

To: CEQ Interagency Ocean Policy Group
From: Samantha Murray and Susan Ash, Audubon Society of Portland
Date: November 1, 2004

Re: U.S. Commission on Ocean Policy Final Report

INTRODUCTION

Thank you for this opportunity to comment on the Final Report of the U.S. Commission on Ocean Policy (USCOP Report) dated September 20, 2004. The Audubon Society of Portland has 10,000 members that care deeply about the protection of coastal and estuarine wildlife and habitat off of Oregon's coast. We are pleased to see that the USCOP Report recognizes the compromised health of today's oceans and near-shore habitat and the need for a comprehensive national ocean policy that emphasizes ecosystem-based management.

This acknowledgement follows many years of work by Oregon to utilize its renewable ocean resources in a sustainable manner, in accordance with Goal 19, and develop near shore fishery and estuarine management plans. It also follows the creation and establishment of Oregon's Ocean Policy Advisory Council, a prototype for the Regional Oceans Councils outlined by the Commission. The USCOP Report calls for essential reform to the current piecemeal framework that governs the economic stability, biodiversity, water quality, and exploration of U.S. oceans, by recommending uniform federal leadership, regional participation in policy-making, and strengthened scientific research and analysis. We hope that the recommendations by this Administration will echo this need for ocean policy reform.

Over the years, Oregon has led the nation in its strong commitment to protecting its living ocean resources while maintaining productive coastal economies. However, one of Oregon's key management reform priorities was all but absent from both the Preliminary and Final USCOP reports and should be further incorporated. This essential piece is the discussion of Marine Protected Areas (MPAs) and fully protected marine reserves. Several coastal states and nations have established reserves for a variety of purposes, and although Oregon currently has no such areas, OPAC has laid the groundwork for launching a network of marine reserves. One of Audubon Portland's main goals is to establish a network of federal and state MPAs and reserves off of Oregon's coast. While it is encouraging that the USCOP Report cursorily identifies some benefits of Marine Protected Areas (MPAs) generally in Chapter Six, it is disappointing that it neither specifically addresses reserves nor adequately discusses the ecological, scientific, economic and social values of a network of federal and state MPAs and reserves.

ECOLOGICAL BENEFITS OF MARINE RESERVES AND MPAs

As mentioned in the USCOP Report, MPAs are "area[s] of the marine environment that [have] been reserved by federal, state, territorial, tribal, or local laws or regulations to

provide lasting protection for part or all of the natural and cultural resources within.”¹ One category of MPAs is fully protected marine reserves, where all extractive or destructive activities are prohibited. In order to achieve the maximum range of ecological benefits from marine reserve establishment, the world’s leading marine scientists have concluded that full protection is critical.² Marine reserves can be established for a variety of purposes, but are particularly valuable as tools for conserving and managing natural marine resources and habitat because they are based upon the fundamental principles of ecosystem-based management.³ Although marine reserves and MPAs cannot protect against invasive species, global warming, drifting pollutants generated outside protected areas, coastal development or inadequate regulation of land-based activities that degrade the marine environment, they may make marine ecosystems more resilient in the face of such threats.

International scientific studies indicate that marine reserves boost the density and size of exploited fish species within reserve boundaries.⁴ Individual reserves provide dwindling fish populations a reprieve from unintended impacts of commercial and recreational fishing, providing insurance against management uncertainty and overfishing. They also protect the structure and function of marine ecosystems by preventing damage from mobile fishing gear and by-catch of non-target species within their boundaries. Additionally, reserves allow larger, older female fish to survive—fish that produce not only far more eggs but also healthier offspring than smaller fish.⁵ Along the west coast of the United States, existing marine reserves in Washington and California consistently support significantly more and larger fish that produce substantially more eggs than adjacent areas outside reserves.⁶ For example, lingcod inhabiting reserves in Puget Sound, Washington, are twice as abundant, significantly larger, and produce 100 times more eggs than lingcod in comparable areas exposed to fishing.⁷

Additionally, many marine reserves restore habitats that have been degraded by overfishing. In 1978, the National Park Service closed to fishing the Anacapa Island Ecological Reserve in southern California, where fishing for predators-- California sheephead and lobster—allowed sea urchins to proliferate and overgraze on kelp forests.

¹ **President Clinton.** 2002. Executive Order 13158.

² **Scientific Consensus Statement on Marine Reserves and Marine Protected Areas (Scientific Consensus).** 2001. The declining state of the oceans and the collapse of many fisheries have created a critical need for new and more effective management of marine diversity, populations of exploited species and overall health of the oceans. Marine reserves are a highly effective but under-appreciated and under-utilized tool that can help alleviate many of these problems. One hundred and sixty-one marine scientists and experts signed the Consensus Statement. <www.nceas.ucb.edu/Consensus>.

³ **Apollonio, S.** 1994. The use of ecosystem characteristics in fisheries management. *Reviews in Fisheries Science* **2**:157-180.

⁴ **Halpern, B.S.** 2003. The impact of marine reserves: do reserves work and does reserve size matter? *Ecological Applications* **13(1) Supplement**: S117-S137.

⁵ **Berkeley, S.A., C. Chapman, and S.M. Sogard.** 2004 Maternal age as a determinant of larval growth and survival in a marine fish, *Sebastes melanops*. *Ecology* **85**: in press.

⁶ **Hixon, M. A.** 2002. Existing small marine reserves can indicate whether a larger network is feasible: case study from the West Coast of the United States. *MPA News* **4(3)**: 5.

⁷ **Palsson, W. A., and R. E. Pacunski.** 1995. The response of rocky reef fishes to harvest refugia in Puget Sound. *Puget Sound Research '95 Proceedings* **1**:224-234.

After predator populations were released from fishing pressures and their numbers increased, urchin numbers dramatically decreased, and the reserve sustained a five-fold increase in kelp density compared to kelp density outside the reserve.⁸ The larger kelp forests, in turn, supported more abundant and diverse marine life.

SCIENTIFIC BENEFITS OF MARINE RESERVES AND MPAs

Marine reserves may have significant scientific value. The ocean's ecosystems are in constant flux from both natural cycles and human activities. And since changes occur simultaneously, but at various temporal and spatial scales, it is often difficult to distinguish natural from human-caused changes. In fact, the Oregon State of the Environment Report 2000 states, "the most significant risk to marine fisheries ... is our insufficient understanding of the complex interactions of natural and human caused changes in stock health."⁹ Marine reserves that are off-limits to direct human disturbance can provide benchmark data to distinguish between ecosystem changes from natural variability and human activities. Once benchmarks of marine health are established within reserves, they can be used to compare the same indices outside the reserve. Understanding the effects of human activities on marine ecosystems is critical for pursuing management strategies and measuring their efficacy.

ECONOMIC BENEFITS OF MARINE RESERVES AND MPAs

As noted in the USCOP Report, MPAs can be an effective means of not only maintaining biodiversity and protecting habitats, but also of addressing socioeconomic goals and advancing sustainable fisheries management. Many, including the Pacific Fisheries Management Council, have recognized the potential economic benefits of marine reserves and MPAs.¹⁰ In 2000, the Council included marine reserves as a management tool promoting stock recovery, biological productivity and economic productivity. Reserves may help replenish fisheries by dispersal of larval, juvenile and adult organisms. For example, the Merritt Island reserve off of Florida's east coast produces older, bigger and more abundant sport fish than waters outside of the reserve. Some larger fish swim out of their protected boundaries into nearby fishing grounds. Not surprisingly, the majority of Florida's record-breaking game fish are caught within 100 kilometers of Merritt Island's protected waters.¹¹ Marine reserve and MPA networks may be better able to prevent future collapses than other management measures if they are designed to stabilize weak stock populations that force broad closures when stocks are declared overfished.

⁸ **Lafferty, K.D. and D.J. Kushner.** 2000. Population regulation of the purple sea urchin, *Strongylocentrotus purpuratus*, at the California Channel Islands. In Brown D.R., K.L. Mitchell and H.W. Chang, Eds. Proceedings of the Fifth California Islands Symposium, Minerals, Management Service Publication #99-0038.

⁹ **Oregon Progress Board.** 2000. Oregon State of the Environment Report, Statewide Summary, Salem, Oregon.

¹⁰ **PFMC.** Pacific Fishery Management Council. Information sheet: *Marine Reserves*. <www.pcouncil.org> and <www.pcouncil.org/reserves/reservesback.html>.

¹¹ **Roberts, C.M., J.A. Bohnsack, F. Gell, J.P. Hawkins, and R. Goodridge.** 2001. Effects of marine reserves on adjacent fisheries. *Science* **294**: 1920-1923.

Increased tourism could provide another revenue source to coastal communities. Tour-operators and ocean recreation shop owners may receive direct financial gain from SCUBA-diving, surfing, sea-kayaking, bird watching and whale-watching ventures while other businesses receive indirect benefits by servicing these activities.

Finally, when fishermen honor marine reserve boundaries, they may have the opportunity to market their catch as sustainable, which could increase ex-vessel revenues. The Marine Stewardship Council, an organization that certifies seafood caught using sustainable practices, grants credit toward certification to fisheries that use marine reserves as a management tool. Fishermen covet certification because it can provide a critical label to their product in highly competitive seafood markets. Sustainable fisheries management supported by marine reserves can influence buyers' choices in terms of investing in environmentally harvested fish and rejecting unsustainable catches. Such eco-labeling allows west coast fishermen to maintain their market share, gain access to new markets that require such labels and demand higher prices for their catch.

SOCIAL BENEFITS OF MARINE RESERVES AND MPAs

Biocentric values—values the public places on nature for nature's sake—constitute important social benefits of marine reserves and MPAs. In 2003, the PEW Oceans Commission found that most people regard ocean health as an important public trust. A national survey conducted by SeaWeb found that pollution and depletion of marine mammals tops respondents' list of concerns.¹² Nearly 70 percent agreed that some areas of the ocean should exclude not only damaging activities, but recreational ones as well. Almost all survey participants were alarmed that less than one percent of the Earth's ocean has some measure of protection. This study indicates that most people have an environmental ethic that supports marine reserves.

SeaWeb in 2002 and Oregon League of Conservation Voters in 2004 also conducted surveys of Oregonians regarding their ocean ethics.¹³ Results then and now indicate that residents value a healthy ocean for economic and recreational purposes. Nearly 70 percent of respondents support the creation of marine reserves that prohibit all extractive activities, and their backing persists, even when their favorite fishing spots could become off-limits. Both coastal and inland residents affirm that long-term conservation benefits should take precedence over short-term job losses and higher seafood prices, demonstrating that Oregonians support the creation of marine reserves.

Water quality protection is also an integral part of marine protection for both ecological and recreational benefits. Although this goal of marine protection is often forgotten in the focus on fisheries management, water quality is not only a key indicator of overall marine ecosystem health, but also of critical importance to human health.

¹² **Edge Research.** 2002. Public Attitudes About Ocean Protection in Oregon: A Survey of 700 Oregon Residents. Conducted on behalf of SeaWeb, The Audubon Society of Portland and the Ocean Wilderness Network. See also <http://www.oleveducationfund.org/>.

¹³ *Id.*

DESIGN AND IMPLEMENTATION OF MARINE RESERVES AND MPAs

We commend the establishment of the Marine Protected Area Center and look forward to the development of a framework for a national system of MPAs. Additionally, we strongly urge that the Center include marine reserves in this network. Many scientists agree that the best way to protect and restore marine biodiversity is to establish a fully protected reserve network of a variety of sizes and spacing.¹⁴

We acknowledge that further consolidation of federal oversight is necessary. However, we feel that there must be strong participation from the local level in the design and implementation of a network of reserves and MPAs, which must be developed within the broader context of regional ecosystem-based planning. Reserves with no enforcement provide no benefits, so networks are most likely to be effective when stakeholders, conservationists, fishing communities and coastal residents are included in the discussion of where, how many and how big the reserves and other MPAs should be. Although different stakeholders will have different ambitions, a single protected boundary can accommodate a wide spectrum of goals from different groups and individuals.

We agree that reserve and MPA networks must be established based upon the best available science, have clear policy goals, and implement a monitoring system to determine success over the lifetime of the reserve. We believe that reserves and MPAs should not be time limited when not connected to monitoring and adaptive management decisions. Additionally, we believe that performance timelines are good in so far as they allow for periodic monitoring and adaptive management when the assumptions do not turn out as planned. However, assessments must carefully appraise passive use values such as ecological and social values, as well as scientific and economic values. Reserves should be moved around or changed only if carefully ascribed monitoring questions require an adaptive management process that allows for some flexibility.

CONCLUSION

The Audubon Society of Portland applauds the efforts of the U.S. Commission on Ocean Policy in producing their final report. It echoes the independent findings of the PEW Commission in 2003, saying that the health of our oceans is in dire need of rehabilitation and management reform. We commend you for your efforts thus far and now ask you to recommend incorporating one of Oregon's key management reform policies, a network of federal and state MPAs, including fully protected marine reserves, into the Administration's recommendations in response to the USCOP Report. Your leadership on this issue will benefit the coastal ecology and economy of our nation.

Sincerely,
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¹⁴ *Supra*, FN 2.

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