



the OREGON NEARSHORE STRATEGY



Chapter 9: Nearshore Recommendations



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Oregon Department
of Fish and Wildlife



OregonConservationStrategy.org

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This PDF is a chapter of the Oregon Nearshore Strategy, the marine component of the official State Wildlife Action Plan for Oregon. The complete Oregon Conservation Strategy is available online at <http://oregonconservationstrategy.org/>. Since Conservation Strategy content will be updated periodically, please check the website to ensure that you are using the most current version of downloadable files.

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NEARSHORE RECOMMENDATIONS

The core of the Nearshore Strategy is the following set of recommendations, intended to facilitate voluntary, collaborative actions to improve understanding and stewardship of Oregon’s nearshore resources. These recommendations reflect input received from ODFW staff, outside experts who served as technical advisors and reviewers, and members of the public. Twelve recommendations are outlined below, categorized into three main themes: Education and Outreach, Research and Monitoring, and Management and Policy. Each recommendation was chosen because it addresses priority nearshore issues that are in need of immediate or timely attention, is feasible, has received public support, and is beyond the capability of any single institution to achieve. The recommendations rely on partners to differing degrees, and are intended to help guide collaboration rather than act as an action plan for ODFW alone.

The description of each recommendation includes:

Recommendation: A brief statement of the recommended action.

Rationale: Conservation and/or management need(s) addressed by this recommended action, and strategies to achieve results. Recommendations are based on the known and/or potential factors affecting nearshore resources and resource sensitivity, as identified by public input, scientific information, technical advisors, and ODFW staff.

Potential Partners: Who should—or could—be involved? A general list (not necessarily comprehensive) of potential partners for collaboration on implementation.

CATEGORY: EDUCATION AND OUTREACH

A well-informed public helps drive policy and management decisions that support a healthy ecosystem and the many benefits it offers. The following recommendations are designed to enhance public awareness of nearshore species and habitats, and foster public engagement in nearshore conservation issues.

(1) General Public, Stakeholder and Advisory Group Engagement

Recommendation: Develop and expand creative avenues to engage a diverse array of stakeholders, including the broader general public, on nearshore resource issues. Explore technologies that support alternative methods of communication and participation, in addition to continuing to support traditional paths such as issue-specific advisory groups.

Rationale: Input from informed and engaged partners is essential to successfully developing and implementing research, management/policy, and outreach on all natural resource issues. The exchange of information between ODFW and stakeholders improves understanding and support on both sides, and aligns management with public priorities. Advisory committees can provide focused, in-depth engagement in selected aspects of nearshore management and research. In addition, there is a growing need to augment traditional methods of public input to reach an increasingly dispersed and diverse population of stakeholders interested in nearshore issues. ODFW has begun using new options for engaging the public and exchanging information—for example, opportunities for online participation in public meetings, and online surveys—and these have shown promise as effective tools for enhancing traditional methods.

Potential Partners: ODFW, existing advisory bodies, the general public, sport and commercial fishing interests, non-governmental organizations, tribes, Oregon Sea Grant, and various other communities of interested parties with a broad and diverse representation.

(2) Nearshore Resources Outreach Information, Access and Awareness

Recommendation: Broaden outreach materials and information available electronically, to deepen public appreciation of Oregon's nearshore environment. Increase the quantity, quality, and timeliness of information available on ODFW's website on nearshore fisheries, regulations, conservation and ecosystem management.

Rationale: Oregon's nearshore is one of the richest ecological systems in the world, home to thousands of species in a multitude of habitat types. While there is much to learn about this incredible ecoregion, there is a wealth of existing information that could be used more effectively to fuel public interest in natural resource issues, and stewardship of those resources. Populating educational exhibits, websites, social media, and other media outlets with information about Oregon's nearshore will deepen Oregonian's connection to the outdoors and to wildlife. Photographs, video, and stories, provided through a variety of sources and outlets will engage the public in the short-term, and build partnership and stewardship in the long-term.

Potential Partners: State and federal natural resource agencies, universities, Oregon Sea Grant, public aquaria and museums, non-governmental organizations, tribes, and others.

(3) Communications Partnerships

Recommendation: Develop and expand existing partnerships for communication, education, and outreach on nearshore topics and issues. Work with partners to develop new mechanisms for information development and dissemination and through partnerships reach new audiences.

Rationale: Conservation and management actions are better trusted and publically supported when they are developed with stakeholders who understand nearshore issues. Partnering with groups that have a rich history of developing science-based education and outreach programs, effectively and efficiently amplifies the quality and scope of nearshore resources communication, and builds relationships and capacity outside of ODFW on nearshore resource issues. Through these partnerships, Oregon’s understanding of nearshore issues – and clarity on what members of the public can do to contribute to a healthy nearshore ecosystem – would facilitate a renewed spirit of engagement and commitment to nearshore resource stewardship.

Potential Partners: State and federal natural resource agencies, universities, Oregon Sea Grant, public aquaria and museums, non-governmental organizations, tribes, and others.

CATEGORY: RESEARCH AND MONITORING

Expanded research and monitoring activities are required to generate data and information to meet the needs of resource managers. This is especially true in the nearshore area where human activity is intense and information on many species and their habitats is sparse. The [Nearshore Research and Monitoring](#) section lists some key data elements and examples of projects that would help support resource management. The following recommendations address research and monitoring program priorities for collaborative, multi-institutional issues. The broad objectives in this category are far beyond the capability of any one institution to fully achieve and therefore require partnerships to realize meaningful results.

(4) Ecosystem Response to Climate Change

Recommendation: Develop and implement research and monitoring efforts to understand, track, and work toward predicting effects of climate change and increased carbon dioxide on Oregon’s nearshore species and ecosystems. Focus research toward species and ecosystems most at risk, and foster collaboration between scientists and managers to optimize research outcomes for use in management.

Rationale: Oregon’s ocean is already experiencing effects of climate change and increased carbon dioxide, including ocean acidification, hypoxia, other changes in water chemistry, warming ocean temperature, and changes in upwelling and other characteristics of the nearshore ocean and estuaries. These changes will continue to grow and intensify in the future. Oregon’s upwelling ecosystem is experiencing many of these changes sooner and in greater magnitude than other parts of the nation, increasing the urgency for collecting the needed information and formulating the necessary management response. This is a global problem that requires rigorous scientific information to solve, and partnership between scientists inside and outside of agencies to both understand the phenomena and try to mitigate its effects. Desired outcomes are to increase ecosystem and community resilience and sustainability of Oregon’s nearshore resource.

Potential Partners: State and federal natural resource agencies, universities, local governments, non-governmental organizations, shellfish and fishing interests, tribes and others.

(5) Ecosystem Characterization – Species and Habitats

Recommendation: Continue and expand research and monitoring efforts on nearshore species and habitats. Gather scientific information on the abundance and distribution of species and habitats, the interactions among species and between species and their physical environment, and changes in those resources and interactions over time. The [Strategy Species](#) and [Nearshore Research and Monitoring needs](#) provide guidance for setting research and monitoring priorities.

Rationale: Management of nearshore resources is most effective when based on a sound scientific understanding of the nearshore ecosystem. While there has been a great deal of research on Oregon’s nearshore ocean and natural resources, there remain significant data gaps that, once filled, will reduce uncertainty in resource management. ODFW gathers information on nearshore fish, invertebrates, marine mammals and habitats. In addition, ODFW monitors changes in marine reserves and nearby comparison areas, providing a unique opportunity to examine changes that occur to nearshore species in areas closed to fishing compared with similar areas where fishing occurs. These ODFW programs, along with numerous efforts undertaken by universities, resource agencies, and other partners need to be continued and expanding to produce information necessary to meet resource management challenges.

Potential Partners: State and federal natural resource agencies, universities, non-governmental organizations, fishing interests, tribes, and the general public.

(6) Fishery Independent Surveys

Recommendation: Develop methods for surveying fishery species in the nearshore environment with the goal of collecting fish and shellfish abundance data useful in assessing the status of harvested fish and shellfish stocks. Once methods are developed, conduct periodic fishery-independent surveys in the nearshore environment to produce data useful in stock assessments and develop long-term datasets that can indicate trends in abundance over time.

Rationale: The status of fishery stocks needs to be assessed periodically to ensure that fishery managers set appropriate catch limits and to provide sustainable harvest into the future. Stock assessments are often based on a combination of data collected from fishery landings and fishery-independent surveys of fish populations. Fishery-independent data are crucial to fine-tune and ground truth stock assessment models, helping to ensure assessment results most accurately reflect real-world fish abundance. These more accurate results allow managers and fishermen to have more certainty with management decisions, and reduce the risk of deviating from conservation targets.

There are currently no fishery-independent surveys for most fish species caught in the nearshore. Many of these species are caught on nearshore rocky reefs, an environment that presents challenges to conventional fish survey methodology (e.g., trawl surveys). Methods need to be developed for conducting fish surveys in nearshore rocky reef areas that will produce consistent and reliable results useful in assessing stocks. Surveys then need to be conducted on a periodic basis and continued over a long time period to be most useful in supporting stock assessments. The initial focus should be on nearshore rocky reef fish species, including black, blue, deacon, China, copper, quillback, and other rockfish species, as well as kelp greenling and cabezon.

Potential Partners: Fishery managers, stock assessment scientists, commercial and sport fishing interests, non-governmental organizations and university scientists.

(7) Nearshore Species Stock Assessments

Recommendation: Improve stock assessments and/or stock status indicators for priority data-limited nearshore fish and shellfish species to improve confidence in population estimates and management strategies. Develop and improve data collection programs needed to support nearshore species stock assessments including developing fishery-independent surveys (see Recommendation 6), and evaluating and improving existing fishery monitoring programs that record fishery catch/landings, estimate fishery effort, and collect biological data on landed catch.

Rationale: There is limited information about nearshore fish and shellfish populations available for use in population assessments. Data and monitoring have not been adequate to confidently assess stock status on many nearshore species, and there is currently no mechanism for indicating a population decline for many species. Developing stock assessment and/or indicator strategies, along with collecting the data necessary to implement the strategies, is essential to maintain confidence in management decisions and ensure sustainable harvest.

Potential Partners: ODFW, NOAA stock assessment scientists, other state and federal fishery resource agencies, university scientists, and the fishing industry.

(8) Human Dimensions Research and Monitoring

Recommendation: Conduct and support studies of social and economic patterns and trends as they relate to nearshore resources, human use of the resources, and effects of resource management actions on individuals, user groups, or communities. Potential topics include coastal community demographic trends, economic and social contributions of industries that depend on nearshore resources directly (e.g., fishing) or indirectly (e.g., tourism), and the impacts of regulatory and other management changes. In some cases, new methods will need to be developed to study these topics and develop data useful for resource management.

Rationale: Human dimensions information is central to understanding the context of natural resource issues and how people, coastal communities, economies, and nearshore resources are interrelated and might be affected by various management actions. The social and economic benefits and consequences of resource management actions need to be an integral part of the resource management process. For example, ODFW's marine reserves program is developing human dimensions information about Oregon's coastal communities to provide information needed to evaluate marine reserves as a management tool and to increase our general understanding Oregon's coastal communities and user groups.

Potential Partners: State and federal natural resource agencies, university scientists, non-governmental organizations, the fishing industry, tribes, and the general public.

(9) Marine Mammals-Fisheries Interactions

Recommendation: Continue and expand efforts to gather necessary information to manage resource conflicts between pinnipeds and fish resources in Oregon’s nearshore ocean, estuaries, and rivers. Information needed includes ongoing monitoring of pinniped population abundance, research on feeding habits and foraging behavior, research on predation impacts to fish populations, and evaluation of conflicts with fisheries.

Rationale: Pinnipeds in the Pacific Northwest, under the protection of the federal Marine Mammal Protection Act of 1972, have enjoyed a marked recovery of their populations. The substantial increase in the number of pinnipeds along the coast and in the lower Columbia River has resulted in widespread negative impacts to fish species of conservation concern such as ESA-listed salmon and steelhead, white sturgeon and Pacific lamprey, as well as conflicts with sport and commercial fisheries. As an example, the U.S. stock of California sea lions has experienced a successful recovery over the past 30 years, increasing from perhaps 50,000 animals at the time of protection to approximately 300,000 today. While a conservation success story, their increase has resulted in increased resource conflicts throughout their range. Similarly, the eastern stock of Steller sea lions has also experienced a successful recovery over the past 30 years and was recently delisted under the Endangered Species Act. In order to address conflicts created by large and increasing pinniped populations, it is essential to monitor pinniped populations, examine food habits, foraging behavior, and predation effects on fish populations, and evaluate conflicts with fisheries.

Potential Partners: ODFW, National Oceanic and Atmospheric Administration, the Washington Department of Fish and Wildlife, U.S. Army Corps of Engineers, sport and commercial fishing interests, tribes, port districts, and other local government entities.

CATEGORY: MANAGEMENT AND POLICY

Good governance for natural resources is built from a transparent management framework, trust from stakeholders, and sound science. Resource sustainability and resilience to a changing environment is improved with good management, good policy, and good governance. The recommendations in this category address priority nearshore issues and species using a variety of non-regulatory tools.

(10) Management Response to Climate Change

Recommendation: Promote use of climate change information in management decision-making and policy development in statewide, regional and global arenas. Build climate resilience and climate change adaptation into decision-making to maximize the long-term benefits of today’s public investment in natural resource management.

Rationale: Our understanding of climate change continues to broaden and deepen, as we discover the multitude of climate change symptoms and explore predictions of future impacts. Symptoms include those that have been in the public awareness for decades (e.g. warming temperatures) as well as newly identified phenomenon such as ocean acidification, which was first recognized in 2003. Many (or arguably most) natural resource management tools do not explicitly incorporate climate change information; at best, management tools include methods for addressing scientific uncertainty (e.g.

harvest quota estimates), which may indirectly account for some degree of climate change uncertainty, but not all of it. Decisions made today on natural resource issues – made in a vacuum relative to climate change adaptation information – likely will not stand the test of time. Poor decisions today, assuming a static environment, will likely lead to destabilization of businesses, and economies that rely on resource availability for harvest, tourism or other purposes.

Potential Partners: State and federal natural resource agencies, university scientists, non-governmental organizations, and the fishing industry.

(11) Marine Fishery Management Plans

Recommendation: Build the information/datasets and stakeholder support for state marine fishery management plans for appropriate nearshore Strategy Species and Watch List Species.

Rationale: Transparent documentation of management strategies can lead to increased public engagement in management (particularly increased public input) and improved information for decision-making processes. Both lead to greater public confidence that Oregon's natural resources are healthy and well-managed. To facilitate transparency and improve information in decision-making, ODFW has developed the Marine Fishery Management Plan Framework (2015) – an approach to developing Fishery Management Plans (FMPs) for nearshore and other marine species, developed under the umbrella of the Native Fish Conservation Policy. The goal of the Framework is to create a common understanding of what can and/or should be part of state FMPs, and lay out a publically transparent road map for how to develop marine FMPs. The real heart of the Framework is in the building of individual FMPs, each of which will be adopted by the Fish and Wildlife Commission. Building each individual FMP will be time and labor-intensive, both for agency staff and for the public, whose input will be necessary for the FMPs to be rigorous and effective.

Potential Partners: State and federal natural resource agencies, sport and commercial fishing interests, non-governmental organizations, university scientists, tribes, and the general public.

(12) Marine Planning

Recommendation: Participate in marine planning processes to ensure Oregon's interests in marine natural resource conservation and use are fully represented in marine policy. Develop marine natural resource spatial information and incorporate it into marine planning processes to ensure they use the best available science to formulate plans concerning Oregon's marine resources and uses.

Rationale: Growing demand for ocean resources and competing use of ocean space has increased the need to move beyond single-sector management and plan for ocean uses more holistically. Marine planning processes require comprehensive spatial information on location, abundance and distribution of marine resources and resource uses. Spatial data that meet these needs have not been developed for many marine resources, and require collaborative efforts and funding to ensure full development. Marine planning efforts engage multiple users, governments, and management agencies to ensure continued sustainability of ocean resources, while providing for a diverse array of uses and public priorities. Alongside many collaborators and partners, ODFW participated in the state's development of part 5 of the Territorial Sea Plan, which outlines state policy on renewable ocean energy siting in the nearshore and characterizes the more suitable areas for this development to occur. Several marine

planning processes affecting Oregon are currently underway at the federal level. While these are in federal waters, they still affect Oregon's nearshore marine resources and Oregon's ocean users. ODFW will continue to play a key role in providing natural resource information to support these processes, as well as ensuring Oregon's nearshore resources and ocean user groups are represented in policy decisions. ODFW will also play an ongoing role in plan implementation and keeping marine resource data sets current, and relevant, as new information becomes available.

Potential Partners: State and federal natural resource agencies, sport and commercial fishing interests, local, state, regional, and federal governments, community groups, non-governmental organizations, tribes, and the general public.