and Wildlife is that in the NMFS is such a small user group. They are often responding to crisis situations like the whales on the east coast, for example. They don't have the time to really get involved in co-management because of their continuous crises mode. If they were unified, they should go in U.S. Fish and Wildlife because they have been more responsive. But, maybe we need to leave some of the species with the NMFS, like whales or others, and transfer those species that are involved in subsistence in Alaska to U.S. Fish and Wildlife.

JOHNSON

Dr. Thomas Johnson, Director, Large Lakes Observatory, University of Minnesota

Chicago, IL, Sept-24-2002, Natural Resources Panel

Invited Testimony

Key Points:

- Basic research on the large lakes of the world lags far behind similar research on the oceans.
- Basic research on the world's large lakes provides more than the wonder of discovery, however; it serves as the basis for assessing human impact on large-lake ecosystems, and for developing sound policy for managing and protecting these invaluable bodies of fresh water as our global environment evolves.
- There appears to be a major mismatch between the importance of the nation's freshwater inland seas and the level of support they are receiving from NSF. The current level of NSF funding for basic research on them is extremely low, typically less than 1% of what is spent on ocean sciences in any given year.

Recommendations:

- The large lakes community needs sustained funding for: investigator-driven, individual research projects on the biology, chemistry, geology and physics of large lakes; multi-investigator, large research initiatives, some involving sustained (multi-year) time-series measurements of key environmental parameters; research vessel operations; new instrumentation, including "ocean" observatories and autonomous under-water vehicles; fellowship support for graduate students who will comprise the next generation of scientists and government managers of large lakes ecosystems.
- Establish a separate budget of \$10M per year in the Geosciences Directorate at NSF for large lakes research.

Responses to Questions:

- July science workshop report will outline how \$10 million per year should be spent in the NSF budget.

JOHNSTON

Ms. Judith Johnston, Lake Michigan Interleague Group

Chicago, IL, Sept-25-2002

Public Comment

Key Points:

- Public Education - When people become aware of the effects their actions have on the waters of the world, they may be more likely to make land and water management decisions that are beneficial to those waters.

Recommendations:

- Government and Scientific Communication - The increasing number of government agencies overseeing land and water management use has hampered effective decision-making. We urge coordination of functions -- a clearing-house where federal, state and local programs can be developed and the elimination of overlapping functions. Scientific research is often impaired by inadequate interdisciplinary communication.

JONES

Mr. Marc Jones, Alaska Fisheries Development Foundation

Anchorage, AK, Aug-22-2002

Public Comment

Key Points:

- The Alaska Fisheries Development Foundation (AFDF) is a private, nonprofit organization chartered to assist the goals of the Magnuson-Stevens Act through working to fully develop the economic potential of sustainable Alaska fisheries.
- It is often assumed that Alaska's fisheries are fully developed. This is not true. AFDF recently made a list of over forty species that have harvest potential, but that are currently not harvested. AFDF is currently working to develop three of these stocks.
- Responsible, on-going fisheries development must remain a goal of U.S. ocean policy.

Recommendations:

- Oceans policy must provide the freedom and support necessary to solve problems and encourage development of underutilized stocks. It must be recognized that the ocean environment changes and so do the fish stocks within it. Policy and regulation must be flexible enough to allow reaction to new situations.
- Oceans policy must also consider that increasingly the oceans will be looked at as the source for meeting the food supplies of an ever-expanding global population.

JOYCE

Dr. Terrence Joyce, Senior Scientist, Woods Hole Oceanographic Institution

Chicago, IL, Sept-25-2002, Climate Prediction Panel

Invited Testimony

Key Points:

- Our ideas about “climate” have been changing, in part due to the recent success in prediction of El Niño in the Equatorial Pacific Ocean.
- Thinking is centered around slow changes to our climate and how they will affect humans and the habitability of our planet. Yet this thinking is flawed: it ignores the well-established fact that Earth's climate has changed rapidly in the past and could change rapidly in the future.
- Presently, there is only one viable mechanism identified that may play a major role in determining the stable states of our climate and what causes transitions between them: it involves ocean dynamics.
- Evidence and processes of abrupt climate change related to the oceans is discussed in detail.
- Global climate is moving in a direction that makes abrupt climate change more probable, that these dynamics lie beyond the capability of many of the models used in IPCC reports, and the consequences of ignoring this may be large.

Responses to Questions:

- Should not just restore the observational system we used to have because we figured out how to do things better.

JUMARS

Mr. Peter Jumars, Faculty Member, School of Marine Sciences and the Darling Marine Center of the University of Maine and the American Society of Limnology and Oceanography

Boston, MA, Jul-24-2002

Public Comment

Key Points:

- Limnology is the study of inland waters. This would not appear to be appropriate to the subject of ocean policy but it is.
- A problem related to ocean observing systems transcends those very high technology observing systems. All of our members are acquiring data at unprecedented rates and the data stream is coming in at a much more rapid rate than it can be turned into useful information.
- Water exchanges with the ocean through groundwater on land. It exchanges through rivers. Ammonia comes into the coastal ocean from things like hog feed lots and fixed nitrogen comes through the atmosphere from rain deposition of ammonia. There are many examples of connections.
- Our members observe that more and more of marine science funding is being oriented in a top-down fashion with very complicated strict rules for what must be in a proposal.
- The coordination of ecosystem and fisheries research is not well integrated either culturally or structurally.

K

KATSOUROS

Ms. Mary Hope Katsouros, Senior Vice President, The H. John Heinz III Center

Charleston, SC, Jan-15-2002, Management of Living Marine Resources Panel

Invited Testimony

Key Points:

- The H. John Heinz III Center, in conjunction with National Marine Fisheries Service (NMFS), is organizing dialogue on marine fisheries to continue stakeholder involvement in considering policy options.

- Critics say the council process has become overtly political in their appointments and deliberations.
- Politicalization has eroded balances between national policy and local concerns, and between and among user groups, and between congressional oversight and executive action.
- Administrative rulemaking is highly structured and an insider's game.
- Critics argue that Congress has exercised too much oversight through regulatory intervention, special legislation, line item appropriations, and budget language.
- Fishery governance is complex and often a confusing mix of local, state, regional, and federal authorities.

Recommendations:

- Create a single agency-National Marines Fisheries Service. Such an agency does not necessarily need to be moved from the Department of Commerce. Rather, provide the agency the tools that are needed to operate affectively.
- Strengthen scientific basis of fisheries management and credibility of fishery science among stakeholders: improve stock assessments, enhance social science research, improve and expand data collection programs, re-examine research priorities, and improve communication of scientific information to stakeholders.
- Develop ocean observing system.
- A dedicated workforce and the right tools are needed (i.e., research vessels).

Responses to Questions:

- NMFS needs to be modernized.
- Look at programs already underway for monitoring and observing.
- Make councils multi-use; they could think about oceans as system.

KEARNEY

Mr. Chris Kearney, Deputy Assistant Secretary for Policy and International Affairs, U.S. Department of the Interior

**Washington, D.C., Nov-14-2001, Federal Agencies Panel
Invited Testimony**

Key Points:

- A key challenge facing the Department of Interior (DOI) is the need to balance protecting coastal and marine environments; providing recreational opportunities in those environments; and meeting the needs of the American public for food, energy, and mineral resources.

Recommendations:

- Examine Coastal Zone Management Act (CZMA) regulations for projects on-and-offshore.
- Examine the overlapping federal jurisdiction over marine resources, uncertainty, and inconsistencies.

**Los Angeles, CA, Apr-19-2002, Coastal and Outer Continental Shelf Management Panel
Invited Testimony**

Key Points:

- California Outer Continental Shelf (OCS) Management made a significant contribution to the nation's energy supply.
- Coordination does not require centralization or a single agency to address coastal or ocean related issues. Cooperation among agencies can take many forms. Governing institutions should facilitate opportunities to customize to particular circumstances. Performance measures are important. Adaptive solutions are needed to tie in performance measures and address coastal and ocean issues.

KEELEY

**Dr. David Keeley, State Planner, Maine State Planning Office
Boston, MA, Jul-23-2002, Ocean Observing and Prediction Panel
Invited Testimony**

Key Points:

- Long-term continuous trend data about the health and status of shoreline resources are essential ingredients to these decisions.

Recommendations:

- Engage CZM programs in the design and implementation of a national ocean observing system that meets coastal managers needs. This will require national legislation that establishes an ocean observing system.
- Make local, state, and regional investments in ocean observing. Federal funding should be used to leverage the investment of state resources in a national ocean observing system.

- Synthesize data into useful products. Ocean observing and prediction systems should be tasked with generating data and products for the primary purpose of making data products: national legislation that established an ocean observing system should authorize annual funding levels that provide significant resources, in a separate line item, for data synthesize and product development.
- Build state capacity. The Federal-state partnership that is required to make a national ocean observing system functional and useful will require an ongoing shared investment in building and maintaining local and state user capacity. National legislation that establishes an ocean observing system should contain statutory and authorization language that leverages and supports state efforts to use the intended data and products.

Responses to Questions:

- Balance must be achieved. There are great efficiencies in having the Coastal Services Center create a set of maps nationwide and we're looking for Federal agencies to work the data into a format that is useful on a national basis. There is still clearly a need to build the capacity at the state level so they can issue better water quality permits or help the aquaculture industry.

KEENER-CHAVIS

Ms. Paula Keener-Chavis, Director, Charleston County Math and Science Hub

Charleston, SC, Jan-15-2002, Education Panel

Invited Testimony

Key Points:

- Description included the objectives and recommended program elements of "Discovering Earth's Final Frontier: A U.S. Strategy for Ocean Exploration."
- Perceptions, misconceptions, and a general lack of understanding exists between the scientific and education communities. Inconsistencies and differences exist between what teachers "do" in classroom, and what scientists "do" as scientific researchers in the laboratory or field.
- A lack of action has resulted in missed opportunities for program collaboration among scientists and educators. Likewise, a lack of educational product development based on exciting ocean science; a general lack of information dissemination; lost opportunities to leverage funding; ineffective efforts to recruit educators, scientists, students all contribute to the current state of science education.
- The National Oceanic and Atmospheric Administration's Ocean Exploration Program presents an unprecedented opportunity.
- National Science Foundation is creating a Centers for Ocean Science Education Excellence (COSEE) to enhance ocean learning opportunities for all ages and networking between oceanographic researchers and educators. The National Marine Educators Association is another vehicle for cooperation.
- The BRIDGE website provides educators with free, fast, and convenient access to accurate, peer-reviewed materials and information.

Responses to Questions:

- The challenges to education-to-science initiatives are adequate and sustain funding, as well as stakeholder participation.
- It all begins with educating people about the influence oceans have on their everyday lives. There is a need to educate the older generation as well as the young.

Documents Recommended:

- "The Role of Scientists in the Professional Development of Educators" NRC 1996
- "The Journal of Marine Education" Vol. 17 2001

KEENEY, D.

Dr. Dennis Keeney, Senior Fellow, Institute of Agriculture and Trade Policy

Chicago, IL, Sept-24-2002, Non-point Source Pollution Panel

Invited Testimony

Key Points:

- The realization that nonpoint sources of nutrients, specifically nitrogen (N) and phosphorus (P) from agricultural lands represent a significant water quality issue is relatively recent.
- Policy and agricultural technology has not kept pace with the science of water quality. Agricultural lands are not managed in general to reduce nonpoint nutrient sources, and there are few if any rewards and incentives for doing so. Farm policy rather has continued to emphasize and reward production, especially of row crops, which are by far the largest contributors of nutrients.
- The farming community is suspicious of efforts to control nonpoint source pollution. Hence non-point source control has low political weight at state and national levels, and tends to be a "cause" for environmental groups rather than a responsibility of farm operators and landowners. Little if any rewards accrue for control of offsite pollution.

- A new concept, the working landscape, is emerging in Europe and the United States. Working Landscapes looks at ways to couple voluntary, incentive-based policies with landowner innovation and private enterprise.
- The Conservation Security Program of the 2002 Farm Bill offers many stewardship options that if properly used and adequately funded can be a positive step toward a new agriculture.

Recommendations:

- I recommend that the conservation provisions of the 2002 farm bill be adequately funded and that the federal government, specifically the NRCS, be urged to apply these programs in targeted areas of the upper Midwest that would be most likely to reduce nitrogen output. These programs, and allied state federal and university rural development efforts should use the working landscapes concept as they are developed and initiated.

KEENEY, T.

**Mr. Timothy Keeney, Deputy Assistant Secretary of Commerce, NOAA
Anchorage, AK, Aug-22-2002, Marine Emergency Planning and Response Panel
Invited Testimony**

Key Points:

- Maritime commerce is a critical link in Alaska's economy, and the risks and consequences of maritime spill disasters are high.
- NOAA assists with maritime spills through prevention, preparedness, response, and restoration activities. [Further description provided.]
- A critical lesson of the Exxon Valdez disaster is that a framework must be in place before an event occurs in order to organize decision making; to understand appropriate response strategies; and to establish mechanisms for evaluating the environmental tradeoffs among different approaches and the implications of response strategies for restoration. [Further description provided.]
- One of the lessons learned from the Exxon Valdez spill and other incidents is that restoration is delayed when the focus is on establishing the monetary value of natural resource damages rather than on the costs of restoration. [Further description provided.]

Recommendations:

- Continue to improve cooperation among trustees and responsible parties involved in spill planning and response.
- Streamline the claims process through the National Pollution Funds Center.
- Institutionalize state Natural Resource Damage Assessment (NRDA) programs and forge stronger partnerships with other trustees; improve efforts to transfer NOAA's expertise to other natural resource trustees.
- Support advanced research and development on the increasingly complex fate and effects of multiple contaminants and the efforts to restore the affected resources.
- Support a more institutionalized regional approach to risk reduction and prevention that focuses on partnerships among industry, government, and communities to identify and respond to specific threats to marine safety - and the resources needed to respond to those threats.
- Establish an expanded role for NOAA in marine transportation system improvements that would better utilize its expertise on waterways management and port development activities in collaboration with the Coast Guard and the Army Corps of Engineers, and regionally and locally with state and community agencies and industry.
- Place new emphasis on training and preparedness to address deficiencies and the new challenges we face from ageing infrastructure, increased vessel traffic, and threats of terrorist attack on vulnerable energy facilities.
- Seek the resources needed to develop and deploy an Ocean Observing System.
- Support expanded authorities that would allow agencies to collaborate more effectively on marine transportation issues, such as codifying and clarifying the role of the Interagency Committee on the Marine Transportation System.
- Institutionalize an on-going research and development program within an oil spill research institute, including continued research and development on the fate and effects of multiple contaminants on the restoration of natural resources.
- Support efforts to develop faster and more efficient ways to assess injuries and for planning and implementing restoration.
- Expand incentives for industry, agencies, and other partners to encourage more cooperative approaches to assessing damage and implementing restoration.
- Ensure that the level of funding in the Oil Spill Liability Trust Fund is sufficient to respond effectively to spills of national significance and to allow the fund to be used to support prevention and preparedness activities.

Responses to Questions:

- One of the NOAA programs deals with non-point source pollution in its coastal zone management program. The CZM program has placed a certain priority on states to put together enforceable programs that look at non-point source. Approximately a third of the states have programs in place, another third have programs within reach of being put in place and another third have a ways to go to put them in place. The EPA is a significant player in this arena, particularly when it comes to emission controls and atmospheric deposition.

- There is a tremendous need for increased focus and priority placed on mapping and charting, particularly in the port and transportation system arena. NOAA is playing catch up with some of our important port transportation programs due to lack of funding. The volume of goods going into the ports is going to double by the year 2020 and the number of containers alone will quadruple by 2020. There is a great need for planning for the increased use of the ports in a way that has not been done in the past.

KELSEY

Mr. Jonathan Kelsey
Honolulu, HI, May-14-2002
Public Comment

Key Points:

- Pacific Islands are unique culturally, politically, economically, geographically, and environmentally.

KENNEL

Dr. Charles Kennel, Director, Scripps Institution of Oceanography, and Member of the PEW Oceans Commission
Los Angeles, CA, Apr-19-2002, Marine Protected Area Policy Panel
Invited Testimony

Key Points:

- PEW Oceans Commission is studying MPAs with three major themes in mind:
 1. Restoring and preserving ecosystems.
 2. Regional decision-making which must include all members of public in identifying, establishing, and managing.
 3. The importance of research and monitoring to evaluate effectiveness.

Responses to Questions:

- Science is mixed as to Marine Protected Area (MPA) issues, depending on the question. Science thinks a MPA would be a useful tool to try.
- An important step for MPAs is to try to assure the independence of the scientific judgment.

Documents Recommended:

- Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States Beach, D. 2002.

KENNEY

Mr. Frederick Kenney, Coast Guard Liaison Officer, U.S. Department of State
Chicago, IL, Sept-25-2002
Public Comment

Key Points:

- Since 1997 IMO has been actively engaged in the development of a globally applicable instrument to control the spread of aquatic nuisance species from discharges of ships ballast water and sediments. A diplomatic conference to conclude this treaty is tentatively scheduled for November 2003.
- A largely complete convention text has been drafted, using a base text developed by the United States. The draft treaty has two substantive mechanisms to control ballast water and sediment discharges. These are commonly known at IMO as "Tier 1" and "Tier 2."

KILDOW

Dr. Judith Kildow, Senior Research Scientist, Wrigley Institute for Environmental Sciences, University of Southern California
Los Angeles, CA, Apr-19-2002, Coastal and Outer Continental Shelf Management Panel
Invited Testimony

Key Points:

- Information about coast and its economies is an essential part of any equation when considering ocean policies. Economic data can bridge science to policy if it is understood properly.
- Very little is known about the coastal economy. To understand what programs and policies are effective, we must be able to measure change. Currently, there is no way to do that for coastal development.
- In the National Ocean Economics Project there is little archived time series and economic data for the coastal economy

- We need to provide the nation and each coastal state with estimates of the contribution of the coastal sector to the gross national product and ensure that data we develop is consistent, accurate, and clearly documented.
- Federal marine expenditures in 2000 were less than half of 1970. For traditional manufacturing sectors, the coastal economy is not the fastest growing part of U.S. economy; instead, service sectors are dominated by tourism and recreation. Coastal tourism is 85% of the tourist dollars in U.S.

Recommendations:

- The government needs to assess coastal economy as carefully and completely as with the rest of the economy.
- The government should be reporting standards for all sectors, like the National Income and Product Accounts.
- Assessment of the coastal economy requires continuous and reliable funding.
- Decisions about methodology and data collection must be made at arms-length from government.
- Federal entities must take responsibility for supporting this activity.

Documents Recommended:

- www.OceanEconomics.org

KING

Ms. Wendy King
New Orleans, LA, Mar-08-2002
Public Comment

Key Points:

- There is concern about Gulf of Mexico's dead zone.
- A healthy Gulf ecosystem is necessary. This must begin by addressing chemical fertilizer and pesticides dumped into upper reaches of the Mississippi River. The focus has been on the farmers and must now be turned to those who sell fertilizers and pesticides.

KLEPPEL

Dr. Gary Kleppel, Associate Professor & Principal Investigator of the Land Use Coastal Ecosystem Study, University at Albany-State University of New York
Charleston, SC, Jan-15-2001, Coastal Urbanization/Land Use Change and Effects on the Ocean Panel Invited Testimony

Key Points:

- There is no shortage of evidence that urbanization along the coasts of Georgia and South Carolina over the next three decades will negatively affect ecosystems.
- Land Use-Coastal Ecosystem Study (LU-CES) key issues include linking transport of forcing functions (e.g., contaminants); determining their fates (where do they end up); identifying their effects on living resources; and spatial scaling.
- LU-CES research products are intended to enhance the abilities of decision makers and resource managers. It is an aide in the creation of unique partnerships between academic and government scientists, and between federal, state, and local resource management and planning agencies.
- It will provide data that can be accessed in a variety of ways and levels of technical expertise and in a format designed to inform in the decision making process.

Responses to Questions:

- Detailed information and statistics regarding population demographics and urbanization patterns was provided.

Documents Recommended:

- www.lu-ces.org

KNAUSS

Dr. John Knauss, Dean Emeritus, University of Rhode Island
Washington, D.C., Oct-30-2002, Featured Speaker
Invited Testimony

Key Points:

- Review of the Stratton Commission mandate. There were 122 recommendations.
- Having the responsibility for both ocean and atmospheric in a single agency made it much easier for me to marshal the necessary observational resources than was the case for some of my European colleagues whose responsibility was limited to either atmosphere or ocean, but not both.

- Note NOAA was seen primarily as a service agency. Our major regulatory function came some years after NOAA's formation with the passage of the Magnuson fisheries act. I was prepared to tackle some major fisheries reorganization, to fence off so to speak, that part of the agency dedicated to fisheries regulation.

Responses to Questions:

- We are not looking hard enough for those people to support more money who care what the weather will be in 6, 8 or 12 months.

KNIGHT

Mr. Bruce Knight, Chief, Natural Resources Conservation Service, U.S. Department of Agriculture

Washington, D.C., Oct-30-2002, Featured Speaker

Invited Testimony

Key Points:

- We have responded and continue to respond to the natural resource conservation needs and goals of the local communities and, most importantly the objectives and needs of individual farmers, ranchers, and other private landowners. Collectively, however, our attempts to think globally have been limited in scope by political borders, watershed boundaries, and a general lack of understanding by others of our technical capabilities.
- In the coming months I am going to ask our experts responsible for science and technical tools to provide me with recommendations on how we build upon existing partnerships. One specific action that I will be initiating is to jointly develop, with the Administrators of both the National Marine Fisheries Service and the National Oceanic and Atmospheric Administration, a Memorandum of Understanding that will reflect new directions in baseline information gathering on coastal and estuary resources.
- Examples of USDA Resource Protection are provided for: Florida, Michigan, Louisiana, Oregon, Washington, Georgia, North Carolina, South Carolina, and the Chesapeake Bay.
- NRCS has the lead for the US Government in developing new guidelines for reporting agriculture green-house gas offsets. The President has directed USDA to identify new targeted incentives for sequestration. As a result, we will be looking for opportunities as we implement new and expanded conservation programs to further greenhouse gas sequestration.
- The 2002 Farm Bill provides \$5.6 billion in Environmental Quality Incentives Program cost-share and technical assistance through FY 2007 that will be available to farmers and private landowners to improve soil, water, and air quality. As a subset of EQIP, Congress also established a new Ground and Surface Water Conservation Program and authorized funding of \$310 million through Fiscal Year 2007. The Wildlife Habitat Incentives Program is providing \$360 million in funding. The Wetlands Reserve Program was expanded in the Farm Bill to restore, enhance, and protect more than 1 million acres of additional wetlands.

Recommendations:

- Your report to the Congress and the President should specifically refer to the need for investment in conservation technology to help develop and evaluate conservation practices to ensure that the best science available is being utilized to address natural resource concerns.

Responses to Questions:

- I will faithfully relay to the Secretary your words of encouragement for greater participation.
- Dept. of Agriculture has a basket of programs that run a full range of incentives, cost share and then land idling and easement programs [examples provided].
- Dept. of Agriculture has been working very closely with EPA on TMDLs as well as the animal feeding operation rules that they had proposed.
- Input of coastal and ocean scientific advice for our decisions tends to come from other Federal agencies.
- So we are equally focused on insuring that we do as much as we can on the total picture of greenhouse gases that we can address.
- The Cooperative Research and Extension Service has a primary education role and very important in the work that they do through youth programs such as 4-H, their additional educational outreach, we have some educational outreach we do as far as the conservation community as well.

KNOWLES

The Honorable Tony Knowles, Governor, State of Alaska

Anchorage, AK, Aug-21-2002, Featured Speaker

Invited Testimony

Key Points:

- Alaska's oceans are a vital part of life in the 49th state:
 1. Alaska has more coastline-44,000 miles-than the rest of the U.S. combined

- 2. Alaska is bordered by three seas—the Bering, Chukchi, and Beaufort—two oceans—the Pacific and the Arctic, and the Gulf of Alaska
- 3. Alaska produces roughly half the seafood landed in the U.S.
- 4. Sport fishing supports over 10,000 jobs annually
- 5. A common local saying is: “When the tide is out, the table is set.”
- The Pew Commission will be helpful to your deliberations. Our two commissions are looking at some of the same concerns: coastal development, pollution, commercial fishing, and governance of our oceans.
- The health of America’s oceans is in peril. [discussion provided].

Recommendations:

- It is time for America to unequivocally declare a national policy to protect, maintain, and restore the health, integrity, and productivity of our oceans by adopting a National Oceans Policy Act. [discussion provided]

KNOX

**Dr. Robert Knox, Associate Director, Marine Operations and Chairperson University National Ocean Lab System, Scripps Institution of Oceanography
Los Angeles, CA, Apr-19-2002, Marine Science Facilities Panel
Invited Testimony**

Key Points:

- Renewal of the U.S. academic research fleet (i.e., University- National Oceanographic Laboratory System (UNOLS) fleet—in an orderly, planned set of steps over the next two decades. UNOLS is 31-year old non-federal consortium of about 60 oceanographic institutions, with a governing council and several standing committees.
- Fleet Renewal—What are the problems?
 1. Ships do not last forever; able to forecast probable useful lifetimes of existing fleet as done by Federal Oceanography Facilities Committee (FOFC)
 2. Need new ships for ocean science of the future:
 - a. autonomous observational devices will not replace research vessels
 - b. anticipate using smart combinations of unattended devices and directed adaptive observations from ships
- Planning to Solve the Fleet Renewal Problem; FOFC “Fleet Plan” is first overall long range planning document for fleet renewal; contains timeline for recommended new ships:
 1. Document is only prospectus; contains no steps toward agency budget items and actual funded designs or acquisitions Implementation steps must go forward as soon as possible.
 2. UNOLS approach would build additional three ships (FOFC recommended one) with fleet reduction of one; still short of actual demand

Recommendations:

- Funding is the most important thing for ocean sciences and the academic fleet. Prod the nation to unshackle ocean science from end of the soup line.

Documents Recommended:

- www.unols.org
- www.unols.org/fic/biennial/futship.pdf
- Charting the Future for the National Academic Research Fleet FOFC 2001.

KNUTSON

**Mr. Peter Knutson, Director, Puget Sound Harvesters Association
Seattle, WA, Jun-14-2002
Public Comment**

Key Points:

- Escape farmed salmon are breeding in rivers. These fish are nonnative Atlantics and have no place in our waters. There are horrendous disease problems, which the floating feed lots, pose to indigenous species. We are also concerned about the massive sewage, antibiotics, and pesticides that are released through the operation of these farms.

Recommendations:

- We recommend, as we have done repeatedly, that net pen aquaculture be removed from public, coastal waters. The farms are directly subsidized by the destruction of wild ecosystems upon which we depend.

KOHL

Mr. Barry Kohl, Geologist
New Orleans, LA, Mar-07-2002
Public Comment

Key Points:

- Louisiana has issued 19 mercury-in-fish health advisories to date. There is concern about mercury in the Gulf.

Recommendations:

- Additional sediment contamination research is recommended to document mercury and other heavy metal occurrences around oil and gas platforms.

KOLIAN

Steve Kolian, Eco Rigs
New Orleans, LA, Mar-08-2002
Public Comment

Key Points:

- U.S. could be a world leader in sustainable fisheries and marine eco-technologies if there existed a regulatory framework to redeploy retired oil and gas platforms into sustainable fishery platforms.
- Platforms are "essential fish habitat."
- Commission should review laws to promote effective redeployment of oil rigs into eco-rigs.

KONING

Colonel Thomas Koning, Commander, U.S. Army Corps of Engineers, New England District
Boston, MA, Jul-24-2002, Regional Coordination of Ocean Policy Panel
Invited Testimony

Key Points:

- The New England District of the U.S. Army Corps of Engineers has identified six priority issues that require a national policy review, they include:
 - A national port and harbor 'vision' is needed that coordinates a national strategy for future port deepening and that establishes regional alliances.
 - The two existing laws regulating dredged material disposal create inconsistencies and do not adequately accommodate implementation of new technical advances. [Further description provided.]
 - There is presently no policy framework to address the licensing, leasing, or permitting of non-extraction energy facilities (such as wind or wave turbines) in waters of the U.S.
 - Numerous Federal agencies have ecological restoration programs and numerous states have restoration priorities. Regional ecological restoration priorities of Federal interest are seldom defined.
 - Our nation lacks a policy and the mandate to develop long-term regional plans to address shoreline protection and sea level rise mitigation needs.
 - There is a nation-wide problem of contaminated sediments in urban rivers and estuaries, resulting in the degradation of aquatic productivity, threats to human health, and long-term economic liability.

Recommendations:

- Establish a state champion for navigation issues and have them compare efforts with neighboring states and then at a regional (e.g., eastern seaboard) and international level.
- Replace the existing statutes regarding dredged material management with a single statute that addresses the regulation of dredged material placement in both inland and ocean waters of the United States. Incorporate flexibility in the evaluation approach and include the ability to incorporate the full range of management techniques and future technical advances.
- Define a national policy for non-extraction energy projects in ocean and coastal waters.
- Provide a metric to quantify goals and accomplishments of ecological restoration for resources of national interest (e.g., wetlands, anadromous fisheries migratory corridors, submerged aquatic vegetation, etc.) that is shared and coordinated across all Federal programs.
- Create a Federal 2050 and 3000-shoreline profile and institute management plans accordingly.
- Establish a dedicated fund and program authority for the evaluation and remediation of contaminated sediments in our coastal watersheds.

Responses to Questions:

- If there was a national policy that addressed the regional transportation issue and encouraged that there were some benefits to regional cooperation, then it would be more likely to occur and the benefits would be received down the line.

- There are the appropriate levels of review built into the ACOE system to take a look and avoid any conflict of interest. There are regional reviews, and cooperation with our Federal partners and state agencies. Acceptance and buy-off on projects is necessary before it is undertaken. It is extremely appropriate to have the authority of the Corps both as a regulatory authority and the civil works planning authority. [discussion provided]
- The development of a port and harbor vision, and the national transportation strategy that Mr. Ostrom referred to need to be discussed around one table.
- Yes, there is a potential for intercoastal use. If a vision was created that looked at larger ports and feeder ports, and the connection between those main ports and feeder ports, then the necessity for their increase may be realized so both their commercial and the recreational purposes may be accommodated.

Documents Recommended:

- “Toward a National Ocean Policy” on the U.S. Ocean Commission website.

KUDRNA

Dr. Frank Kudrna, Member, Board of Directors, Great Lakes Commission

Chicago, IL, Sept-24-2002, Governance Panel

Invited Testimony

Key Points:

- Political jurisdictions in the binational Great Lakes region have long recognized the benefits of multi-jurisdictional cooperation for the development and implementation of water resources management policies, plans and programs.
- Our regional, multi-jurisdictional institutions are the key elements in this highly complex “institutional ecosystem.”
- The Great Lakes Commission recognizes an unmet need for a national policy on marine and freshwater resources that present a clearly articulated vision and a series of science-based goals, objectives and strategic actions needed to both achieve and sustain that vision. A multiplicity of Federal agencies presently shares planning and policymaking responsibilities for the nation's marine and freshwater resources.
- In addition to the piecemeal approach to ocean policy that occurs at present at the federal level, we in the Great Lakes region share an ongoing- and significant- concern over the bifurcated treatment of marine and freshwater resources.

Recommendations:

- The formulation and implementation of a national ocean policy must fully recognize and address the critically important issues and opportunities associated with our nation's freshwater resources and, specifically, the Great Lakes. The policy must build upon and fully utilize existing water resource management institutions. It must be state and region-based, enlist partnerships at all levels within and outside of government, and place an emphasis on strong federal/state relationships. It must be science-based, guided by principles of sustainable development, and accommodate issues and opportunities ranging from environmental protection and resource management to transportation and sustainable economic development. Further, any such policy must be accompanied by adequate, long-term and reliable funding to ensure that goals can be met and sustained.
- Recommended guiding principles for ocean governance are presented.
- Consideration should be given to an extension service program throughout NOAA and modeled after the National Sea Grant approach.
- In our view, a national approach to ocean policy development is needed, but the building blocks for that approach must be assembled at the regional level. Toward that end, we suggest that consideration be given to the structure provided in the Water Resources Planning Act of 1965 as it related to the formation of a national system of (multi-state) river basin commissions and a federal U.S. Water Resources Council.
- The Great Lakes Commission supports the development of an organic statute that would provide guidance to federal agencies with respect to their roles and responsibilities for freshwater and marine policy. We further believe that the development of a large scale, consensus-based national ocean plan is needed to guide coordination efforts.
- Three specific initiatives come to mind that may provide useful models for improving our existing approach to resource use, protection and management of marine and freshwater resources on a national scale: program evaluations and benchmarking; regional, multi-jurisdictional management institutions; and regionwide agreements and plans.
- The U.S. Commission on Ocean Policy would be well advised to thoroughly investigate and actively participate, as appropriate, in current and prospective international organizations and summits for ocean management.

Responses to Questions:

- River Basin Commission concept good idea but they were dominated by Federal partners and the states were overwhelmed in votes.

KURKUL

**Ms. Patricia Kurkul, Regional Administrator, National Marine Fisheries Service, Northeast Region
Boston, MA, Jul-24-2002, Regional Coordination of Ocean Policy Panel
Invited Testimony**

Key Points:

- The staff of the NOAA Fisheries Northeast Region coordinates daily with other Federal partners on activities associated with everyday operations under the Magnuson-Stevens Act, the Endangered Species Act, the Marine Mammal Protection Act, the Fish and Wildlife coordination Act, and others.
- Staff of the Habitat Conservation Division also coordinates closely with Federal agencies to review project proposals affecting wetlands, waterways, and Essential Fish Habitat.
- For the most part, the consultation process works well, and only a few of the more than 2000 project proposals each year becomes difficult or controversial. However, where there are differences of technical opinion, there is no impartial arbiter and NOAA and other resource agencies are considered merely as advisors to the agency's having permitting authority.
- Lacking is an overall strategic plan that cuts across the different missions of all of the Federal, state, and local partners and in which fishery habitat restoration priorities would be consistent with and supportive of regional ocean planning priorities.
- Through a regional ocean planning process, permitting decisions would be based on prior consideration of siting and jurisdiction. [Further description provided.]
- An increased number of proposals for offshore projects may come in the future, including proposals (for example) for offshore aquaculture, wave energy, fish processing, casinos, mineral and oil extraction, and power and communications.

Recommendations:

- Establish the authority and a coordinated process to achieve comprehensive ocean planning, involving local, state, and Federal interests.
- Be cautious against any structural change that adds complexity and additional bureaucracy, or that does not clearly streamline and reduce layering.
- Stress the importance of a regional approach to ocean planning, and realize that cooperation and coordination are best accomplished at the local level.

Responses to Questions:

- The model for regional transportation cooperation should have the policy work be at the national level with feedback, or fed to, a regional perspective and regional interests. A system would be necessary that allowed for differences between the regions and then implement it at the regional level.
- Some sort of regional structure outside of the existing structure is necessary. Projects are well coordinated on a project-by-project basis but a directive does not exist to coordinate regionally on a mission basis. National guiding principles that feed into a regional structure are necessary.
- There are a lot of overlap, conflict, and gaps between the various acts.

KUSKA

**Mr. Gerhard Kuska, Center for the Study of Marine Policy, University of Delaware
Washington, DC Sept-17-2001
Public Comment**

Key Points:

- The Commission is urged to consider the definition of a multidisciplinary science advisory panel to include representation of sufficient numbers from the various branches of the marine sciences, including the marine "social sciences," i.e. political science, public administration, economics, anthropology, sociology, law, that represents the objectives of the Commission and its concentrated areas.

L

LACAPRA

**Mr. John LaCapra, President, Florida Ports Council
St Petersburg, FL, Feb-22-2002, Accommodating Coastal Growth Panel
Invited Testimony**

Key Points:

- Have now developed competing priority to the traditional role of moving commerce in the form of providing security to our borders.
- Seaport managers are scrambling for financial resources to respond to terrorism threats. A concern is whether short-term gap measures are adequate responses to unknown and undefined threats. Funds previously committed to seaport customers for moving commerce are instead being used for terrorist threat response.
- Florida has reacted to meet post September 11th security in many ways.

Recommendations:

- A key to solutions is not unfulfilled mandates, rather it is legislative guidelines that allow management of seaport security to use best management practices:
 1. Minimum standards for the several security issues required by each port.
 2. An atmosphere of self-regulation in achieving standards by best management practices.
 3. Provide incentives for private sector to engage with public domain to achieve partnership in protecting our borders and defining best management practices.
 4. Provide training of seaport security personnel. Provide 75-25 match between federal government and seaports for cost of such personnel located at seaports.
 5. Provide that legislative intent is to ensure that seaport security and moving commerce are compatible priorities in order to ensure safety, security, and economic viability of moving international commerce.

Responses to Questions:

- There are lessons to be learned from the experience of the air travel industry. The ultimate goal of maritime security is a "security zone" outside U.S. territorial waters with coordinated use of high-tech security equipment that may have a dual role with ocean technology. Integration and coordination of seaport security measures by federal, state, and local agencies- communication and intelligence sharing by federal agencies are inadequate. "Production-ready" seaport security plans are based on vulnerability and threat assessment.

LAKOSH

**Mr. Tom Lakosh
Anchorage, AK, Aug-22-2002
Public Comment**

Key Points:

- The best technology available should be utilized for protection of marine sources from pollution and other adverse effects.
- Disagrees with Senator Stevens that the policies have been fully implemented or have been successful in maintaining sustained yield. The Exxon Valdez oil spill and a record of crashing shellfish stocks and Anadromous fish species is clear evidence that these principles have not been properly implemented in Alaska and have not been the practice or effect throughout U.S. waters and certainly not international waters.
- At no time should re-issuance of permits, leases or other activities be allowed without full analysis. There should be a full accounting of all elements, and particularly essential elements of marine ecosystems should be fully evaluated.
- Keystone species must be protected and the Endangered Species Act must be applied. To a lesser extent, those species that are not keystone to sustaining of ecosystems may be degraded, but there must be a balance between sustained yield for use and sustained yield over time for sustenance of the ecosystem. There should be a balance between use-the right to use and ability to sustain.

Recommendations:

- Propose that an adaptation of the FDA's double blind study practices and requirements be adopted for ongoing and proposed marine resource uses.

LANE

**Mr. Geof Lane, Clearwater Marine Aquarium
St. Petersburg, FL, Feb-22-2002
Public Comment**

Key Points:

- Do something for future generations.
- Oceans start inland. Protection must extend inland.
- Education is necessary so that people understand what we are fighting for and how it will affect their lives.
- Aquatic invaders must be controlled.

LANSING

**Mr. Phillip Lansing, Institute for Agriculture and Trade Policy
Seattle, WA, Jun-13-2002
Public Comment**

Key Points:

- There are serious social, public health and environmental consequences attached to raising salmon and other finfish in open net-cage feedlots.
- The presence of net cage salmon facilities in the U.S. and worldwide have profound negative effects on wild populations of salmon. The main problems have been well documented: spread of disease, spread of parasites, escapee competition for resources, and interbreeding with wild population.

Recommendations:

- Stop Federal grants and subsidies to the industry, including support provided by the National Marine Fishery Service and the U.S. Department of Agriculture.
- Stop expansion of the industry on current sites and do not allow permitting of new sites.
- Mandate plain labeling of salmon and salmon products to consumers, describing origin and use of additives such as colorants, antibiotics, and pesticides.
- Mandate country of origin labeling on imported salmon and salmon products.
- Restrict imports of feedlot-raised salmon to the greatest extent possible under our trade and environmental agreement obligations.

LASHEVER

**Mr. Eric Lashever, Staff, Preston Gates and Ellis, LLP
Seattle, WA, Jun-14-2002, Ocean Governance, Coastal Zone Management and Resource Coordination Panel**

Invited Testimony

Key Points:

- The Federal statutory framework is having a profound effect on individuals and our region on a daily basis.
- There is a need for basic understanding of large scale ecosystem functions. This need to understand physical and biological processes extends far beyond salmon and the Endangered Species Act.
- It is important to note how the environmental and resource management laws interact with one another, the extent to which they impose conflicting requirements that result in high transaction costs, and to figure out how to best direct scarce resources into achieving effectiveness in resource management.

Recommendations:

- The Commission should focus on our nation's need for the understanding of ocean processes and how to collect and disseminate information in a manner that can inform, rather than hinder decision making, and that fairly spreads the burden.
- The Commission should pay attention to how our laws direct us to use science; they're in a need for a thoughtful review of ways that our laws approach the use of science in the regulatory process.

Responses to Questions:

- It would be valuable if when local governments did their comprehensive planning under the Growth Management Act, they could do environmental analysis at that level, and then when projects came in that were consistent with the plan and direction of growth everyone had agreed to through the planning process, you wouldn't have to do site specific environmental review.

LAUTENBACHER, JR.

Vice Admiral Conrad Lautenbacher, Jr., USN(Ret.), Administrator, National Oceanic and Atmospheric Administration
Honolulu, HI, May-13-2002, Featured Speaker
Invited Testimony

Key Points:

- Ocean observing systems allow us to take pulse of planet:
 1. Tropical Atmospheric Ocean array (TAO) identifies recurrences of El Nino.
 2. Systems are not limited to climate change. They include weather forecasting, restoring and maintaining healthy ecosystems and living marine resources (e.g., fisheries).
 3. Global Ocean Observing System and Asian Pacific Economic Cooperative are examples of data applied to managing resources.
 4. The goal is to integrate state and local governments, industry and academia into a consistent and accessible national system.
 5. It is necessary to identify key ocean research areas and technological requirements.
- The National Oceanic and Atmospheric Administration (NOAA) is home to the National Water Level Observation Network (NWLON), the Physical Oceanographic Real Time System (PORTS), the National Data Buoy Center, the Environmental Satellite and Data Information Service.
- Operational observing system can provide scientific data about management of living marine resources, including coral reefs, along with ocean and coastal management, including tourism and development.

LEAMAN

Dr. Bruce Leaman, Executive Director, International Pacific Halibut Commission
Seattle, WA, Jun-14-2002, Science and Policy Interface in Fisheries Management Panel
Invited Testimony

Key Points:

- There are at least two major ways in which science must interface with policy in fisheries management:
 1. Policy development-science must provide the basic understanding of stock behavior, as well as the predictive tools and framework necessary for the development of harvest policies.
 2. Policy implementation-science must be capable of describing the present and future status of resources with precision sufficient for effective implementation and evaluation of harvest policy.
- A basic democratic tenet is that effective government rests on the consent of the governed. Fisheries management, in the context that it is governance, has generally not expended sufficient effort at gaining this consent.
- Scientific feedback and mutual respect is needed. The design of research to address fishery management issues does not normally invoke the participation of harvesters; harvesters will believe that fisheries management can work if they understand and believe in the science upon which it is based. This means they must be involved in the design and conduct of investigations and experiments, not just in the review of the results.
- Must make fishery management a shared endeavor that respects the contributions and commitments of stakeholders to the process.

Recommendations:

- In order to improve the process of generating scientific advice, the Commission should endorse a more inclusive and comprehensive process for the planning and conduct of scientific investigations by Federal agencies.
- The Commission should also endorse governance structures, such as dedicated access privileges, that provide the incentives for individual stakeholders to participate in such research.
- Have important positive initiatives to help Federal agencies avoid the present litigious alternatives to addressing resource management.

Responses to Questions:

- The fishery management councils, and the scientific committee (SCC), need to have more direct control. The process is flawed and needs to be addressed.

LEBLANC

**Justin LeBlanc, Vice President of Government Relations, National Fisheries Institute
Washington, DC, Sept-18-2001
Public Comment**

Key Points:

- The NFI supported the passage of the Oceans Act 2000 and the formation of the Commission based on that legislation.
- We stress the need for this Commission to conduct outreach to affected communities and constituencies such as the fish and seafood industry.

LEINEN

**Dr. Margaret Leinen, Assistant Director for Geosciences, National Science Foundation
Los Angeles, CA, Apr-19-2002, Marine Science Facilities Panel
Invited Testimony**

Key Points:

- A variety of technologies enable us to access the ocean from the surface to deep onto the seafloor.
- National Science Foundation (NSF) has a clear interest in enhancing facilities for performing basic ocean science research, along with the Navy, National Oceanic and Atmospheric Administration (NOAA), and the Coast Guard.
- Federal Oceanographic Facilities Committee (FOFC) of National Ocean Partnership Program (NOPP) provides advice related to oceanographic facility use, upgrades, and investments.
- Academic Fleet: FOFC authored 2001 report "Charting the Future of the National Academic Research Fleet: A Long Range Plan for Renewal" (referred to as the "Fleet Plan"). The plan defines a federal interagency renewal strategy for the national academic research fleet. Focus is now on implementation. The Navy and NSF are exploring opportunities for providing funding for construction of regional vessels.
- The Ocean Observing System and NSF's Ocean Observatories Initiative: NSF is working with the academic community to provide a new infrastructure for gaining ocean access. Infrastructure is an integrated network of ocean observatories that complements satellite, mooring, and float technologies and allows acquisition of long-term time-series data on the ocean interior and seafloor. The infrastructure will facilitate "temporal" exploration of oceans and will complement, not replace, research vessels.
- Ships, other research platforms, and ocean observing systems represent the the future foundation of ocean science discovery.
- Federal agencies asking for large investment over next decade to pay for the renewal of the academic fleet, U.S. component of ocean observing system, NSF Observatories, IODP, and other oceanographic facilities.
- FOFC is Coordinating other activities such as: making effective use of AUV technologies and platforms that will require new coordination mechanisms; a new design and construction of human-occupied submersibles underway; and they will soon start review of aircraft used for marine research and observations.
- Scientific Ocean Drilling & NSF Integrated Ocean Drilling Program highlights the importance of ocean drilling. Planning for Integrated Ocean Drilling Program (IODP) has been initiated. The present phase of Ocean Drilling Program (ODP) will end in 2003. A new ship is required, modified from existing drill ships.

LEITZELL

**Mr. Terry Leitzell, General Counsel, Icicle Seafoods, Inc.
Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources I Panel
Invited Testimony**

Key Points:

- The enactment of the Magnuson-Stevens Act: The issues of jurisdiction over ocean resources, including fisheries, in the area beyond the traditional three-mile territorial sea were new and the U.N. negotiations were far from completion in the mid-1970s. NOAA and the NMFS were given the regulatory authority to implement the fisheries management system in spite of a lack of experienced people in the Federal government. [discussion provided]
- The Magnuson-Stevens Act fishery management system is not broken, but its implementation is flawed, at least in some parts of the country. Over the last two decades, the Councils have gradually obtained increasing decision-making power in practice. Recently, several national environmental organizations have taken an increasing interest in fishery management decisions and have sued NMFS over Council decisions. The mushrooming of litigation to over 100 lawsuits nationwide has put immense pressure on the NMFS-Council partnership, leading to almost complete collapse of that partnership in some regions. At the same

time, the North Pacific Fishery Management Council and the NMFS Alaska Region have worked well together, demonstrating that the two-headed partnership can work. The North Pacific Council is a model of effective, transparent government.

- The Council system is here to stay and should remain in place. But the balance between NMFS and the Councils needs to be adjusted to restore a more healthy give-and-take in fishery management and conservation decisions.
- Comments were provided on the North Pacific fisheries management program, and the monitoring and catch accounting in the North Pacific. [discussion provided]

Recommendations:

- Require each Governor to submit no fewer than seven names for a Council seat and to provide balance in the list. Provide the Secretary the authority to reject an entire list and to request that the Governor submit a new list.
- Require each Council to appoint a Science and Statistical Committee of no fewer than ten members, with membership from Federal and state agencies and from academic institutions. Require that a Council receive advice and recommendations from its SSC before taking final action on any matter and require that the SSC Chair certify that its advice has been given.
- Reject any new requirement for additional peer review of NMFS research that supports fishery management and conservation decisions.
- Add a statutory requirement that environmental and conservation groups be included in each advisory panel (AP) and that each AP consist of at least twelve members. Require that each Council receive advice and recommendations from its AP on each matter before the Council for final action and that the AP Chairman certify that its advice and recommendations have been given.
- Revise the Act to provide NMFS with the authority to initiate a revised action to be acted upon by the Council. Following disapproval, if the Council does not approve a revised action within 60 days, the NMFS Regional Administrator on that Council may propose a revised action and the Council must vote on that proposal at its next scheduled meeting.
- Revise the Act to require that the NMFS Regional Administrator and each Council Chairman agree to a written agenda for that Council for the subsequent year.

Responses to Questions:

- Over the 25 years that we have dealt with Federal public partnerships, we've gotten to a point where we do need to give some more authority back to the Federal side of it, to NMFS. The councils have not been run over by the Federal government-the councils are strong and politically supported.
- The Council learned a lot by going through the Stellar sea lion process and the interactions between NMFS and the council improved. There was a transparent process and there was a committee established that worked. Even in the sea lion case once we got the interaction of the Endangered Species Act and the Magnuson-Stevens Act figured out at the council level, the process became better.
- One example of what has been done at the Council level is with the pollock and cod-now they are required to all be retained. Whatever fishery they are caught in, you cannot discard them. We are looking at extending that kind of program to other species. We've banned bottom trawling in the Bering Sea so that the Pollock fishery is a very clean fishery-very, very low amounts of bycatch.
- The most important thing that the North Pacific Council does is we actually do account for bycatch. We pay attention to it and we make sure that it's kept within levels that are scientifically sound and we know what it is. That does not happen in the rest of the country.
- There is a recommendation, a legislative recommendation floating around, that scientific statistical committee recommendations should go to outside completely unaffiliated scientists for further peer review. Some people think the current process is not independent. Some of us believe that NMFS is the best in the world on this and that their science is straight forward and unbiased.
- Separating the scientific decisions from the allocation decisions would be wise.
- The habitat issues are very closely intertwined with the biology and there is a role for both NMFS and the Council in dealing with them. And NMFS should have continuity in their funding-for their five-year plan at least-much as in the Department of Defense.
- The problem with exceeding biological recommendations for ABC is that it changes the future. It's not that it's going to put that stock of fish in an endangered status, but it's going to change the future. Councils have to have the ability to make a decision that in a specific time frame a different rational, a different objective is paramount, that the ABC is not always sacred.

LEONE

**Mr. Michael Leone, Port Director, Massachusetts Port Authority
Boston, MA, Jul-24-2002, Marine Industry Panel
Invited Testimony**

Key Points:

- Our marine transportation system is a key national asset that allows our ports to handle over 95% of the volume of cargo moving in and out of the country.
- This discussion reflects on a regional port. The Port of Boston is the only full service port in New England. It handles over 1 million tons of containerized cargo per year with weekly direct service to and from Europe and Asia by a consortium of the largest steamship lines in the world and weekly feeder services from Halifax and New York.
- The regional port is a vital component of the marine transportation system and the regional economy.

Recommendations:

- Federal funding must adequately support The Port of Boston to dredge the channels and ensure the safety and security of our maritime borders. It must be maintained and improved to adequately serve the growing marine transportation needs of local and regional businesses and to meet the marine transportation needs of ocean carriers.

Responses to Questions:

- It is important to have a system whereby each region can develop the way it feels it is necessary. It's important at the local area to be able to plan what is important for your marine transportation needs. Not every port will go and build so that it can support the largest steamship lines and the largest vessels. Some ports should be 35, 45, 50 and 55 feet. The communities should be able to decide what they need and what they can support. Let the regional economy survive.
- Some companies will decide to build very large vessels to try to reduce their ocean transportation costs. Other companies will build small, faster vessels. And you can't put the steamship industry all into one particular category. They've been innovative and they've tried to find ways to service. Ocean transportation rates have fallen, much to the chagrin of the industry, but to the benefit of the consuming public. They are trying to find ways to remain competitive.
- The "Port of Boston Action Committee," which is a group of all the importers and exporters, has been asked what their needs are in this port and the clear answer is that they need to have direct all-water service into this port. It is clear that the people who rely on trade in this area need to have a lot of transportation into this particular port. Another part of it is containerized freight. We've talked to travel agents to try to promote the cruise business into this port, and we've brought in automobile imports and other bulk commodities as well.

LINDSTROM

**Dr. Eric Lindstrom, Director, Ocean.US
Chicago, Sept-25-2002, Education Panel
Invited Testimony**

Key Points:

- NASA has exciting subject matter that stretches the imagination; heroes that have gone where few dare, expertise that draws on the best minds in the world, images and data that show us what no one has ever seen. It is a winning package that has inspired television programs, motion pictures, museums, and new realms of research.
- NASA has a finely tuned educational program that supports all citizens. Its success began with the images taken by astronauts of the Earth and the moon, and continues today with data images and movies about the universe and Earth's environment.
- NASA's role has been to continue gathering images and data and then disseminate them. The channels of dissemination have evolved into programs that encourage students and faculty in the study of our planet and space through faculty and graduate workshops, fellowships, and funding resources. We are also building partnerships with an array of informal learning organizations.
- An effort to improve learning in science and technology, both in public literacy and in encouraging individuals pursuing careers, will require a sustained commitment, of 10 to 20 years. First, we must excite and engage a generation in the fields of science and technology, who will then communicate that excitement. We must make the latest and most exciting science and technology easily available to children and adults.
- The most important lesson we have learned is to consider all of our efforts in the context of their ability to be scalable and sustainable and then we focus in on issues related to meeting the needs of the education community.

Recommendations:

- The oceans community will need to do an assessment of its “assets” and identification of those which are current, timely and fresh; all the while keeping in mind issues of scalability and sustainability.
- The observing system and the science and technology associated with it present a range of opportunities to engage all citizens and educators, in particular, in many aspects of the ocean.
- A national ocean education strategy must: draw on our reservoir of present day ocean science explorers and adventurers to inspire interest and excitement about the ocean; dovetail into the broader education context - earth system science, biological sciences, general science education, and geography; and work across government agencies, educational institutions, and the private sector. The Education Strategy being developed under the National Oceanographic Partnership Program is on the right track.

Washington, DC, Nov-13-2001, Federal Agencies Panel**Invited Testimony****Key Points:**

- National Guidelines for Ocean Literacy:
 1. Understanding oceans facilitates operational ocean observing system is a necessary research and educational tool.
 2. Ocean science must be a part of teaching and learning in educational institutions.
 3. National Aeronautics and Space Administration (NASA) Oceanography, with others, will champion establishment of ocean literacy guidelines for educators.
- NASA needs in ocean research, operations, education, and governance include Global Ocean Observing System (GOOS):
 1. Integrated system that combines “in situ” and space-based subsystems with ocean models and data assimilation techniques.
 2. Integrated system for long-term data collection for research quality products infusion of system design and technology change.
 3. Integration across science disciplines (i.e., physics, chemistry, biology).

LOBECKER

Mr. Bob Lobecker, Chairman, New England Section of the Marine Technology Society

Boston, MA, Jul-24-2002

Public Comment

Key Points:

- The New England Section of the Marine Technology Society represents 270 scientists, educators, students, engineers, and companies in the area who are involved with marine technology.
- Many of the same problems that are being dealt with today, were being dealt with 37 years ago. Some drastic changes are needed in the way this is all approached. Modern technology has a lot of those answers.

Recommendations:

- A charismatic leader, much like John Kennedy, is needed who will tell us to go to the oceans, young man, in order to focus the national priority. It is not the scientists, educators, businessmen that represent the constituency that will really set the priorities. It is the people like the Red Sox, Patriot and Yankee fans, the people on the beaches and who fish for and eat the fish, and most importantly, the legislators.
- To get to the people mentioned above, the majority of scientific data that is generated must be reduced to 3-D color animations that clearly present the problem and solutions. This is the Dr. Ballard's telepresence and the Jason Program. And that starts with the kids and the college students.

LOHR

Rear Admiral Mike Lohr, Deputy Judge Advocate General, U.S. Navy

Washington, D.C., Nov-14-2001, Federal Agencies Panel

Invited Testimony

Key Points:

- Outside of the 12-mile boundary, ships are allowed to operate as necessary, including use of force, protection, exercises, training.
- Inside of the 12-mile boundary, ships are prohibited to engage in any practices involving use of weapons when transiting in innocent passage. However, use of radiate sonar is allowed.
- Note: Rear Admiral Lohr, accompanied by Admiral West, was not scheduled to testify. However, given his expertise in maritime law, naval operations, and immediate availability, the Commissioners requested he speak. RADM Lohr was amendable to this request and obliged the Commissioners.

LOY

**Admiral James M. Loy, Commandant, U.S. Coast Guard
Washington, DC, Nov-13-2001, Federal Agencies Panel
Invited Testimony**

Key Points:

- National security must be considered. Ports are essential for maintaining vital sea lines of communication for re-supply of deployed troops; currently, they are a source of vulnerability (i.e., containers).
- Recommendations with respect to multi-mission assets should give due consideration to full mission portfolio to which assets are dedicated.
- Deficiencies in current ocean policy stem from management based on sectorial, rather than holistic (ecosystem) thinking.
- Importance of marine transportation must be considered.
- Recommendations must be feasible to implement. Use expertise within agencies for review.

Recommendations:

- Educate policymakers and public about importance of oceans.
- Support ratification of United Nations Convention on the Law of the Sea (UNCLOS).

Responses to Questions:

- The Marine Transportation System (MTS) report was given to Congress as a whole which proved difficult for subcommittees. The MTS should have been presented in sections, thus allowing them to act upon each section individually.
- The Coast Guard's role in fisheries enforcement is currently diminished because of 9/11, but need to be regained at some point.

Documents Recommended:

- "An Assessment of the U.S. Marine Transportation System: A Report to Congress" 1999.
- "The Report of the Interagency Commission on Crime and Security in U.S. Seaports" 2000.
- "A Coast Guard for the 21st Century: Report of the Interagency Task Force on U.S. Coast Guard Roles and Missions" 1999.

LUBCHENCO

**Dr. Jane Lubchenco, Professor, Oregon State University
Washington, DC, Nov-13-2001, PEW Ocean Commission Panel
Invited Testimony**

Key Points:

- The following coastal development issues are being reviewed:
 1. Provide significant and dedicated federal funding for habitat protection and wildlife conservation.
 2. Re-orient government programs toward habitat restoration/smart growth.
 3. Link existing laws to provide better watershed protection.
 4. Provide local communities with better tools.
 5. Include local and regional governments in decisions affecting ecosystems off their shores.

LUCAS

**Dr. Roger Lucas, Professor of Oceanography, University of Hawaii
Honolulu, HI, May-14-2002, Oceans and Climate Panel
Invited Testimony**

Key Points:

- Topics discussed include the ocean's role in climate and oceanic impacts of climate variability and change.
- Impediments to better understanding and applications include inadequate numbers of long multivariate time series; ignorance of connections between spatial structures and temporal variability; ignorance of marine ecosystems dynamics and inability to observe key elements; gaps between research programs; and logistics and political barriers.

Recommendations:

- Build on the evolutionary Tropical Ocean and Global Atmospheric (TOGA) model.
- Work the interface between coasts and blue water and between physics and biogeochemistry.
- Increase funding and target gaps of inter-program and inter-agency coordination.

M

MAASSEN

Mr. Jeff Maassen, Commercial Fisherman

Los Angeles, CA, Apr-18-2002

Public Comment

Key Points:

- Santa Barbara sewage treatment plant is discharging a lot of solids.
- Goleta Sanitary District is requesting another 5-year waiver from fully treating waste.
- Increased development with more nonpoint source pollution and wastewater.

MACDONALD

Mr. Tony MacDonald, Executive Director, Coastal States Organization

Washington, DC, Nov-14-2001, State/Local Perspectives Panel

Invited Testimony

Key Points:

- There are several challenges:
 1. There is increasing development of decision-making to state and local level.
 2. There are limits of new legislative mandates in addressing complex environmental challenges. There is a need for more incentive based collaborative processes.
 3. Non-Governmental Organization(s) (NGO) and private sector play an increasingly important role.
- Move past rhetoric of balance, integration, and multiple-use toward “ends.” Translate into understandable, everyday examples.
- Coastal States Organization (CSO) endorses the following principles:
 1. Renewed commitment to federal and state coastal ocean partnerships.
 2. Recognition of sovereign rights and public trust responsibilities of coastal states.
 3. Adoption of common coastal ocean stewardship mission as the core element of federal agencies.
 4. Coordinated and sustained coastal and ocean research agenda at relevant scale for management is needed.
- Comprehensive coastal and ocean observing systems must be supported.

Recommendations:

- Consider a broader cross-section of investment potential as well as Outer Continental Shelf (OCS) revenue.

Responses to Questions:

- A network of governors' communication people should be established to help engage public at regional meetings.

Documents Recommended:

- “Stratton Roundtable Report” National Ocean Service.

MADLENER

Mr. Fred Madlener

Honolulu, HI, May-14-2002

Public Comment

Key Points:

- Hawaii is not protecting the ocean. The state is weak on fishing controls. They wish to use it, not protect it. Gill nets are allowed to be used. State is reluctant to protect coral reefs [discussion provided]
- The ocean is a public trust resource which includes all of us to pay attention to.

MAHOOD

**Mr. Robert Mahood, Executive Director, South Atlantic Fisheries Management Council
Charleston, SC, Jan-15-2002, Management of Living Marine Resources Panel
Invited Testimony**

Key Points:

- There are common regional and national fishery issues.
- Two major problems need to be corrected in South Atlantic to effectively manage marine fishery resources:
 1. There is a lack of adequate stock assessment, especially snapper grouper complex. Efforts are underway to provide better data (e.g., Atlantic Coastal Cooperative Statistics Program, Stock Assessment Workshop).
 2. Magnuson-Stevens Fishery Conservation Act (M-S Act) is slow and cumbersome. The regulatory process is bogged down.

Recommendations:

- Amendments to M-S Act are required.

Responses to Questions:

- Response to questions include detailed information and statistics for the following issues:
 1. Science voids in fishery management
 2. Where "best available science" is not sufficient
 3. Suggestions to streamline the efforts of the fishery management councils
- The Scientific and Statistical Committee plays actively different roles in the regional councils.
- Congress picked good delineations when setting regional councils-they reflect different thinking around the country.
- Habitat is essential to fishery management and managers need some say in what is going on with Essential Fish Habitat (EFH).
- Marine Protected Areas (MPAs) have clear role in protecting habitat.

MALONE

**Dr. Thomas Malone, Professor, Co-Chair, University of Maryland Center for Environmental Science,
U.S. GOOS Steering Committee
Boston, MA, Jul-23-2002, Science Panel
Invited Testimony**

Key Points:

- Closing the gaps between scientific understanding, the formulation and implementation of effective environmental policies, and public understanding requires significant progress on at least three fronts:
 1. rapid detection and timely predictions (the rates at which environmental data are acquired and processed are not well tuned to the time scales on which decisions need to be made);
 2. local expressions of large-scale changes (although most of the changes occurring in the coastal ocean are local in scale, they often reflect changes occurring on larger scales in the ocean basins, coastal drainage basins, and airsheds); and
 3. creating an environmentally literate public. [Further description provided.]
- We are on the cusp of a revolution in how we detect, understand, and predict changes in the marine environment, but greater coordination is essential.
- Data acquisition and processing for natural hazard mitigation, marine operations, national security, public health and safety, and healthy ecosystems and living resources need not and should not be done in isolation.
- The time is right to develop an observing system that (1) is based on sound science; (2) is responsive to the information needs of many user groups; (3) makes more effective use of existing resources, knowledge, and expertise for the public good; (4) provides a direct window to the ocean environment for research and public education; and (5) provides a framework that will enable government agencies to achieve their missions and goals more effectively.

Recommendations:

- Develop and fund a regionally based national system of observations and analysis that transcends existing jurisdictional and political boundaries, one that is better tuned to the scales of change in marine systems.
- An integrated ocean observing system must be able to provide multi-disciplinary (physical, chemical, and biological) data and information to many user groups, and effectively and efficiently link observations; data acquisition, management, and dissemination; and data assimilation, modeling, and analysis in "end-to-end" fashion. [Further description provided.]
- Mechanisms should be established to enable government agencies to collaborate more effectively, to take full advantage of new research capabilities, and to develop a more effective synergy between research enterprise and operational oceanography.

Responses to Questions:

- What is needed is an IPO, an Integrated Program Office, that has both the responsibility and the authority, via funding, to coordinate the development of the system. In terms of the grand concept of establishing research priorities in the context of some grand strategy, clearly, military research is driven by mission requirements. Research is prioritized based on the mission requirements of the particular agencies involved.
- There is a debate right now about whether science and the management process should be separated. When good science is available, it should be used, not be lost because the focus is on funding issues and other resource issues.
- The answer to sharing Federally funded data will be different whether you are talking about information for an operational system or information in a research program. For an operational program, the data has to be free access. For examples like XPT programs, XPTs should not be given to anybody unless they agreed to serve the XPT in real time. On the research side, there are good reasons that go all the way from quality control to the time it takes to analyze data and peer review to have a certain period of time in which someone else should have proprietary access to it.

MARCY

Dr. Suzanne Marcy
Anchorage, AK, Aug-22-2002
Public Comment

Key Points:

- The realization that there were seals in the rookery as there were before, and there were few birds in the bird rookeries, and the Alaskan people had fear in their eyes led the speaker to move from Washington D.C. to Alaska to work on ecosystem based assessment of risk for multiple stressors from human action and to gain an expertise in Arctic contaminants. There is much concern about the Bering Sea and the Arctic and the changes there.
- The entire community must develop the definition of sustainability. The larger community of interested parties needs to come together in open dialogue that is egalitarian, and have no governing body that is directing how discussion will go, and explore and define what sustainability means to that community.
- The definition of ecosystem is the same. How you define it will determine what work is done and that must be determined by the community coming together to define ecosystem.
- We need a smarter science. Sometimes the way the U.S. does science doesn't get us to where we need to go. Science has to be connected to the management questions and the value, the sustainability issue that needs to be addressed.

Recommendations:

- Recommend to the Commission to think carefully and recommend processes that step away from the management regime and go to the people. The people want to speak. The people of Alaska, the native community in particular, what their chance.

MARX

Mr. Peter Marx, Associate Director for Communications, U.S. Environmental Protection Agency-Chesapeake Bay Program Office
Charleston, SC, Jan-16-2002, Intergovernmental Partnership Case Study-Chesapeake Bay Panel
Invited Testimony

Key Points:

- Description of the Chesapeake Bay Program and the Local Government Participation Action Plan, Community Watershed Initiative, and Chesapeake Bay Small Watershed Grant Program.
- Develop clear and measurable restoration goals to which the public can relate.
- The need for extensive, multi-faceted sets of environmental indicators that clearly illustrate goals set.
- The need for data management standards.
- Federal agencies have come together to support the cooperative efforts with states and others.
- The revised Chesapeake Agreement (2000) focuses on five broad areas:
 1. Living resource protection and restoration
 2. Vital habitat protection and restoration
 3. Water quality protection and restoration
 4. Sound land use
 5. Stewardship and community engagement

Recommendations:

- Involve all stakeholders and partners at the highest levels.

- Set far-reaching science-based measurable goals-bold goals with clear end points and with temporal context.
- Ensure public support-know what people are concerned about.

Responses to Questions:

- It is estimated that it will cost roughly \$1.6 to \$2.4 billion to convert all 290 significant wastewater treatment plants in Bay watersheds from their current discharge levels down to 3 mg/l total nitrogen discharge.
- There are varieties of ways to deal with nonpoint pollution: restoration; better education of homeowners; protection of existing resources, buffers, better site design principles for development.
- The Chesapeake Bay program successes include working in partnerships and as watershed basis.
- Working on voluntary achievement of nutrient sediment allocations are driven by fear of regulatory hammer.

MCCABE

Mr. Trevor McCabe, Executive Director, At-Sea Processors Association (APA)
Anchorage, AK, Aug-21-2002, Management of North Pacific Living Marine Resources I Panel
Invited Testimony

Key Points:

- At-Sea-Processors Association (APA) employs more than 2,000 people, 19 vessels and harvests around 40% of Bering Sea pollock, the nation's largest fishery. Its main products are Pollock filets, surimi roe, and fish meal. They sell filets to the domestic and European markets and surimi roe and meal to the Asian markets. With help from the CDQ program five of the six CFQ groups representing 23,000 Alaskans now own more than 25% of the fleet and they expect that they'll own a majority of the fleet within five years. The Pollock fishery has been like a long-term savings bond.
- In New England you've heard about the disagreement over the need for hard caps. Here, when you hit the TAC, fishing stops for the year. In Russia, their scientists believe that the annual harvest could be twice as high as it is. They believe that you can fish Pollock at an exploitation rate around 30% or more and we've been fishing an exploitation rate of the mature fish around 15%. Theirs has been in decline using the higher exploitation rate and ours has been at a steady state.
- Prior to 1998, the story of our successful management had been marred by bitter battles over access to the catch levels set by the Council. Those battles were resolved after almost a decade of fighting by Congress in 1998 through the American Fisheries Act (AFA). [discussion provided]
- With the help of the APA 10 cooperatives have now been formed by virtually the entire fleet in the Bering Sea Pollock fishery. To most participants and observers of the fishery, the cooperatives have been the biggest fishery management improvement since the extension of U.S. jurisdiction in 1976. They are successful because:
 1. A cooperative vessel operator has the ability to stop fishing when weather conditions make fishing too dangerous with the knowledge that the other parties to the contract will not catch the portion that's reserved under the contract for his or her vessel. This has been one of the most significant improvements in the Bering Sea where even fishing in good weather is more dangerous than most other occupations.
 2. We've formed a binding contract among all 10 of the Pollock cooperatives through which we agreed to work together to avoid salmon bycatch. During 2001 alone, this program is estimated to have led to the avoidance of more than 20,000 salmon, perhaps a third of the fleet's incidental salmon harvest.
 3. There has been an increasing yield seen from each pound of Pollock harvested.
 4. Monitoring enforcement has also improved under the AFA and Pollock fishing cooperatives.
- There is tremendous transparency in this system. There is a powerful incentive to fish cleanly because the public is going to know. We have an incentive program where the top three skippers in our fleet receive a cash award for being the cleanest.

Recommendations:

- Develop incentives that will allow the other regions of the country and other Councils to achieve sustainable fisheries within this framework.

Responses to Questions:

- Our experience with what we call quota based management where the vessel heads out at the beginning of the year and knows how much fish it can catch has been extraordinary. We were a lot less affected by this recent Stellar sea lion restriction because we had the luxury of a longer season and the ability to be more flexible in how we caught the fish. [discussion provided]
- The speaker disagrees with Mr. Van Tuyn. There are fish that are swimming out there alive in the sea as a result of bycatch reduction efforts. He is right that on the ground fish where the 85% reduction is fish that, instead of grinding them up and dumping them overboard, we are making something useful out of them.

MCCAFFREY

Ms. Kelly McCaffrey
Seattle, WA, Jun-13-2002
Public Comment

Key Points:

- Healthy oceans mean healthy fish populations, healthy fisheries, healthy wildlife that feed on fish, healthy tourism that watches that wildlife, healthy sportfishing industry that thrives on those healthy fisheries-a healthy ecosystem for a healthy America.

Recommendations:

- Develop an Ocean Restoration Policy.
- Explore the possibility of extending the opportunities to preserve U.S. territory/land as Wilderness-to off-shore.
- Ocean policy must be strongly worded to work towards sustainability over the long term (200 years and on), focusing not on healthy industry, but on healthy ecosystems (industry will follow only with a healthy ecosystem).

MCCREARY

Mr. Richard McCreary, Group President, Halter Company, Inc.
New Orleans, LA, Mar-07-2002, Maritime Transportation Panel
Invited Testimony

Key Points:

- Comprehensive ocean policy will require special emphasis on transportation needs of those working in this environment. Future vessel needs include: oceanographic research vessels capable of multi-mission operations; fishery vessels; fast patrol vessels; oil spill response vessels; and oil and gas exploration and drilling. Vessels themselves must be "green ships" like double hulls. Tighter regulations for chemical transportation are needed.
- Make financial burden of equipment easier to bear by expanding Marad Title XI policies; promoting "green ships" through tax incentives and incentives for vessel owners and operators; and establishing high priority for oceanographic and fisheries research vessels.
- All new chemical tankers should be built with double hull. Those that cannot comply should be phased out in expedited schedule. All vessels that carry potentially hazardous cargos to the environment should be regulated under a national ocean policy. Segregated cargo tanks should be designed to allow fully independent loading and emptying of each unit. Tank materials with high-yield strength and corrosion resistant properties, including coatings, should be encouraged. Tanker owners and crews should be required to participate in ongoing education to assure compliance with operational and safety standards. Consider making financial burden easier.

MCGOWAN

Mr. Marty McGowan
Boston, MA, Jul-24-2002
Public Comment

Key Points:

- It is important to balance the concept of the environment and the commercial when thinking of investing as a venture capitalist in a small aquaculture farm that happens to do shellfish, which are interestingly natural filters in the ocean.

Recommendations:

- Create an environment that is not from a natural standpoint, but from the standpoint of all these people, the environmental, commercial, academic, etc., can come together. The ocean should benefit everyone.

MCHUGH

Ms. Theresa McHugh, Project Manager, Trust For Public Lands Hawaiian Islands
Honolulu, HI, May-14-2002
Public Comment

Key Points:

- Much of Trust For Public Lands (TPL) focus in Hawaii is on coastal lands throughout the state. Those lands are important to our communities for recreation, economic benefits and subsistence. At the same time those lands are most threatened today.

- On national level TPL has been working with NOAA in establishing the Coastal and Estuarine Land Conservation Program, intended to protect those coastal and estuarine areas with significant conservation, recreation, ecological, historical or aesthetic values or threatened by conversion from the natural state to other uses. Important program because coastline protects oceans from impacts of development and intensified uses.
- Protecting coastal lands along with investments in ocean resources is a critical hand-in-hand process.

Recommendations:

- Urge recognition of importance of Coastal and Estuarine Land Conservation Program.

MCNUTT

**Dr. Marcia McNutt, President and CEO, Monterey Bay Aquarium Research Institute
Seattle, WA, Jun-14-2002, Ocean Science, Exploration and Education Panel**

Invited Testimony

Key Points:

- Our nation would greatly benefit from a program in ocean exploration. Knowledge acquired through exploration is already, and will become even more, essential for policy makers, researchers, resource managers, and conservationists.
- Such a program should be conducted with full involvement of all relevant Federal agencies, the academic community, the private sector, and ideally, international partners.
- One candidate model for how to establish a program in exploration, is the Ocean Drilling Program (ODP). It is the premier example of a successful international program. [discussion provided].

Recommendations:

- The following Federal agencies should be involved in a program in ocean exploration: NSF, the Navy, NOAA, and NASA. The following agencies' participation must be encouraged: U.S. Geological Survey, the Minerals Management Service, the Environmental Protection Agency, and the Department of Energy.
- The program in ocean exploration must be discovery-based, have a vision and be conducted in an organized and systematic manner, and must be inclusive.

Responses to Questions:

- NSF's grants should be for longer term support but should also be open to new answers and new attitudes as they become apparent.
- The idea of real-time broad sharing of data from exploratory actions comes into play because it's important that all groups should know the same information rather than some groups being at a disadvantage. Data quality control would be immediately available over the Internet through web-based servers and anyone could call up this data and get access to it. There would have to be exceptions, if appropriate.
- I knew that Dr. Spindel was going to speak today, and for that reason I did not stress the Arctic in my presentation. I knew that he would cover that important point. Please note that in president's panel report on ocean exploration, the top priorities for exploration were the Arctic and southern oceans.
- There are several aspects of the ODP model that are also quite applicable for ocean observing systems and integrated discovery programs. One is the need for a long term funding line. Each time it is renewed it has new aspects to it, and they can do long term planning that way. That is absolutely essential for ocean observations, just as it is for ocean exploration. Ocean observing system and ocean exploration need to work together in proposals. There needs to be a big plan, finding the holes, and information the community of where those holes are and encouraging people to put in proposals to fill the holes.
- The advantage of centralizing within an agency is if the right person is running it, to maintain the interest of the people and the money so it does not have temptation to go elsewhere to other things. If you put it in an agency like NASA or NOAA, there would constantly be battles of where the money would go.
- We need a system that has the right feedback to encourage appropriate behavior. One model to lessen the territorialism is to take the heads of four agencies and rotate them every two years to the next agency. The Navy does this all the time. The idea of the president's panel was that 75 million dollars should be money that was coordinated to do these major ocean explorations.

MCPHAIL

Dr. Ian McPhail, Deputy Director-General, Environmental Protection Agency, Queensland Government, Australia
Washington, D.C., Oct-30-2002, International Panel
Invited Testimony

Key Points:

- Australia views the resources of the seas as entirely analogous to those of the land. The seas represent the natural capital from which much of the world's protein is derived, target species exist within identifiable ecological systems, and their use and exploitation demand the application of best practice and best knowledge sustainable use policies. National and international policy has begun to recognize that the resources of the seas are finite, that many fish species are under heavy pressure, that seabed mining, shipping and other uses require an accepted multiple use framework within which to function.
- A number of countries have made very significant strides in developing approaches to ocean management.
- Australia's ocean policy of 1998 is the first comprehensive attempt to adopt a large ecosystem management approach to the Exclusive Economic Zone. The policy incorporates approaches ranging from representative areas designated for high-level protection to the reinforcement of the economic value of the oceans' resources, to the nation if used sustainably and intelligently. Most of all the policy reinforces the argument that the management of the resources of the ocean requires an integrated approach to meet the multiple objectives of environmental, social and economic good. The natural capital of the sea is the asset on which the maritime economy is based.
- A feature of the implementation of the Ocean Policy at Commonwealth level has been the creation of the National Oceans Office. The Office is an executive agency of government, in that it is separate from each of the constituent departments whose ministers make up the board.
- No Australian State, thus far, has signified its endorsement of the Oceans Policy, which is highly regrettable. Therefore, one of the great policy initiatives of this generation is not accepted as a national initiative, but is being perceived by the States as another federal intervention.
- In the end, the management of the coasts and oceans comes down to political will.

Responses to Questions:

- Unfair to describe the U.S. ocean research effort as being disorganized and ineffective.
- Most of the politics, the pressure and the impact impacts upon the oceans occur in the coastal zone within a relatively short distance from the coast.
- Discussion and examples of on-water enforcement in Australia is presented.
- Engage states in whatever ocean policy model is adopted. Set regional marine objectives then allow structures to form around them.

MCPHERSON

Dr. Ronald McPherson, Executive Director, American Meteorological Society
Chicago, IL, Sept-25-2002, Climate Prediction Panel
Invited Testimony

Key Points:

- Regardless of the degree to which climate variability and change result from anthropogenic influences, coping with both will be easier if we can predict what is coming, over a broad spectrum of time scales ranging from tomorrow's weather through the next season to as far in advance as science will permit.
- Useful prediction of the Earth's fluid envelope involves three components: observations, modeling, and provision of services. Education and institutional arrangements are necessary to ensure that services are effective, dependable, and subject to continuous improvement.

Recommendations:

- Policies that affect monitoring, prediction, and/or modifying the components of this coupled system should recognize that it is coupled.
- The AMS is supportive of an integrated global observing system for monitoring the state of the coupled ocean-atmosphere-land system on a continuing basis. Such a system should be built by extending the existing system of in situ and remotely sensed observations of the oceans, atmosphere, rivers, streams, and lakes, ice-covered areas, and land surfaces, to be more comprehensive than at present. This integrated global observing system should be designed and operated with full recognition that the information that it will produce will have multiple uses.
- Comprehensive numerical models of the coupled system must also be coupled.
- Prediction and other environmental information services, when provided as a "public good" return on the public investment, should also be organized according to the notion that the system is coupled.
- We need strong educational programs in Earth system science that also stress the coupled, integrated nature of the system. These should underpin not only the training of professionals, but also K-12 education of the general populace.

- Organizing the national effort to routinely observe the coupled Earth system, managing the information flow, modeling the coupled system, and providing services suggests that care should be taken to reflect the coupled characteristics of the system.

Responses to Questions:

- There has to be a lead agency for ocean observing system.
- It is better to separate the regulation from the science within agencies. I would like to see an agency put together with parts of NOAA, USGS, and other organizations, as an independent agency with clout. The agency would have three components; observations, services, and research.

MEHEULA

Mr. Harold Meheula, President, Native Hawaiian Fishermen's Association, Inc.

Honolulu, HI, May-14-2002

Public Comment

Key Points:

- The waters of Hawaii belong to the Kingdom of Hawaii. They are owned as the Hawaiian Archipelago.
- The government takes everything from us.
- Global mining is happening next year but nobody will talk about it.
- The U.S. is going to sell Gilbert Islands to France so they can fish there.

MENDOLA

Mr. Dominick Mendola, President, CalBioMarine Technologies, Inc.

Los Angeles, CA, Apr-18-2002, Marine Biotechnology Panel

Invited Testimony

Key Points:

- The company's concept is to apply modern aquaculture and bioprocess techniques, together with the knowledge of life cycles of marine invertebrates and marine algae, to high-yield culture for eventual extraction of bioactive chemical constituents.
- There are almost insurmountable hurdles to obtaining required local, state, and federal permits and obtaining seed funding necessary to launch new marine bio-business.

Recommendations:

- Urge new national program in marine biotechnology, "Ocean Technology Partnerships," to foster innovation and seed investment in new marine biotechnologies:
 1. Administered by Department of Commerce (DOC) and National Oceanic and Atmospheric Administration (NOAA).
 2. Consortium between small businesses, universities, and/or a national government laboratory group.
- Relative to the Oceans Act, the amended Section 2 (6) including investments and technologies is designed to promote national energy, food security, and new marine-derived healthcare technologies.

MERRILL

Ms. Maggie Merrill, Executive Director, Marine and Oceanographic Technology Network

Boston, MA, Jul-24-2002

Public Comment

Key Points:

- The Marine and Oceanographic Technology Network (MOTN) is a trade association dedicated to promoting the success of marine technology business. MOTN provides services and help to expand the business opportunities of its members, which is currently 68. This region has the highest concentration of marine science and technology firms and institutions in the world.

Recommendations:

- There should be continued support for innovation and increased technology transfer from the academic environment, research institutions and Federal laboratories into the private sector.
- Support is needed to continue to assist marine technology firms worldwide in their efforts to sell instrumentation all over the world and provide services.
- Provide more focused assistance in the newer markets in South America, Asia, and the new republics.
- Streamline domestic regulations.
- Support business improvement opportunities.

MILLER

Mr. Chris Miller
Los Angeles, CA, Apr-18-2002
Public Comment

Key Points:

- As a result of the Marine Protected Area Executive Order, the Channel Islands' National Marine Sanctuary asserted itself as a stakeholder and influenced consensus of forum.
- Sanctuary Program's new role as stakeholder advocating a "policy of percentages" needs to be addressed.

Recommendations:

- Either we are taking a community-based approach to the Executive Order or we are under a policy of minimum percentages.
- Develop a clear process for looking at an overall design for reserves along the West Coast.
- Create a comprehensive mitigation strategy for reserves initial loss to fishery yield.
- Create regional data management councils in which the community has independent technical support and oversight.

MILLER

Mr. Lance Miller, Executive Director, Juneau Economic Development Council
Anchorage, AK, Aug-22-2002
Public Comment

Key Points:

- The last half of the last century, each decade has been warming on the order of a degree Celsius per decade.
- There are temperate glaciers that occur around 32 or 0 degrees Celsius and polar glaciers such as Greenland and Antarctic. Seventy-five percent of the world's fresh water occurs in glaciers and 97 percent of Alaska glaciers are in the sub-Arctic. Temperate glaciers that occur in Alaska are key and sensitive indicators of climate change. Glaciers can affect various fisheries and economic issues. One near Juneau, the Taku Glacier, is presently advancing and has actually closed off its fjord. [discussion provided.]
- Extensive research shows in the state that less than one percent of the some 2,000 glaciers in Alaska are presently advancing.
- There has been so much emphasis on fish and the oceans, it is important to note the importance of coastal areas and the indicators in those coastal margins. Temperate glaciers, again, are unique indicators of climate change.

Recommendations:

- Incorporate in your report a total system approach to global climate change addressing glaciers and how they can affect various resources in the oceans and the oceans and climate itself.

MILLER

Ms. Pamela Miller, Arctic Connections
Anchorage, AK, Aug-22-2002
Public Comment

Key Points:

- We must not forget about the Arctic Ocean; it supports a unique and vulnerable ecosystem that Native Alaskan people have depended upon for millennia.
- The Arctic Ocean is on the frontier of global climate change - a serious concern to Alaskans.
- Meanwhile, the DOI has launched an aggressive new oil and gas leasing program across Alaska's Outer Continental Shelf. [Further description provided.]
- Offshore exploration and development threatens the integrity of the Arctic Refuge from oil spills caused by offshore wells, noise from industrial activity, and the threat of onshore support infrastructure in the biological heart of the refuge itself.
- The cumulative impacts from offshore development (and associated onshore infrastructure and practices) are altering biological communities and ecosystem processes.
- But considerably more offshore development is planned for the future. [Further description provided.]
- Just 30 miles of coastline are protected, and just 5% of Alaska's North Slope is protected (both within the Arctic National Wildlife Refuge).

Recommendations:

- Help create a new vision that incorporates the value of protecting America's marine and coastal ecosystems as wild, natural places.

MOHLING

**Dr. Wendell Mohling, Associate Executive Director for Professional Programs, National Science Teachers Association
Chicago, IL, Sept-25-2002, Education Panel
Invited Testimony**

Key Points:

- NSTA serves the entire science education community, including the PreK-University formal education community as well as an important and growing informal education community of professionals involved in a plethora of science museums, nature centers, aquaria, and other institutions.
- Supportive school curriculum materials and science education programs that extend the experiential base are important to challenge all students. Quality science education programs provide the appropriately active “doing of science” experiences as opposed to the often used, passive approach of “read, rote, and regurgitate”.
- The effort to enhance the scientific literacy of the nation's citizenry was underscored in the initiative to develop the National Science Education Standards brought forward and supported by NSTA to the National Academy of Science. The result of the collaborative effort between the science and science education communities has been the rededication to involve ALL students in quality science learning programs.
- Although not all ocean science content is included in the K-12 National Science Education Standards it is evident that topics of ocean science are encompassed in the content standards at every grade level.
- Federal and state government agencies play an important role in supporting science education. In addition to those mentioned elsewhere, a range of programs provided by NOAA, NASA, EPA, and other agencies have made unique contributions to the professional development and enhancement of teachers of science.
- Technology support has greatly expanded the opportunities to learn about the oceans. The JASON Project has been noteworthy in using advanced technology to bring students in touch with ocean discoveries.
- The recently enacted federal legislation, No Child Left Behind, promises to bring changes to schools nationwide. There are key changes that impact science education initiatives. The law requires states to develop plans with measurable objectives that will ensure that science teachers are “highly qualified” by the end of the 2005-2006 school year. States must administer an annual assessment of student achievement in science at least once in grades 3-5, 6-9, and 10-12, beginning in 2007.

Recommendations:

- Quality teachers of science must have a firm command of the content they are teaching, sustained professional development for continued learning, and time in the school day to plan, strategize and collaborate with their colleagues.

Responses to Questions:

- Some of the Discovery missions had a one or two percent earmark set aside for education and public outreach programs. Education is now a core mission of NASA.
- Most agencies don't have a sustained budget or effort required to provide support that's needed in education.
- There are many examples of folks who want to do good things for science education but too many examples of reinventing the wheel.

MOKAHI STEINER

**Mr. William Mokahi Steiner, Director, United States Geological Survey Biological Resources Discipline
Honolulu, HI, May-14-2002
Public Comment**

Key Points:

- The mandates, issues, and activities of the United States Geological Survey (USGS) are discussed.
- Immediate funding is needed for the creation of a USGS facilities infrastructure program to build a set of marine research labs associated with Department of Interior (DOI) Parks and Refuges in American Samoa, Palau, Midway, Palmyra Atoll, and Hilo Bay.
- Immediate creation is needed of a \$10 million/year program within USGS aimed at biological support in the marine realm for DOI managers of marine resources.
- Modify federal law to make it easier for universities, Non-governmental Organizations (NGOs), businesses, and federal agencies to interact by connecting funds and student and faculty support for studying changes over decadal time periods.

MOLNIA

**Mr. Bruce Molnia, Staff, House Oceans Caucus
Washington, DC, Sept-18-2001
Public Comment**

Key Points:

- I would like to offer to you the results of the activities of the House Oceans Caucus during the 106th Congress. As Admiral Watkins is well aware, last year we focused on governance, national security, marine resources, ocean exploration and the pollution issues. We held our House Ocean Policy Development meeting. There were extensive transcripts, and all of the panels had presentations that day. We also worked with the AAAS and the American Geophysical Union and held an International Ocean Sciences Day.
- The topic we dealt with was there were hydrates and other non-renewable resources in the marine environment, fishing down the food chain, and the pollution issue. I think these might be issues that parallel closely some of the deliberations and topics that you will deal with over the course of the next 18 months

MONROE

**Mr. Bruce Monroe, Volunteer, Sierra Club
Los Angeles, CA, Apr-19-2002
Public Comment**

Key Points:

- Adequately funded research is needed to better understand the complexities of the ocean ecosystem. Rapid implementation of Executive Order 13158 is needed. Place a moratorium on coastal development before limits of growth are exceeded.

MONROE

**Mr. Dick Monroe, Vice President of Environmental Relations, Darden Restaurants
St. Petersburg, FL, Feb-22-2002, Economic Development Panel
Invited Testimony**

Key Points:

- Darden plays important role in economies and policy formation of local, national, and international regulations dealing with oceans' resources. We encourage, support and reward good environmental and social behavior. Active participants in Convention on International Trade in Endangered Species (CITES), Food and Agriculture Organization of the United Nations, and in local communities where restaurants are located.
- Free access to the seas is no longer an option.

Recommendations:

- Alternative sources of food from the sea must be considered. The most promising alternative is aquaculture/mariculture.
- Consider recommendations of greater funding for research and development, not only of more diverse national aquaculture industry but also in developing foreign aquaculture ventures to assist emerging nations alleviate hunger and poverty.

MOORE

**Mr. Edwin Moore, President and CEO, James Madison Institute
St. Petersburg, FL, Feb-22-2002, Economic Development Panel
Invited Testimony**

Key Points:

- Leaders must think "out of the box."
- A comprehensive energy policy based on facts, not fears, must be enacted.
- Constructive engagement and real attempts at formulating future solutions are needed. Rainey Preserve is a good example. It is owned by Audubon and oil drilling is allowed. Money buys other lands.

MOORE

**Mr. Rod Moore, Executive Director, West Coast Seafood Processors Association
Seattle, WA, Jun-13-2002, Living Resource Management in Pacific Northwest Panel
Invited Testimony**

Key Points:

- West coast fisheries and seafood industry:
 1. Dungeness crab, Pacific groundfish, and pink shrimp fisheries need to be discussed together; most boats fish 2 or all 3.
 2. If you take away any one of these fisheries, there are significant number of boats and plants that may not survive.
 3. Groundfish is glue that holds west coast fisheries together.

Recommendations:

- Decide what we want as an overall oceans policy.
 1. Construct clear and concise policy, through E.O. and statute, stipulating which path to take
- Establish a clear governing system.
 1. Currently, authority over ocean related issues resides in various places in the U.S. government.
 2. One solution would be establishing Department of Oceans.
- Make NOAA a functioning agency; it is currently dysfunctional.
 1. Organic act setting clear responsibilities and articulate ocean policy.
 2. Consider removing "dry" side so it just deals with water.
- Change laws to reflect reality and get us out of the lawsuit mess.
 1. Need to understand that oceans and fisheries are dynamic, not static.
 2. Weigh relative worth of fisheries and actions we take to conserve and manage them.
 3. Recognize and accept that science is imprecise.
 4. Time frames involved in fisheries management should allow ample public comment and participation.
- Give managers the tools they need to keep functional.
 1. Repeal ITQ moratorium and allow fisheries managers to consider use of this tool. [discussion of ITQs is provided]
- Keep regional fishery management council system intact. [discussion provided]

Responses to Questions:

- Yes, it is possible to design and implement a marine ecosystem management system for the Pacific Northwest, but we need to talk about whether we are going to have the sacred cows out there. You have to look at the elements of the ecosystem. Our country has made a societal choice, for better or for worse, that we are going to set endangered species aside. Society might set water fowl aside it, and call it ecosystem management. At that point it is not really ecosystem management.
- Do not design a marine ecosystem management plan nationally, because while it is fine to have national standards, the people who know the most about it are people like Kathy Fletcher, Ralph Brown, and Usha Varanasi, and their teams. They should receive their marching orders, and then come up with the ideas.
- Regarding bycatch, put the myth to rest that says bycatch only occurs in a couple of different fisheries. It is a fact that recreational fishermen in rivers and oceans have bycatch. Everyone does. So the real question is about volume and how can it be reduced.

MORRIS

**Ms. Julia Morris, Coordinator, New College Environmental Studies Program; Member, Gulf of Mexico Fisheries Management Council
St. Petersburg, FL, Feb-22-2002, Economic Development Panel
Invited Testimony**

Key Points:

- Fishery management measures proposed by Gulf Council must conform to 10 national standards of Magnuson-Stevens Fishery Conservation Act (M-S Act), National Environmental Policy Act (NEPA), and the Endangered Species Act (ESA). This complexity is heavy burden for council. The staff is inadequate to handle requirements.
- The complexities of preparing documents push councils toward considering one species at a time in order to complete assessments.
- Florida's Federal Conformance Procedure works well and allows expedited rulemaking for Florida to conform to new federal rules.
- The federal process is too slow when stock in question is commercially valuable and targeted. Council (or state) does not have the staff to adequately implement Essential Fish Habitat (EFH).
- Good science and data are lacking.

Recommendations:

- The Fishery Management Plan (FMP) for spiny lobsters is a good model of cooperation. It contains “Protocol and Procedure for an Enhanced Cooperative Management System.”
- Review Florida's new Fish and Wildlife Conservation Commission structure for restructuring federal fisheries management.
- Continue Funding Joint Enforcement Agreements with states. New England's cooperative research plans involving fishermen should be encouraged by congressional funding.
- Add Individual Transferable Quota (ITQ) as a management tool in Gulf of Mexico. Allow each council to determine whether ITQs would be a useful tool for their fisheries.
- The process should be changed so that council's decision regarding status and conservation goals of the stock is taken first and management measures are taken second.

Responses to Questions:

- Definitions in Sustainable Fisheries Act are sound and will move toward maximum sustainable harvests. Revised Sea Grant publication “Understanding Fisheries Management” incorporating biomass-based overfishing measures would be useful.
- Biomass portions of definitions do not work well in data poor species. Improved guidance from National Marine Fisheries Service (NMFS) on acceptable range of proxies.
- Establishing a council like Marine Mammal Commission for fisheries would not help with marine fisheries issues. It would be duplicative of existing activities. A 10-year review panel like the Ocean Commission would be more helpful.

MOTHA

Dr. Raymond Motha, Chief Meteorologist, World Agricultural Outlook Board

Chicago, IL, Sept-25-2002, Climate Prediction Panel

Invited Testimony

Key Points:

- The World Agricultural Outlook Board (WAOB), created by the Secretary of Agriculture in 1977, serves as the Departmental global economic intelligence focal point for gathering information and analyzing developments that affect agriculture. Under the Board's direction, interagency committees of experts develop official forecasts of supply, utilization, and prices for commodities.
- A primary focus of public interest is the monthly World Agricultural Supply and Demand Estimates report released by the Board. The forecasts in this monthly report, covering major commodities for the United States and the world, are considered authoritative as they are backed by USDA's unparalleled access to information and are based on a systematic and objective process.
- On a daily basis, meteorologists track global weather developments and keep analysts informed of forecasts and predictions in the major crop areas around the world. The agricultural meteorologists interpret the impact of seasonal weather to date on crops at their various growth stages.
- The importance of weather information for commodity analysis can not be over emphasized. Weather data are closely scrutinized to analyze the impact on crop yield potential.

Responses to Questions:

- Department of Agriculture should be a player in climate forecasts/predictions.

MUNK

Dr. Walter Munk, Professor, Scripps Institution of Oceanography

Los Angeles, CA, Apr-18-2002, Featured Speaker

Invited Testimony

Key Points:

- Our future priorities are to the establishment and maintenance of an Ocean Observing System and the dual goal of managing and sustaining ocean assets and of understanding ocean processes.
- Historic views of oceanography show that most of previous century could be called “century of undersampling.”
- Satellites have revolutionized oceanography and enhanced the ability to sample adequately and globally. Next two revolutions are climate and combined biological/physical/chemical models of ocean processes.
- Remote sensing enhances the need for shipboard observations (“sea-truth”).
- “Sustaining” observations is probably one of the most difficult requirements.

MUNSON

**Ms. Mary Munson, Director, National Parks Conservation Association
Washington, D.C., Oct-30-2002
Public Comment**

Key Points:

- Marine protected areas (MPAs) are gaining wide acceptance as major tools of an effective ocean policy. These zones are effective fishery management tools because they reduce fishing mortality, leading to increases in abundance of spawning fish and enhancing yields in nearby fished areas.
- Our National Park System is home to 50 park units with marine components, and has a statutory mandate to protect marine resources while providing for education and recreation. Marine Parks offer an excellent opportunity to serve as models for new marine management techniques.
- Interagency collaboration is essential to the success of the nation's ocean policy. Any agency charged with implementing U.S. Ocean Policy, if successful, must play a strong role in promoting interagency collaboration and cooperation.

Recommendations:

- We urge you to express strong support for employing Marine Protected Areas (MPAs) as tools to achieve resource protection and healthy marine ecosystems.
- To ensure the long-term survival and health of our marine systems, we must create a strategically designed system of no-take marine reserves, covering a broad range of representative marine habitats, especially important to spawning. The Park Service, as one of the federal agencies focused on conserving wildlife for future generations, should play a leadership role in implementing such a system.
- We ask you to look into innovative mechanisms to promote interagency cooperation and collaboration.

MURAWSKI

**Dr. Steven Murawski, Chief, Population Dynamics Branch, Northeast Fisheries Science Center, National
Marine Fisheries Service, NOAA
Boston, MA, Jul-23-2002, Science Panel
Invited Testimony**

Key Points:

- The scientific challenges faced in supporting the management of living marine resources, in New England and elsewhere in the U.S., are to provide answers to questions of applied ecology and social science. Specifically, the challenges are:
 1. The determination of resource abundance and productivity.
 2. The relation of that productivity to rates and methods of exploitation.
 3. The evaluation of management options and distribution of benefits, consistent with sustainable utilization.
 4. The interrelationships between biological resources and variation in the physical environment.
- The regional capabilities to support management of living marine resources could serve as a model for the rest of the country, particularly as they relate to the development of observational capabilities through systematic surveys.
- In order to enhance the science capabilities in support of living marine resources management, the U.S. should:
 1. Consider that every fisherman is a scientist-information provided by fishermen currently provides one of the critical foundations of stock assessment for fishes, invertebrates, and protected species.
 2. Sharpen our tools. Three classes of new tools that have been developed and are beginning to be put into use are: 1) fish tagging with new "smart" or data storage tags which include a small power source and microchips with built-in clocks and sensors; 2) new technologies like multibeam sonar and techniques for ground-truthing of imagery, pioneered by the USGS and other institutions; 3) tracking systems are now used in the northeast to manage days at sea quotas for some fisheries.
- 3. Manage ahead of the crest. Resources cannot continue to be managed just "behind the crest" of resource decline, followed by increasing regulation. If this continues then management and the science supporting it will remain contentious and inefficient.
- 4. Maintain the vigor of science. Invention is the agent of progress and change.

Recommendations:

- Continue strategic investments in technologies, institutional interrelationships, and people can improve the precision, relevance, and timeliness of science in support of living marine resource management.

Responses to Questions:

- Ecosystem management-the first tenet of addressing ecosystems is doing good quality, single-species management across the board. For example, there is the whole issue of bycatches. Bycatch is where the target species for one fishery has a bycatch for the target species for another. That's where an ecosystem umbrella plan could work to look at the compromises that you would need to manage in a whole system.
- Marine Protected Areas-there are many good reasons for MPAs, as has been discussed.
- The fishermen themselves are actually pushing for them to be looked at as scientist. There is not really a need for incentives. They know they are the ones out there. Fishermen are now realizing that serious management decisions are being made partially on the basis of what goes into their logbooks.
- There is definitely a need for policy coordination because there are many interjurisdictional issues. Related to the coordination of science with management objectives, the problem is not that the research is not practical, it is that the research is actually too practical. It's always when the policy makers and the decision makers are closely aligned that it turns into short-term research.
- The same confidentiality issues that arise in terms of fishermen-derived information come into play when speaking about the sharing of Federally funded data. Various issues have been explored when working on the spatial scale and specific catches, so an individual's hot fishing hole is not instantly available to everybody.

MURLEY

Mr. James Murley, Director, Florida Atlantic University

St. Petersburg, FL, Feb-22-2002, Management of Coasts and Oceans Panel

Invited Testimony

Key Points:

- Florida's activities for a more comprehensive approach to ocean resource management and policy include:
 1. Integration of ocean resource management into state Coastal Zone Management Act began in 1996-1997.
 2. Florida Ocean Policy Roundtable includes dialogue among public and private groups.
 3. "Looking Seaward: Development of a State Ocean Policy" is an overview and assessment of law and policy related to management of Florida's ocean resources.
 4. Statewide Ocean Resource Inventory (SORI).
 5. Governor's Ocean Committee (1998) was charged with raising public awareness of the ocean's importance to Florida.
 6. Florida Alliance was formed by several members from Governor's Committee. It serves as clearing-house for information on key ocean and coastal issues. It monitors and publicizes actions related to oceans and coasts, focusing on outreach.
- Coordination among local, state, and federal agencies, and other states in a region, is needed to ensure that Florida's economic base is maintained while minimizing impacts on ocean and coastal natural and social systems. Healthy oceans depend on strong stewardship ethics.

Recommendations:

- Develop partnerships to allow public and private sectors to work together for effective decision making regarding ocean resource management. Collaborate among all levels of government to allow for shared decision making about ocean-based activities.
- Support efforts such as proposed the Conservation and Restoration Act of 2000 and the Coastal and Estuarine Land Conservation Program of 2002.
- Research and education must implement inventory, monitoring, and assessment programs to establish baseline to examine resource change. Protocols for data management must be developed that encourage integration and exchange through web-based technology. Educator training must be increased on coastal and marine science and on current ocean issues. Teachers should be encouraged to introduce ocean themes in diverse curricula.
- Specific needs include developing a sense of stewardship toward coastal and ocean areas; making better use of public/private partnerships to support symbiotic relationship between health of economy and environment; and increasing collaboration among all levels of government and with other countries.

Responses to Questions:

- Water Resource Development Act (WRDA) is a model that may be helpful to examine for how to customize collaborative institutions.