

A Bold New Ocean Agenda: Recommendations for Ocean Governance, Energy Policy, and Health

by Karen Hansen, Kathryn Mengerink,
and Michael Sutton

Kathryn Mengerink is Director of the Ocean Program at the Environmental Law Institute. Karen Hansen is a principal with the law firm, Beveridge & Diamond, P.C.

Michael Sutton directs the Center for the Future of the Oceans at the Monterey Bay Aquarium, where he serves as Vice President. The views presented are the authors' own and do not represent the views of their organizations.

Editors' Summary:

The United States has more ocean area under its jurisdiction than any other country. The new Administration, therefore, has every reason to place ocean concerns and opportunities high on its environmental and economic agendas. By reforming national ocean governance, ensuring that changes in energy policy consider ocean impacts, restoring U.S. leadership in marine research, and launching a national ocean health initiative, the new Administration will allow us to better safeguard the marine environment as well as U.S. economic and national security.

Oceans cover 71% of our planet. They influence our climate and harbor enormous biodiversity. In addressing threats such as global warming, overexploitation of resources, and extinction of species, the oceans will be a critical area of national focus and a platform for providing international leadership.

While many Americans believe that oil spills constitute the single greatest hazard to our oceans, in reality marine ecosystems and resources face a variety of serious but often unseen threats that include climate change, unsustainable and destructive fishing, various kinds of pollution, traditional and emerging industrial and commercial activities, and coastal development pressures. For example, scientists recently warned that if present trends of overexploitation and loss of biodiversity continue, commercial wild-capture fisheries may be completely exhausted by 2048.¹ On the climate front, high levels of carbon dioxide in the atmosphere are fundamentally changing sea water chemistry, resulting in ocean acidification. Ocean warming is directly impacting marine life and coastal communities—from sea level rise and increased storm intensity to habitat shifts and receding coastlines. Climate change is also disrupting food chains for many marine organisms, from fish to seabirds to humans.² Today more than 40% of the world's oceans are heavily affected by human activities and few if any areas remain untouched, according to a global-scale study of human influence on marine ecosystems.³

The United States has more ocean area under its jurisdiction than any other country. Thus, the new Administration has every reason to place ocean concerns and opportunities high on its environmental and economic agendas. But opinion research suggests that oceans are relatively low on the public's radar and, thus, the political playbill. The public largely fails to recognize that the health of the human population is inextricably linked to the well-being of our oceans. A healthy ocean also provides for our economic needs; approximately 50% of our gross domestic product (GDP) is linked to coastal communities and that ocean-dependent activities contribute more than twice as much to our economy as our national agriculture industry. Yet we neglect ocean health because these connections are largely unrecognized or underappreciated.

President-elect Barack Obama and the new Congress must make oceans a higher national priority. We recommend four major areas in need of attention to safeguard the marine environment as well as U.S. economic and national security: (1) reform national ocean governance; (2) ensure that changes in

1. In a study published in *Science*, an international group of ecologists and economists show that the loss of biodiversity is profoundly reducing the ocean's ability to produce seafood, resist diseases, filter pollutants, and rebound from stresses such as overfishing and climate change. See Boris Worm et al., *Impacts of Biodiversity Loss on Ocean Ecosystem Services*, 314 *SCIENCE* 787-90 (2006).
2. COMMUNICATION PARTNERSHIP FOR SCIENCE OF THE SEA, FACTS: CLIMATE CHANGE AND THE OCEAN (2008).
3. Benjamin S. Halpern et al., *A Global Map of Human Impact on Marine Ecosystems*, 319 *SCIENCE* 948-52 (2008).

Some of these concepts were embodied in legislation introduced by Rep. Sam Farr (D-Cal.) and others in the 109th Congress.¹³ The bill, known commonly as OCEANS 21, was favorably received in a 2007 hearing before a House Natural Resources Subcommittee.¹⁴ OCEANS 21 contains a number of measures that focus national ocean programs on protecting and sustaining ecosystems. Passage of this legislation is attainable and would provide enormous environmental and economic benefits for our ocean resources. If enacted, the new law would allow for a coherent and comprehensive new approach to ocean policy, in part by removing the current “silo” approach that often leads to narrowly drawn regulatory regimes. Such legislation will no doubt be reintroduced in the 111th Congress, and it deserves the full support of the new Administration and congressional leadership.

Another area of ocean governance in serious need of reform is our management of marine fisheries. The outcome of U.S. fishery management over the years has been characterized as “serial depletion.”¹⁵ Despite recent overhaul of the Magnuson-Stevens Fishery Conservation and Management Act, many of our marine fisheries remain overfished and few incentives exist to rebuild them. One new approach worth considering is to issue catch shares directly to fishermen as an incentive to improve their environmental performance. Both a key group of scientists¹⁶ and a blue-ribbon panel¹⁷ concluded in 2008 that this approach has merit and has proven successful in many places around the world, improving both the environmental and economic performance of fisheries. The Obama Administration should consider wider implementation of such innovative management approaches.

Depending on their level of vision and leadership, it may be possible for the president and Congress to work together to take even bolder steps in ocean governance, such as area-based management or comprehensive ocean “zoning.”¹⁸ These concepts would require significant amendments to a number of federal laws and unprecedented coordination and cooperation among dozens of federal and state agencies.

II. Energy and Oceans

Oceans and energy are inextricably connected. The ocean is a transportation corridor for oil and gas supplies, and the sea

beds are rich with oil and gas deposits. The ocean can supply new sources of energy including hydrokinetic power from waves, tides, and currents, as well as offshore wind energy and thermal energy. Our oceans are also home to rich assemblages of species and provide vast ecosystem services—such as seafood, subsistence, recreation, aesthetic enjoyment, and cultural use. Therefore, as the new Administration and Congress make energy law and policy decisions, they must consider the ramifications their decisions will have on the health of our ocean and coastal environments and the long-term sustainability of our ocean-dependent industries. This is particularly true given recent changes to energy law and policy, including the expiration of the moratorium on drilling for oil and gas on the outer continental shelf (OCS) and the continuation of tax credits to support alternative energy development.

The federal government should strive to develop and implement laws and policies that enhance our nation’s ecological and economic prosperity and minimize local environmental and social impacts in the quest for national security, affordable energy, and a healthy planet. We urge President-elect Obama and the new Congress to:

- Secure U.S. rights to oil and gas;
- Ensure environmental safeguards are followed;
- Support the development of clean energy including hydrokinetic energy and offshore wind in state and federal waters; and
- Develop mechanisms to reduce user conflict and ensure long-term sustainability of ocean resources.

A. Secure U.S. Rights to Oil and Gas Development by Acceding to the United Nations Convention on the Law of the Sea

The government must ratify and accede to the United Nations Convention on the Law of the Sea (UNCLOS)¹⁹ to help secure U.S. access to oil and gas resources on its OCS that extends beyond the 200-mile exclusive economic zone (EEZ). The United States is the only industrialized nation that has failed to accede to the UNCLOS. Over the past 20 years, 156 nations and the European Union have ratified or acceded to this most important of ocean treaties, which entered into force in 1994.²⁰ While key provisions of the treaty are now recognized as customary international law, there remain many reasons for U.S. accession. As JOCI co-chairs Adm. James D. Watkins and Hon. Leon E. Panetta pointed out in their May 17, 2007, letter to President Bush:

19. United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397.

20. Jon M. Van Dyke, *The 1982 United Nations Convention on the Law of the Sea*, in DONALD C. BAUR ET AL., OCEAN AND COASTAL LAW AND POLICY 375-407 (American Bar Ass’n 2008); United Nations Convention on the Law of the Sea of 10 December 1982, *Chronological List of Ratification/Accessions/Successions*, http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm.

13. Oceans Conservation, Education, and National Strategy for the 21st Century Act, H.R. 21, 109th Cong. (2007).

14. See, e.g., Hearing on H.R. 21 Before the House Subcomm. on Fisheries, Wildlife, and Oceans, 109th Cong. (2007) (testimony of Andrew A. Rosenberg), available at [http://www.jointoceancommission.org/resource-center/4-Testimony/2007-04-26_Andrew_Rosenberg_Testimony_before_the_House_Subcommittee_on_Fisheries_Wildlife_and_Oceans_on_Oceans_21_\(H.R._21\).pdf](http://www.jointoceancommission.org/resource-center/4-Testimony/2007-04-26_Andrew_Rosenberg_Testimony_before_the_House_Subcommittee_on_Fisheries_Wildlife_and_Oceans_on_Oceans_21_(H.R._21).pdf).

15. MICHAEL L. WEBER, FROM ABUNDANCE TO SCARCITY: A HISTORY OF U.S. FISHERY POLICY, (Island Press, 2002).

16. Christopher Costello et al., *Can Catch Shares Prevent Fisheries Collapse?* 321 SCIENCE 1678-81 (Sept. 19, 2008). 19 September 2008: Vol. 321. no. 5896, pp. 1678 - 1681

17. See ENVIRONMENTAL DEFENSE FUND ET AL., OCEANS OF ABUNDANCE (Nov. 13, 2008), available at released November 13, 2008, www.oceansofabundance.org (Last visited December 3, 2008) http://www.edf.org/documents/8795_OceansOfAbundance.pdf.

18. For a discussion of the potential for marine zoning, see Deborah A. Sivas & Margaret R. Caldwell, *A New Vision for California Ocean Governance: Comprehensive Ecosystem-Based Marine Zoning*, 27 STAN. ENVTL. L.J. 209 (2008).

Accession to the Convention will advance U.S. interests by preserving the right to use the seas to meet national security requirements and protect navigational freedom for commercial vessels to operate around the world. It also secures our rights to natural resources through the full extent of the continental shelf, even beyond 200 nautical miles. Additionally, the Convention promotes the environmental health of the oceans by supporting scientific research critical to understanding and managing the oceans. This is why the Convention enjoys diverse and strong support from virtually every sector, including national defense interests, ocean-dependent industries, and the environmental and scientific communities.²¹

U.S. accession to UNCLOS recently won the support of President Bush along with a highly influential bipartisan coalition of 101 prominent leaders.²² Yet despite unequivocal support from virtually every major ocean stakeholder group, conservative senators for years have forestalled ratification of the treaty due to concerns over what they see as the potential loss of U.S. sovereignty. However, these attitudes may be changing: Alarm over an Arctic “land grab” by Russia and other nations interested in seabed resources such as oil and gas has reinvigorated interest in U.S. accession to UNCLOS. The U.S. Geological Survey reported recently that the polar region harbors one-fifth of the planet’s recoverable oil and natural gas reserves with about 84% of those deposits located offshore.²³ Recognizing this, Sen. Lisa Murkowski (R-Alaska) said in July 2008 that the “renewed energy debate is bringing attention back to the Law of the Sea.”²⁴ Already the U.S. Department of State is exploring rights to the U.S. extended continental shelf (ECS)—beyond the 200-mile EEZ.²⁵ Initial data indicates that the United States may have an ECS in the Atlantic East Coast, the Gulf of Mexico, the Gulf of Alaska, the Bering Sea, the Arctic Ocean, Kingman Reef/Palmyra Atoll, and the Mariana Islands/Guam.²⁶

Only by acceding to UNCLOS will the United States be able to apply to extend its jurisdiction over the OCS beyond its 200-mile EEZ. Also, the United States will be unable to counter continental shelf claims by other Arctic nations such as Canada, Norway, and Russia that are asserting owner-

ship of portions of the Arctic seabed.²⁷ Fortunately, the new Administration is well positioned to press the U.S. Senate to put UNCLOS on a fast track toward approval.

B. Ensure Environmental Safeguards Are Available and Followed

Next, the new Administration and Congress should ensure that any expanded OCS development receives required environmental review and provides proper environmental safeguards. Part of this decision could include reinstating presidential and congressional moratoriums in certain ocean areas²⁸. On July 14, 2008, President Bush lifted the presidential prohibition on leasing the federally managed OCS for oil and gas development and production and encouraged Congress to do the same.²⁹ In September 2008, Congress allowed the OCS congressional moratorium to expire, lifting a 27-year ban and making the OCS of the Atlantic and Pacific Coasts potentially eligible for leasing by the U.S. Department of the Interior’s Minerals Management Service (MMS).³⁰ How to prevent harm to the marine environment and how to respond to unintended events such as oil spills—particularly in newly expanded portions of the OCS where such activities have not been previously managed in these environments—are central to the policy debate.

From a climate change perspective, policy choices will have to be made regarding greenhouse gas (GHG) emission reductions and carbon sequestration. These choices should be made with a full analysis of ways to prevent harm to the marine environment. Existing legal tools include protecting specific marine environments under the National Marine Sanctuaries Act³¹ or the Antiquities Act,³² both of which forestall oil and gas development. Other federal statutes that help minimize harm include the Endangered Species Act³³ and the Marine Mammal Protection Act³⁴ which protect specific species that may be threatened by offshore energy activities. The National Environmental Policy Act³⁵ and the Administrative Procedure Act³⁶ help ensure that federal actions conform to required

21. Letter from Adm. James D. Watkins and Hon. Leon E. Panetta, JOCI, to President George W. Bush (May 17, 2007), *available at* http://www.jointoceancommission.org/resource-center/3-Letters/3_International_Leadership/2007-05-17_Letter_to_President_Bush_comending_his_strong_support_for_U.S._accession_to_the_United_Nations_Convention_on_the_Law_of_the_Sea.pdf.

22. Press Release, JOCI, 101 Prominent U.S. Leaders Urge the United States to Join the Law of the Sea Convention (Sept. 24, 2007), *available at* http://www.jointoceancommission.org/news-room/news-releases/2007-09-24_101_Prominent_US_leaders_urge_the_US_to_join_the_Law_of_the_Sea_Convention.pdf.

23. KENNETH J. BIRD ET AL., CIRCUM-ARCTIC RESOURCE APPRAISAL: ESTIMATES OF UNDISCOVERED OIL AND GAS NORTH OF THE ARCTIC CIRCLE, U.S. GEOLOGICAL SURVEY FACT SHEET 2008-3049, at 4 (2008), *available at* <http://pubs.usgs.gov/fs/2008/3049/>. [Will provide citation separately—MS]

24. Lauren Morello, *Key Senate Republican Buys Hopes for Law of the Sea*, CLIMATEWIRE, July 24, 2008, *available at* http://www.jointoceancommission.org/news-room/in-the-news/2008-07-24_Key_Senate_Republican_Buys_Hopes_for_Law_of_the_Sea@ClimateWire.pdf.

25. U.S. Department of State, *Defining the Limits of the U.S. Continental Shelf: U.S. Extended Continental Shelf Project*, <http://www.state.gov/g/oes/continentalshelf/index.htm>.

26. *Id.*

27. United Nations Convention on the Law of the Sea, Part VI & Annex II (1982, *in force* 1994).

28. See Natural Resources Defense Council, Inc., Transition to Green at page 9-41 (Nov. 25, 2008) (, recommendations to President-Elect Obama issued on November 25, 2008 by a coalition of U.S. environmental groups), *available at*, http://docs.nrdc.org/legislation/files/leg_08112401a.pdf (recommendations to President-Elect Obama issued on by a coalition of U.S. environmental groups) [hereinafter TRANSITION TO GREEN] (Last visited December 3, 2008).

29. Press Release, The White House, President Bush Discusses Outer Continental Shelf Exploration (July 14, 2008), *available at* <http://www.whitehouse.gov/news/releases/2008/07/20080714-4.html>. The OCS includes the U.S. continental shelf beyond state territorial seas. For most regions this is 3-200 miles offshore. Texas and the West Coast of Florida have nine nautical mile territorial seas. Also, under UNCLOS, the United States may be able to claim the OCS beyond the 200-mile limit (see UNCLOS, Part VI).

30. *Congress Allows Offshore Oil Drilling Ban to Expire*, ENVTL. NEWS SERV., Sept. 30, 2008, *available at* <http://www.ens-newswire.com/ens/sep2008/2008-09-30-091.asp>.

31. 16 U.S.C. §§1431-1447(f).

32. *Id.* §431.

33. *Id.* §§1531-1544, ELR Stat. ESA §§2-18.

34. *Id.* §§1361-1421h, ELR Stat. MMPA §§2-409.

35. 42 U.S.C. §§4321-4370f, ELR Stat. NEPA §§2-210.

36. 5 U.S.C. §551, *available in* ELR STAT. ADMIN. PROC.

procedure and analysis for evaluating potentially significant adverse environmental effects.

The main federal legal tool available to clean up and restore ocean ecosystems after accidental discharge is the Oil Pollution Act (OPA), which creates a strict liability regime.³⁷ The OPA creates an Oil Liability Trust Fund that can be used to pay the costs of response, cleanup, and natural resource injuries in the absence of a responsible party capable of paying those costs. The largest source of funding was a \$0.05 per barrel tax. However, this provision expired in 1994 and was not renewed. Since 2001, expenditures have exceeded revenues, and a 2005 U.S. Coast Guard report predicted that funds could be completely depleted by 2009.³⁸ This highlights an underlying need to make certain that the appropriate legal mechanisms and funds are in place to respond to damage to the marine environment that occurs as a byproduct or direct result of ocean energy activities.

If oil and gas production on the OCS increases, we encourage the new president and Congress to use existing mechanisms and to explore new approaches that guarantee that oil and gas development does minimal damage to the marine environment. This could include reinstating the barrel tax or other mechanisms to guarantee that polluters pay for damages, such as through a national ocean trust fund as recommended by JOCI.

C. Support Development of Clean Ocean Energy

To support the development of clean ocean energy, President-elect Obama and the new Congress should provide regulatory certainty to the hydrokinetic energy development community by clarifying the roles of the Federal Energy Regulatory Commission (FERC), Mineral Management Service (MMS), and the states. The new Administration and Congress should also support tax credits and the development of the electrical infrastructure needed to encourage investment in alternative energy technologies, making the United States a leader in clean energy and creating new jobs in the face of a struggling U.S. economy.

FERC claims authority to regulate wave, tidal, and current energy in navigable waters of the United States under the Federal Power Act.³⁹ FERC has claimed that this authority extends to at least 12 miles from shore. Alone, FERC's authority over hydrokinetic energy is not necessarily problematic. However, the Energy Policy Act of 2005 amended the Outer Continental Shelf Lands Act, giving the MMS authority to lease the OCS for alternative energy development.⁴⁰ Consequently, for areas 3 to 12 miles offshore, there exists uncertainty as both FERC and the MMS claim regulatory authority. To encourage development of hydrokinetic energy, this overlapping author-

ity should be clarified. One way to do this would be to remove FERC's role as a hydrokinetic licensing body under the Federal Power Act, leaving licensing to the states in state waters and to the MMS with Coastal Zone Management Act consistency on the OCS. Another option would be to limit FERC's authority to state waters.

While regulatory uncertainty remains problematic for hydrokinetic energy development, wind energy does not have that same challenge. In federal waters, MMS alone has regulatory oversight. However, two key issues are inhibiting expanded wind energy development: (1) lack of long-term tax credits to support this nascent industry; and (2) development of the electrical infrastructure needed to deliver wind-generated power to key locations. The wind industry has remarked that tax credits are essential to development of wind energy resources, and without long-term tax credits it is difficult to generate the long-term investments needed to fully develop the resource.⁴¹ Congress recently extended the wind energy tax credit by one year. However, this year-by-year extension creates a lack of certainty about future credits, and some fear that this is limiting investment and therefore development of this important resource. To encourage investment in wind energy, the new president and Congress should support the rebuilding of the U.S. electrical infrastructure and provide long-term tax credits until this nascent industry has a stronger foothold as a supplier of clean energy.

In addition to other sources of funding, and perhaps through a national ocean trust fund, revenue from oil and gas development should be used to fund research and clean ocean energy development. The new president and Congress should revisit the Comprehensive American Energy Security and Consumer Protection Act passed by the U.S. House of Representatives in September 2008, which would create a Strategic Energy Efficiency and Renewables Reserve.⁴² This fund would be used to advance the use and development of clean domestic renewable energy resources and alternative fuels, provide assistance for low income home energy and weatherization programs, further the purposes of the Land and Water Conservation Fund Act, and increase research and development of carbon capture and sequestration technologies.

D. Reduce User Conflict and Support Long-Term Sustainability of Ocean Resources

The development of new ocean energies, the expansion of OCS oil and gas exploration and production, and the development of onshore and offshore liquefied natural gas ports, among other new uses, raises the question of how to properly site and manage these new uses so that fishermen, the shipping industry, and other sectors can continue to utilize the ocean. The combined impact of new and old uses will also put increasing pressure on the health and resilience of our ocean ecosystems. To guarantee continued availability of the ocean

37. 33 U.S.C. §§2701-2761, ELR STAT. OPA §§1001-7001.

38. U.S. COAST GUARD, REPORT ON IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990, at 14-15 (2004), available at http://www.uscg.mil/ccs/npsc/docs/PDFs/os-ltf_report.pdf.

39. Order Ruling on Declaration of Intention and Finding Licensing Required, 101 FERC ¶ 62009 (Oct. 3, 2002).

40. Pub. L. No. 109-58, 119 STAT.Stat. 594 (2005).

41. MP3 Recording: Ocean Energy: Offshore Wind (seminar held at the Environmental Law Institute in Washington, D.C., Sept. 15, 2008), available at http://www.eli.org/seminars/ocean_series.cfm.

42. H.R. 6899, 110th Cong. §135.

resources upon which humans depend, ocean use must not occur at the expense of the health and resilience of our ocean ecosystems. Currently, no federal governance mechanisms are in place to make comprehensive siting decisions based on ocean health and resiliency, economics, and social considerations. Therefore, we encourage President-elect Obama and the new Congress to consider developing a national marine spatial management approach, i.e., ocean zoning, which can support more comprehensive, streamlined, and effective ocean management and decision-making.

III. Expand Ocean Research

Recent technological advances have made possible unprecedented advances in ocean science. For example, satellite tagging of species such as tunas, sharks, and sea turtles has given us far greater insights into the movements and life histories than was possible only a decade ago.⁴³ Ocean observing systems are now capable of sensing phenomena in a manner undreamed of just a few years ago. Thanks to recent advances in ocean science, we are beginning to appreciate the value of marine ecosystem services⁴⁴—such as seafood, climate regulation, and nutrient cycling—and the need for ecosystem-based management of the oceans.⁴⁵

Notwithstanding these advances, our understanding of ocean and coastal systems and their interaction with other earth systems such as the atmosphere and climate remains in its infancy. According to JOCI:

The lack of understanding of basic ocean and coastal processes, the inadequacy of observation systems, and our limited capacity to integrate information and data gathered from across scientific disciplines significantly compromises our ability to forecast future climate and environmental trends. The resulting uncertainty prevents us from fully understanding the rate and extent of climate change impacts on our economy, health and environment, and is hampering efforts to refine models to enhance our understanding of change at the regional level.⁴⁶

To address these shortcomings, the Bush Administration developed a National Ocean Research Priorities Plan and Implementation Strategy that identifies priority ocean research

needs for the next decade and beyond.⁴⁷ JOCI drew on this report in formulating its recommendation for three specific policy actions that could be taken by the new Administration and Congress⁴⁸:

1. *Develop the capability to better understand and forecast key ocean-related processes and phenomena.* Enhancing our understanding of ocean and coastal processes is essential to improving climate-related forecast capabilities. Improved knowledge of complex, dynamic ocean processes is the foundation needed to understand and translate observation data into integrated assessments and forecasts.
2. *Expand deployment of ocean observing systems.* Ocean observing systems are the infrastructure that provides a continuous flow of physical, biological, and chemical information, which, when integrated and analyzed, will greatly enhance our understanding of the complex processes occurring in, on, and above the ocean. These operational data collection systems underpin the effort to enhance our forecast capabilities for environmental change, including those used to minimize and adapt to climate change impacts.
3. *Enhance scientific support for ecosystem-based management.* While oceans, coasts, and watersheds function as a sophisticated and interconnected system, we do not manage or study them as such. Additional resources and emphasis must enhance our understanding of ocean and coastal ecosystem processes—particularly those influencing and being impacted by climate change, determine which interactions are most critical, and assess the dynamics of the natural and human factors affecting these interactions.

We are beginning to understand that healthier oceans yield far more in terms of ecosystem services to human and natural communities. Only by implementing a comprehensive regime of ecosystem-based management based on sound science are we likely to achieve this goal.

IV. Ocean Health

In 1961, President John F. Kennedy challenged our nation to put a man on the moon by the end of that decade. In this same spirit, the new president and Congress have an unparalleled opportunity to adopt and implement 21st century policies that are visionary as well as practical, that allow the United States to reclaim a leadership role in the world with these actions. Bold measures to revitalize ocean health are necessary to pro-

43. See, for example, the Tagging of Pacific Pelagics website at <http://www.topp.org/>, 1 of 17 projects of the Census of Marine Life (<http://www.coml.org/>).

44. See Worm et al., *supra* note 1 on the importance of healthy ocean ecosystems to providing services that enhance human well-being. See also Millennium Ecosystem Assessment, *Guide to the Millennium Assessment Reports*, <http://www.maweb.org/en/index.aspx>.

45. COMMUNICATION PARTNERSHIP FOR SCIENCE AND THE SEA, SCIENTIFIC CONSENSUS STATEMENT ON MARINE ECOSYSTEM-BASED MANAGEMENT (2005), available at http://www.compassonline.org/pdf_files/EBM_Consensus_Statement_v12.pdf.

46. JOCI, CHANGING OCEANS, *supra* note 11, at 4.

47. The National Ocean Research Priorities Plan and Implementation Strategy presents research priorities that focus on the most compelling issues in key areas of interaction between society and the ocean. This document also provides guidance on how the various ocean science sectors (government, academia, industry, and nongovernment entities) can and should be engaged, individually or through partnerships, to address the areas of greatest research priority and opportunity. NSTC JOINT SUBCOMMITTEE ON OCEAN SCIENCE & TECHNOLOGY, CHARTING THE COURSE FOR OCEAN SCIENCE IN THE UNITED STATES FOR THE NEXT DECADE (2007), available at <http://ocean.ceq.gov/about/docs/orppfinal.pdf>.

48. JOCI, CHANGING OCEANS, *supra* note 11, at 5.

tect human and environmental health and to sustain and grow our economy.⁴⁹ Like most challenges, revitalizing ocean health also presents tremendous opportunity.

This Article has already recommended a number of actions the Obama Administration can take to restore ocean health—improving national ocean governance, expanding ocean research and funding opportunities, and acceding to UNCLOS. This section highlights additional steps the Obama Administration should take to improve overall ocean health.

First, President-elect Obama should issue an Executive Order proclaiming that ocean health is critically important to human well-being and the U.S. economy. Such an order could embody a commitment to make ocean health a priority of and a legacy issue for the Obama Administration. This sounds daunting, given the current economic and global challenges our country is facing. However, Americans love our beaches and oceans—indeed, one report famously says we are loving them to death—so there exists widespread public support for improving ocean health. This is sure to grow once the new president makes this decision and begins to exercise leadership in support of the changes that are needed.

Second, President-elect Obama should see that the federal government not only complies with applicable laws designed to ensure environmental and species protection but also demonstrates leadership in proposing new, bold, and visionary solutions to the most pressing problems faced by our oceans. The world's living ocean resources—marine mammals, fish populations, coral reefs, and the ecosystems they depend upon—need to survive and thrive. Ecosystem services that we enjoy, such as seafood and recreation, depend on healthy marine ecosystems. The pPresident can ensure that federal activities are designed to protect and, where possible, restore the vitality and resilience of ocean ecosystems.

A recent U.S. Supreme Court case is illustrative of the problem.⁵⁰ The case concerned the U.S. Navy's need to conduct sonar testing in the oceans to provide for national security. The Navy has options for how it conducts these tests, some of which are less harmful to marine mammals than others. Despite existing measures in place to protect marine mammals during certain types of naval sonar exercises (which resulted from a settlement following separate litigation), the Navy determined the testing did not require full environmental review under NEPA and implemented a testing approach that was potentially more harmful to marine life. The Supreme Court reversed lower court injunctions against the navy's chosen sonar technique, finding that the mere possibility of harm to marine species was an insufficient basis for issuing what the Court found to be an overly broad remedy. The point is that when evaluating its activities as required by NEPA, the federal government almost always has choices in how to proceed.

While the Court stopped short of holding that national security concerns will always trump environmental laws, actions by our government that affect living resources should be fashioned to avoid harm whenever possible. The federal government should show national and international leadership in pursuing protective approaches whenever reasonably feasible to do so.

President-elect Obama should take a “hard look” at the federal policy stances that will be inherited from the Bush Administration—on sonar testing, shipping conflicts with right whales and other affected marine mammals, polar bears, and other marine species whose survival is at risk—and apply the principle of “do no harm” whenever feasible. From there the new administration can adopt and implement the necessary changes in policy that flow from this principle while still allowing necessary and vital federal actions to proceed.

Third, many estimates indicate that about 90% of water impairments today are attributable to nonpoint sources of pollution. Current federal laws and policies contain limited tools to address this type of pollution despite its increasingly adverse effects on ocean health, including hypoxic (dead) zones, harmful algal blooms, and negative impacts on fisheries and recreation. There is broad consensus that the current Clean Water Act (CWA)⁵¹ framework is not designed to address this issue directly. While the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Agriculture, among others, have pursued measures and creative tools within the bounds of current law to encourage better management and control of nonpoint source pollution, we lack a coherent, comprehensive, and effective federal policy to tackle this problem. Moreover, while many agree on the problem, little consensus has developed around a solution. Some groups, such as the Association of State and Interstate Water Pollution Control Administrators, call for significantly more funding for existing programs. Others, such as the National Association of Clean Water Agencies, suggest both a legislative re-write to include nonpoint sources as well as significant new long-term funding for sustainable water quality and infrastructure improvements. Finding the right approach and sufficient funding to make a new approach feasible is a daunting challenge.

These issues can quickly become politicized. The CWA does not regulate all nutrients, sediments, and other pollutants stemming from agriculture, and conservation incentives under the Farm Bill are subject to change, particularly as the demand for ethanol has grown in recent years. Municipalities likewise have few easy or inexpensive solutions for controlling urban runoff. Other sources of pollution contribute to poor water quality in the oceans and along our coastlines, but finding effective and cost-justified ways to reduce the impacts of agricultural and urban runoff are unquestionably critical to improving water quality in the future. Solving this problem will go far in helping reduce beach closings, harmful algal blooms, hypoxic zones, fishery and coral reef declines, and other linked ocean health problems.

What makes this challenge so difficult is the geographic breadth and diffuse nature of the problem, the resources necessary to make significant improvements, and the reality that

49. See *TRANSITION TO GREEN*, *supra* note 28, at 15-1. (Nov. 25, 2008) (recommendations to President-Elect Obama issued on by a coalition of U.S. environmental groups), available at http://docs.nrdc.org/legislation/files/leg_08112401a.pdf See *Transition to Green*, at page 15-1, recommendations to President-Elect Obama issued on November 25, 2008 by a coalition of U.S. environmental groups, http://docs.nrdc.org/legislation/files/leg_08112401a.pdf (Last visited December 3, 2008).

50. *Winter v. Natural Resources Defense Council*, No. 07-1239, 38 ELR 20279 (U.S. Nov. 12, 2008).

51. 33 U.S.C. §§1251-1387, ELR STAT. FWPCA §§101-607.

political positions on these issues have become entrenched. The new Administration has an opportunity to take a fresh look at how it can approach changes to the CWA and federal farm policy to address the issue of nonpoint source pollution in a meaningful way. To do this will likely require developing large and sustainable funding mechanisms, coupled with appropriate measures in law and policy, to require and provide incentives for the necessary behavior changes to resolve these critical water quality problems. The political and financial investment in such change will be very large, which makes this piece of the puzzle so daunting. But there are many smart and credible ways to forecast and measure the value of the economic and environmental benefits that we will gain as a nation from reducing nonpoint source pollution. This challenge need not be a blame game; indeed, the CWA has by most accounts accomplished what was intended on point source discharges. But it needs a modern overhaul to address the contemporary

problems that were not as prominent 35 years ago when the statute was enacted.

V. Conclusion

President-elect Barack Obama and 111th Congress will have an unprecedented opportunity to restore U.S. leadership in ocean conservation, health, and governance while coordinating such advances with changes in energy policy. They will also carry a mandate to address climate change and its impact on the earth, notably the oceans.

By appointing agency leaders with vision and taking advantage of blueprints such as the reports and recommendations of the two ocean commissions, the White House and Congress will have a terrific opportunity to work together on behalf of our oceans and the services they provide to humanity.