

Heceta Head Coastal Conference

“Oregon’s Ocean: Its Perils & Possibilities”

Florence Events Center - October 29, 2005

SUMMARY

Convener: Dr. John V. Byrne, president emeritus, Oregon State University;
former administrator of National Oceanic and Atmospheric Administration

First Panel: “Oregon’s Ocean: What is Changing?”

Dr. Jane Lubchenco, professor, Department of Zoology, OSU; member, Pew Oceans Commission
“Oregon’s Ocean: Global & National Perspectives on Perils and Possibilities”

Dr. Lubchenco opened her remarks by identifying global trends in the depletion of ocean ecosystems and the increased likelihood of abrupt changes. Today, we fish farther from shore, deeper, more efficiently, and in formerly inaccessible places.

Global fisheries peaked in 1980s and are now declining, with evidence that 25% of global fisheries are now significantly depleted, and with 90% of all big fish gone.

She described the biological causes of the declines, but also gave a vision of the Pew Oceans Commission for healthy seafood and clean beaches. One recommendation is for more marine reserves, noting that 23 nations have established more than 100 reserves, but which cover less than 1% of the ocean. Marine reserves have the potential to benefit both conservation and fishing management.

Dr. Greg McMurray, marine affairs coordinator, Oregon Department of Land Conservation & Development
Appearing on behalf of **Marc Hershman**, professor of Marine Affairs, University of Washington; member, U. S. Commission on Ocean Policy

“Recommendations of the U.S. Commission on Ocean Policy: A First Year Report Card”

In 1969 the Stratton Commission published an influential report entitled: “Our Nation and the Sea” which prompted a proliferation of federal legislation in the 1970s, including: Coastal Zone Management Act; Marine Sanctuary Protection Act; Ocean Dumping Act; Amendments to the Outer Continental Shelf Lands Act. More recently, in a step toward reviewing our national ocean policy, the U.S. Commission on Ocean Policy was formed as a bi-partisan panel, with a broad range of expertise, and a geographic balance. The Commission’s report was circulated in 2004 with over 400 recommendations.

The governors of each state bordering an ocean were obliged to make a response. Governor Kulongoski’s letter keyed on these issues:

- § *Support of CZMA reauthorization and funding*
- § *Emphasis on regional ocean governance*
- § *Improved fisheries management and funding*
- § *Increased funding for marine research and offshore ocean sanctuaries, among others.*

The Hershman presentation (given by Dr. McMurray) went on to describe several strategies currently at work in addressing the broad and complex issues of ocean policy. They include the following (Note: Speakers addressing these issues later in the Conference shown in parenthesis):

- § *Regional issues related to ecosystem-based management* (Brian Baird)

- § *Strategies to achieve sustainable fisheries* (Dr. Patty Burke)
§ *Coastal management protection from natural hazards* (Dr. Vicki McConnell)
- § *Ocean value and vitality—marine aquaculture* (Dr. Gil Sylvia)
§ *Renewable ocean energy* (Dr. Annette von Jouanne)
§ *Coastal state initiatives* (Dr. James Good)
- One issue that was not addressed in the Conference was:*
§ *Ocean value and vitality—connecting oceans and human health.*

Dr. Mark Abbott, dean, College of Oceanic and Atmospheric Science, Oregon State University

“The Changing Nature of Pacific Northwest Ocean: Real or Just Perceived”

By means of a series of slides, Dr. Abbott described the intermittent upwelling off the Oregon coast. There was a late arrival of upwelling winds this past summer. Further, there have been low oxygen (“hypoxia”) events off Oregon, which poses the question: “Is this a change or just a variability?”

Last year, of the 17,000-ton tuna catch, about 15,000 tons likely came from waters off Oregon and Washington. Estimates this year indicate the haul won’t top 5,000 tons.

Marine researchers continue to map surface currents with “autonomous gliders” that track temperature, salinity, chlorophyll, and dissolved oxygen, and relay the information to shore by satellite radio. COAS scientists provide an integrated observing system, providing data, which are useful in computer models that provide robust projections of ocean conditions.

Second Panel: “The Past and Future of Ocean Harvest”

Dr. George Boehlert, director, Hatfield Marine Science Center, Oregon State University

“Patterns and Trends in Oregon’s Fisheries—Is the Past the Key to the Future?”

To set the stage, Dr. Boehlert described the commercial fishery in the years 1950 – 1969 showing an upward trend in catch. Turning to the years 1980 – 2003, he provided the following statistics:

The catch has averaged 242.2 million pounds per year—mainly groundfish and shellfish—with an average annual value of \$70.8 million

The shellfish catch—mainly shrimp and crab—while wide swings from year to year, has remained more or less level

The groundfish catch, on the other hand, shows a steady decline in rockfish and deepwater catch, while a large increase has occurred in whitefish and miscellaneous groundfish in the last decade.

Chinook and Coho salmon catch decreased dramatically in the 1990s from the 1980s, although there has been some rebound in the last four years.

Beginning in 1999, regulators adopted tighter limits on groundfish, followed by closures in 2003 in certain areas, particularly over rock bottoms. Dr. Boehlert closed with listing some challenges facing Oregon fisheries and marine ecosystems, which tied into several presentations by subsequent speakers.

Dr. Patty Burke, manager, Marine Resources Program, Oregon Department of Fish & Wildlife;
member, Pacific Fisheries Management Council

“Groundfish Essential Fish Habitat”

The Pacific Fisheries Management Council decisions reached in 2005 identified areas of particular concern in order to minimize the adverse effects on Essential Fish Habitat due to fishing. The habitat areas of particular concern include estuaries, canopy kelp, seagrass beds, and rocky reefs.

ODFW analyzed bottom travel fishery tow tracks and charted their locations. Then the economic values

were estimated for the proposed areas of closure. The fishing impact minimization decisions included closing all areas to bottom trawlers westward of 700 fathoms to 200 nautical miles. Research and data collection on all bottom trawl closures continues. Management measures are expected to be approved by NMFS by May 2006, with a mandatory review five years later.

Future ODFW activities include nearshore rocky reef mapping and fish habitat investigation.

**Dr. Gil Sylvia, marine resource economist, Hatfield Marine Science Center, Oregon State University; superintendent, Coastal Oregon Marine Experiment Station
“The Possibilities and Risks of Open Ocean Aquaculture”**

Aquaculture is the use of farming technologies for controlling the growth of aquatic organisms for at least one stage of their histories. Oregon is a major aquaculture producer and our seafood industry cannot grow substantially without increasing ocean productivity.

The world production of food fish has doubled in the last 20 years. Aquaculture accounted for 46% in 2003. World salmon aquaculture grew at an average annual rate of 11% between 1980 and 2003. Among the problems and challenges facing marine aquaculture are: impacts on sensitive marine environments; fish disease; escapees, and competition for space.

Ten years in the making, the National Offshore Aquaculture Act of 2005 was introduced in June. Proponents claim passage is needed to increase domestic seafood production to “complement” wild harvest, to shrink a \$6 billion seafood trade deficit, and provide jobs to rural communities. The Bill authorizes permits for offshore aquaculture sites—fee-based, transferable, and for a 10-year period—after consultations with state and federal agencies, and with tribes. The permits take into account environmental requirements, will be monitored and evaluated, and can be revoked.

Some argue the social costs exceed social benefits, such as—
Ocean environment is too challenging for successful operation
Environmental effects remain serious concern
Negative effects on Oregon’s commercial fishing industry.

Some argue to the contrary:
Environmental effects can be addressed through technology, regulation and incentives
Aquaculture partners with Oregon’s commercial seafood industry
Aquaculture is consistent with Ocean governance goals and coastal development.

Dr. Sylvia concluded with the recommendation that “Oregon needs to conduct a thorough and thoughtful analysis and research before making a decision.”

Luncheon Speakers

**The Honorable Bill Bradbury, Secretary of State, State of Oregon
“Ocean Stewardship: The Next Wave”**

Secretary of State Bill Bradbury, a long-time ocean policy advocate and resident of the South Coast, spoke about the need for collaborative ways to manage Oregon's ocean, and the tremendous opportunity that this generation has to impact coastal policy for generations. He noted the difficulty of finding family wage jobs and affordable housing throughout the coast and that our fisheries are on the point of collapse.

The solution, he said, is to manage our oceans like we manage our forests, namely, as multi-purpose natural resources that must support jobs and recreation, the ecology, and the economy. The Governor has embraced the idea of changing the way we deal with the oceans, and has directed the Ocean Policy Advisory Council to recommend, with input from fisherman, coastal communities and scientists, a network of marine reserves for scientific study and monitoring of the ocean. Marine reserves are a crucial tool to ocean management, both as a laboratory to study how the ecology is supposed to work, and as a way to protect fish nurseries and produce more fish.

The Secretary supports the Governor's call to create a Oregon Coast National Marine Sanctuary, which

functions for oceans as a National Forest does for timberland. The Sanctuary can drive economic development, and bring in federal research money and projects to help us understand and develop our resources. The Secretary stressed that the key to better management of the ocean's resources is the cooperative work of all the stakeholders, especially the people who live and work at the coast. He concluded that we have a chance to heal the hurts and divisions of the past, and to restore our unique coastal heritage. Just as Oregon did with public access to beaches, we can, with vision and courage, establish a cherished legacy for future generations.

**The Honorable Joanne Verger, Senator, State of Oregon; chair, Legislative Coastal Caucus
“Coastal Issues: A Legislator’s Viewpoint”**

Speaking on behalf of the Coastal Caucus, Sen. Verger declared “our coastal issues are not well understood by the rest of the state.” She urged coastal residents to speak up about any proposals that might affect their future.

“As the coast has had a natural resource-based economy for years, many of us try to help the struggling timber and fishing industries. But because of the face-off between the environmental movement and the needs of businesses, inland politicians struggle to implement realistic regulations.

“We need tough measures to protect land, water and air in a realistic way,” said Verger. “If we as a state are not there in terms of preparing for a natural disaster, we are not there in protecting a sensible, balanced coastal policy.”

Third Panel: “What Are We Doing About It?”

Brian Baird, assistant secretary for Ocean and Coastal Policy, California Resources Agency

“California’s Ocean Action Plan and Ocean Life Protection Plan”

To bring a regional—and national—perspective to developing strategies for protecting and managing resources off the Pacific west coast, Mr. Baird addressed the Conference drawing upon a broad experience in such matters. He is vice-chair of the Coastal State Organization and was previously chair of its Ocean Policy Committee.

Mr. Baird has served on panels and advisory committees with the John H. Heinz Center, the NaDear HHCC Discussion Leaders/Participants

I am attaching a Word document which provides my transcription of the responses recorded by the discussion leaders at the Workshop session of the recent Heceta Head Coastal Conference. Some of you were originally scheduled to be workshop leaders but were unable to attend or we set up too many tables. I am sending you the responses in case you might be interested.

I have tried to make a direct transcription from the response sheets adding only occasional pronouns and intransitive verbs. I only used the spell checker to ‘proofread’ it (it’s 12 pages long), so forgive any errors. There is much information embedded in the material. A qualitative data analysis might be valuable but I’m more of a ‘quant’ type. Perhaps someone at your facility would be capable. These responses will also be posted on our web site.

Our thanks for your attendance at and participation in the conference!

Terry Newell

Board of Directors

Heceta Head Coastal Conference

tional Research Council, the National Sea Grant Program, the National Marine Sanctuary Program, the National Ocean Service, the National Ocean Data Center, and the Army Corps of Engineers. His presentation served to strengthen the network of cooperating agencies in bringing marine science and research to the attention of the public.

Dr. Jan Newton, executive director, Northwest Association of Networked Ocean Observing Systems

“Harmful Algal Blooms and Hypoxia in the Pacific Northwest—Are They Really Getting Worse?”

Shellfish poisoning can be caused by harmful algal blooms (HABs). Dr. Newton showed maps of HABs occurring off U.S. shores, with the resulting evidence that the scale of the problem has been worsening in the last 25 years. Put another way, there are more toxic algal species, more algal toxins, more areas affected, more fisheries resources affected, and higher economic losses.

However, some trends may be due to better data collection and expanding the boundaries of the problem. Further, as population expands, scientists are finding higher paralytic shellfish poisoning (PSP) toxin levels, and more PSP toxicity, due to El Nino events. In Oregon, the toxicity events in 2005 were the highest ever reported.

What is being done? Dr. Newton reported new research is focusing on “hot spots” where cells may be “incubating,” namely, in the Juan de Fuca Eddy and the Heceta Bank. She also described the causes of hypoxia—“dead zones”—in our area, the Oregon shelf, and getting worse. New research is focusing on understanding causes for change in the hypoxia status.

Dr. Vicki S. McConnell, state geologist; director, Oregon Department of Geology and Mineral Industries

“Understanding, Communicating, and Managing Tsunami Risks on Oregon’s Coast”

Dr. McConnell displayed maps of the tectonic plates and seismicity off the Oregon coast. Since the great tsunami of January 26, 1700, no tsunami sand geology had been found until the Crescent City/Alaskan Earthquake inundation of 1964.

The following priorities for saving lives in a disaster were outlined into two categories:

- § Local tsunamis and earthquakes: hazard mapping by state government and universities
- § Distant tsunamis: warning system funded by federal government

In both instances, state and local government are to provide education and planning followed by regulation. Further disaster preparations are underway, including limited new construction in tsunami inundation zones; earthquake response training in schools; higher building code standards; and seismic retrofit of many bridges.

Dr. McConnell concluded with the following recommendations:

- § Complete tsunami inundation and evacuation mapping
- § Create a “culture of preparedness and response”
- § Integrate tsunami/earthquake research in Homeland Security Plans.

WORKSHOP GROUPS

The 200 attendees were seated at tables of eight to discuss the panel presentations and express their own viewpoints on three questions. The questions and a few of the responses were:

1. What are the most important ocean issues you heard today?

Sanctuaries and reserves . . . eco-systems based management . . . aquaculture . . . the need for more science.

2. What are the most important ocean issues you didn't hear about today?

International focus . . . seafood safety . . . longer time scale – “systems thinking” . . . impact of reserves on others

3. What is most important in the next 3-5 years to adapt to our changing ocean?

Funding research leading to modeling ...Report card ...Focus on watersheds . . . Marine reserves: “Just do it!”

Fourth Panel: “What’s in the Future for Oregon’s Ocean?”

Dr. Annette von Jouanne, professor of Electrical Engineering and Computer Science, OSU

“The Promise of Wave Power”

Dr. von Jouanne began with the estimate that “if 0.2% of the ocean’s untapped energy could be harnessed, it could provide power sufficient for the entire world.” She pointed out that researchers have assessed the wave energy resource off the Oregon coast for ten years and report some of the richest ocean wave extraction sites in the world.

Further, the seasonal variation for wave power is a good match for the Northwest load demand.

An artist's drawing was shown depicting how a wave energy site would look: A multitude of Magnetic Linear Generator Buoys, spaced 100 feet apart, and anchored in 20 to 40 fathoms some two miles offshore. OSU scientists have designed and tested three hardware prototypes with two more in study, utilizing the university's Motor Systems Resource Facility and the O. H. Hinsdale Wave Research Lab.

Establishing a wave energy pilot plant in Oregon is underway in cooperation with a multitude of state and federal agencies under the leadership of Dr. von Jouanne. With the initial startup funding set at \$5 million, efforts are being made to use the former International Paper site in Gardiner, taking advantage of its existing effluent pipe into the ocean and the interconnect to the Bonneville Power Administration grid.

Dr. James Good, professor emeritus, College of Oceanic and Atmospheric Science, OSU;
member, Oregon Ocean Policy Advisory Council

"The Role of the Ocean Policy Advisory Board"

After a two-year lapse, OPAC has been called into action by Governor Kulongoski with the charge, among other things, to address the issue that a "limited system of reserves be established in the three-mile wide territorial zone." This, he says, is a matter "of immediate importance."

Dr. Good, as vice-chair of the newly reconstituted OPAC, outlined its new role, its challenges and opportunities. Some of the "hot" topics, which were cited, are:

- § *Recover marine fisheries that are in trouble—salmon and certain groundfish*
- § *Ensure conservation of marine and coastal biodiversity—beaches, rocky shores, reefs, kelpbeds*
- § *Respond to recent Congressional action to open ocean aquaculture, and oil and gas exploration, within the 3-200 nautical miles offshore.*

Dr. Good concluded that, while OPAC's agenda is daunting, that the wealth of science available—satellites, autonomous underwater vehicles, networks of OOS instruments—will be of help in addressing the challenges of the future.

Conference Summation

Dr. John V. Bryne, Convener, gave a summation of the day's presentations at the close of the Conference. He reported on the feedback given by the discussion groups indicating a sense of direction for future ocean policy. He noted that the suggestions offered a broad and diverse set of ideas for a future conference. In a personal reflection on the day's events, Dr. Byrne provided these thoughts:

- § *In addressing our ocean policy, there must be a change of scale, viz.: Geographically—widen the involvement, nationally and internationally; Time wise—make predictions of what may happen; Human—broaden the communication*
- § *Where there is lack of understanding, consequences have a devastating effect (witness Katrina)*
- § *Heceta Head Coastal Conference has been a success and should be repeated.*

Conference Notes

Attendance *201 persons registered plus fourteen speakers, for total attendance of 215. Of those in attendance, 91 were from the Florence area, 60 from the Valley, 57 from the coast (Astoria to Brookings), and seven from out-of-state. By affiliation, about 100 were what might be called "general public"—not representing a particular organization; there were 40 who registered as an educator or student; 29 attached to an advocacy group; 17 from state or federal government; 14 from local government.*

Feedback from Attendees *About half (118) of those in attendance filled out questionnaires, showing:*

- § *91% rated the Conference as very good or excellent*
- § *96% approved the format of speaker panels, followed by questions from the audience..*
- § *95% rated the cost (\$30) as reasonable or very reasonable*
- § *83% said they would likely attend another Conference next year, should one be given.*

***Heceta Head Coastal Conference was sponsored by
The City Club of Florence, the Port of Siuslaw,
The City of Florence, and the Florence Area Chamber of Commerce***