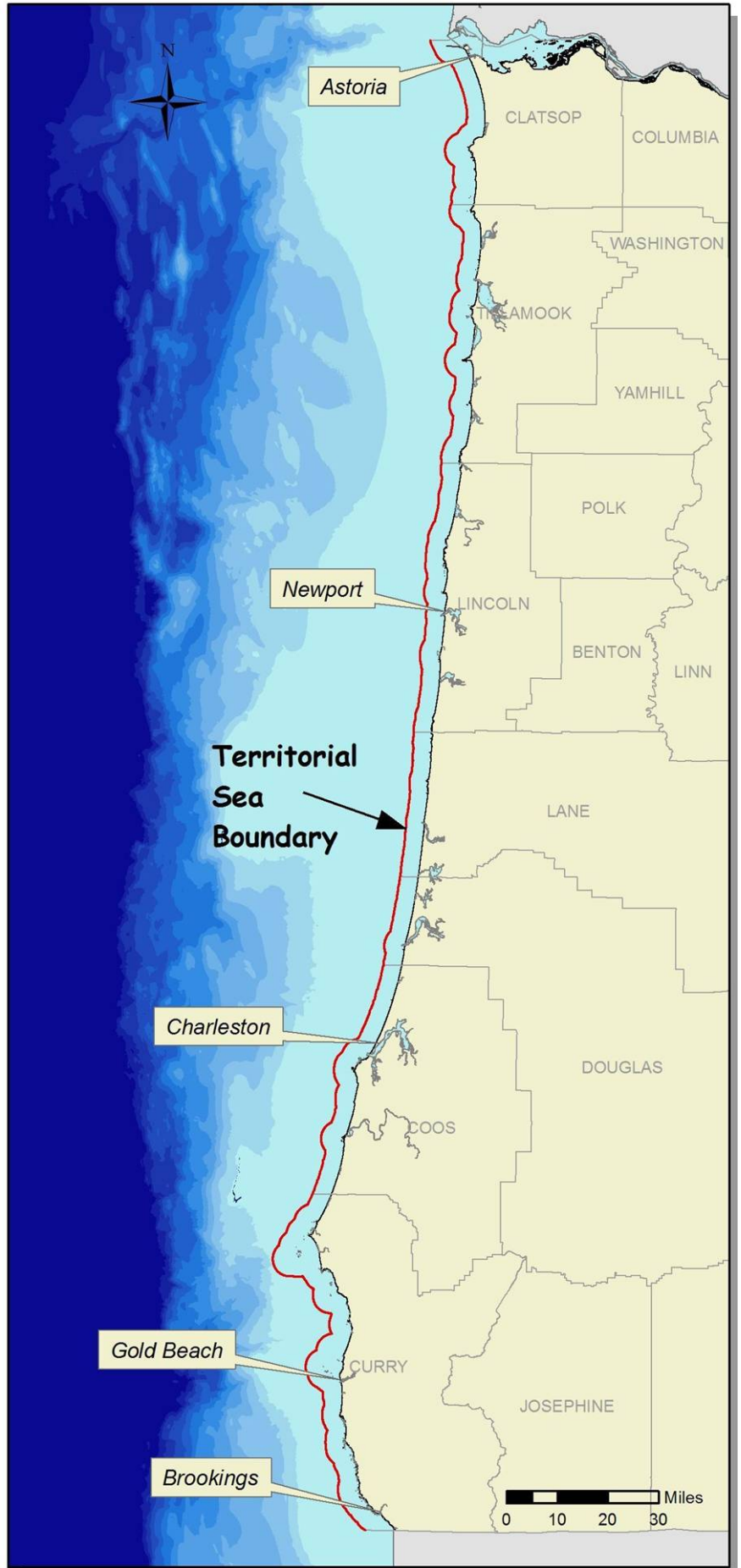




Marine Resources Program Overview

January 2007



Locations of Marine Program Port Offices

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OREGON'S MARINE RESOURCES

The Marine Resources Program (MRP) studies and manages the fish and marine mammals off Oregon's 369 miles of coastline and the 1,410 miles of tidal shoreline. Oregon's diverse marine habitat supports commercial fisheries that annually contribute more than \$342 million in personal income to Oregon – about 7 percent of all income earned along the Oregon coast. Saltwater sport fishing accounts for an additional \$50 million or more in economic contribution to the state, according to a 2005 report¹. The natural beauty of the Oregon coast attracts millions of visitors each year who enjoy tide pooling, whale watching and other marine wildlife viewing opportunities.

As part of the Oregon Department of Fish and Wildlife (ODFW) Fish Division, the MRP assesses and manages Oregon's marine habitat, biological resources and fisheries (primarily groundfish, shellfish, coastal pelagic species, such as sardines, and highly migratory species such as albacore tuna). In addition to direct responsibilities in state waters (from shore to three miles seaward), the MRP provides technical support and policy recommendations to state, federal, regional and international decision-makers who develop management strategies from shore to 200 miles that affect Oregon fish and shellfish stocks, fisheries, and coastal communities. MRP is responsible for the monitoring of ocean salmon fisheries. All other salmon management is handled through the ODFW Columbia River Program in Clackamas.

MRP headquarters is in Newport at the Hatfield Marine Science Center on Yaquina Bay. MRP has port offices along the coast at Astoria, Tillamook, Charleston, Central Point, Brookings, and at the marine mammal program in Corvallis. Staffing consists of about 60 permanent and more than 70 seasonal or temporary positions. The annual program budget is approximately \$5 million: about 50 percent comes from federal sources and the remainder from state general fund (approximately \$800,000) and "other" state funds from license fees and commercial fish fund (\$2.3 million).

The program's work focuses on three major categories:

- marine resource policy, management and regulation
- fisheries monitoring and data collection
- research on marine fisheries, ocean species and habitats

¹ Oregon's Commercial Fishing Industry; Year 2004 Preliminary Review and Year 2005 Outlook, by Radtke, Davis, The Research Group, Corvallis, Ore., prepared for ODFW and OCZMA. Oregon's Ocean Sport Fishing values from US Fish and Wildlife Service reports and Radke and Davis *op cit* June 2005.

MANAGEMENT AND POLICY

Management Authority

The Marine Resources Program is authorized by the State Legislature in statute and the Oregon Fish and Wildlife Commission through administrative rule, to administer the regulation, harvest and management of commercial and recreational fisheries and management of other marine species, such as marine mammals, in Oregon. Generally the MRP manages marine waters from the innermost margin of estuaries out to the ocean. ODFW watershed (regional) management is handled from the upstream estuary environment to inland freshwater outflows. MRP works in cooperation with the regional staff to coordinate this interface.

U.S. ocean fisheries are managed at the federal level through the Magnuson-Stevens Fishery Conservation and Management Act (MSA). This federal law forms the framework around which the west coast states regulate fisheries in state and federal waters. The law established an area from shore to three miles which would generally fall under state jurisdiction for fishery management. From three miles to the 200-nautical-mile distance, federal authority establishes fishery regulations. In some cases (such as commercial Dungeness crab and pink shrimp fisheries), the Act delegates full authority (in state and federal waters) to state management. States may set overriding fishery regulations as long as they are viewed as more conservative than those set in the federal process. The Act is currently undergoing reauthorization in Congress and is expected to be revised and adopted early in 2007.

The MRP is involved in multiple state, federal and regional policy development processes. The state is a member of the Pacific Fishery Management Council (comprising Oregon, California, Washington and Idaho), and the North Pacific Fishery Management Council (Alaska), the Pacific States Marine Fishery Commission (Oregon, California, Washington, Idaho and Alaska), and participates on the International Halibut Commission; all of which make recommendations that result in federal review, approval and adoption of fishery regulations. The Marine Mammal Protection Act (MMPA) is the source of federal authority and regulation of marine mammals. States generally monitor and work cooperatively with US Fish and Wildlife Service and NOAA Fisheries to develop data and research to meet the requirements of the MMPA. Within Oregon, the Ocean Policy Advisory Council is an advisory body to local governments, the Legislature and Governor on state ocean policy. ODFW/MRP and other state agencies (such as State Parks, Environmental Quality, Land Conservation and Development) serve as non-voting members of OPAC. At this time OPAC is addressing various strategies designed to protect nearshore ocean resources. The Governor has requested support for designation of the Oregon coast as a National Marine Sanctuary. The advisory council is analyzing the impacts and potential for that designation as well as the feasibility of designation of marine protected areas along the Oregon coast. As with the federal regulatory process, the state ocean policy development process is one that integrates many agencies and interests coastwide.

Much like the challenge of managing mixed stocks of groundfish in the ocean, the setting of state, federal and national policy in marine resource management is one that requires an integrated approach which values the consideration of multiple and sometimes conflicting priorities and goals.

Working With Fisheries Councils

Recent developments point out the importance of effective representation of Oregon's fishery resource priorities at the Pacific Fishery Management Council (PFMC), which provides recommendations to the Department of Commerce/National Marine Fishery Service on regulation of marine fisheries on the West Coast. Curt Melcher (Assistant Administrator for the Fish Division) currently represents the director of ODFW on the PFMC. Implementation of a new two-year groundfish management cycle for these commercial and sport fisheries began in January 2005 and includes a special framework for regional management of key species. Regional management of these key species means that higher than anticipated harvest levels in one state or geographic region will not necessarily close fisheries in other states or geographic regions. Conversely, this approach does not allow for "sharing" of harvest caps between states and regions.

During 2005, NMFS completed stock assessments for 22 groundfish species – more than twice the number considered in past years. There are over 80 species of groundfish under current management on the West Coast. MRP staff helped prepare and review of most of the assessments. Many of these species were assessed for the first time. The completion of so many assessments, as well as incorporating the outcomes into an already complex set of management measures, presented significant challenges in 2005-2006. MRP staff worked closely with fishery stakeholders (through public meetings) for several months to develop a model for the sport fishery and craft regulations for both sport and commercial fisheries. As a result, at the June PFMC meeting, the council adopted the regulations for the sport and commercial nearshore fisheries for the 2007-2008 season.

A federal plan for designating groundfish Essential Fish Habitat (EFH) and measures to minimize the adverse effects of fishing on EFH were finalized in June 2006. The intent of this effort is to provide adequate protection for groundfish habitat while minimizing social and economic impacts. The MRP has been contributing to the dedicated data support, policy analysis, and public outreach necessary for the success of this federal effort.

The North Pacific Fishery Management Council (NPFMC) has a representative from ODFW (Roy Hyder, OSP, Ret. under contract to ODFW) because there is a significant Alaska fishery based primarily out of Newport, Ore. Many commercial fishers diversified and began participating in the Alaska fisheries in the 1980s. It is still a very valued distant water fishery for our state which brings large economic benefits to Oregon. Contact Patty Burke or Gway Kirschner for additional information on federal fisheries councils at (541)867-0300, ext. 267, Gway.R.Kirschner@state.or.us.

Nearshore Management Policy Development

In December 2005, Marine Resources Program staff completed ***Oregon's Nearshore Marine Resources Management Strategy***, which identifies priority needs and opportunities for the sustainable management of nearshore marine fish and wildlife. This effort – undertaken in collaboration with management partners, user groups, and the general public – is part of ODFW's statewide Conservation Strategy for Oregon. The Nearshore Strategy's 16 recommendations will



guide future management decisions affecting Oregon's nearshore marine resources, and direct managers' attention and resources to priority areas where they can have the most positive impact on nearshore fish and wildlife.

First steps in implementing the Nearshore Strategy included, establishing a Nearshore Advisory Committee (NAC) that will advise ODFW staff during implementation of strategy recommendations. ODFW staff will focus on interagency management coordination, nearshore habitat surveys at Port Orford Reef, a revision of the Interim Management Plan for Oregon's Commercial Nearshore Fishery, and expanded public outreach including revisions to the ODFW/MRP Web site (<http://www.dfw.state.or.us/MRP/>). ODFW will review the Nearshore Strategy for consistency with current resource issues, state policies, scientific information and public interest approximately every five years. Contact: Hal Weeks at (541) 867-0300, ext. 279, Hal.Weeks@state.or.us.

Marine Mammal Policy Development

Sport and commercial fisheries along the Oregon coast and in the Columbia River are important to local economies and social tradition. The fishing public and others seek to enhance the long-term survival of salmonids and other important fish resources. They are concerned about the increasing pinniped (primarily California sea lions, Steller's sea lions and harbor seals in Oregon) populations and their impact on the limited fish resources. MRP's Marine Mammal Program is involved in cooperative efforts with interested groups and agencies to monitor populations and to minimize marine mammal predation in the lower Columbia River below Bonneville Dam and in the Rogue River near Gold Beach.

Columbia River – Bonneville Dam is located 146 miles from the Pacific Ocean. Some seals and sea lions have learned that traveling this distance results in good foraging opportunities for salmonids and sturgeon. The MRP's research on California sea lions indicates that a large proportion of the individuals that



exhibit this behavior do so year after year. During 2005 and 2006 – in conjunction with other state, federal and tribal agencies – the Marine Mammal Program used non-lethal methods to haze pinnipeds directly below Bonneville Dam in order to discourage animals from using this area and reduce predation on threatened and endangered salmonids and Columbia River white sturgeon. Preliminary results suggest that these efforts were effective at deterring nuisance Steller's sea lions but only marginally so for California sea lions. This ongoing work is part of a larger policy effort to increase pinniped management options in the Columbia River.

Rogue River – In 2006, the Curry Sport Fishing Association and the Port of Gold Beach launched a first-of-its-kind pinniped deterrence program designed to reduce the losses of hooked Chinook salmon to nuisance California and Steller’s sea lions. MRP’s Marine Mammal Project, in cooperation with the National Marine Fisheries Service, provides technical assistance to the Port and is responsible for monitoring the effectiveness of the program.

Legislation – Program staff monitor legislative actions at the state and federal levels that affect marine mammal management. These activities include providing information and testimony to the State Legislature and Congress and working with NMFS, PSMFC and other coastal states to propose modification to laws that would allow additional management options to state fish and wildlife managers.

Licensing and Administrative Support

With receipts of more than \$350,000 a year, the Newport MRP front counter staff collects more fishing and hunting license and permit revenue than any other ODFW office with the exception of Salem headquarters. The front office staff are the first point of contact for many ODFW customers, answering questions about fish and wildlife regulations and providing licensing services. They help homeowners with backyard wildlife questions, commercial fishermen with questions about specific regulations and respond to a wide variety of public questions each day. The front office staff also provide administrative support for about 60 people – both the Newport MRP employees and the wildlife and freshwater fish biologists of the North Coast Watershed District, also located at the Hatfield Marine Science Center. Contact: Lori Parker (541) 867-0300 ext. 259, Lori.A.Parker@state.or.us .



FISHERIES MANAGEMENT

The MRP is responsible for monitoring, development of regulations, and the management of marine sport and commercial fisheries in Oregon coastal waters. The state is a member of the Pacific Fishery Management Council, and participates in determining management measures for federally managed species in that venue. In addition, the MRP is part of tri-state management processes for commercial Dungeness crab management, and works with the International Pacific Halibut Commission to oversee that internationally-managed species.

Mixed stocks and complex and unpredictable patterns in the ocean fisheries produce new challenges for the West Coast groundfish management programs. Many of these species were not known to have significantly long life spans (some to over 100 years), and long (10-20 years) development phases prior to reaching reproductive abilities. As a result, high harvest in the 1970s and 1980s removed long-lived cohorts. This was not discovered until the past decade, thus causing a radical change in stock assessments and strategies to rebuild depleted species. Groundfish include many species of rockfish, which have air bladders and suffer from barotrauma and mortality when released. Management challenges abound. Groundfish species are managed so that the total catch or maximum harvest caps (three federally imposed and four state-imposed harvest caps) are set by the federal and state governments. This creates limitations on all targeted/healthy species when limiting species (such as widow, yelloweye and canary rockfish) are caught incidentally. This is an ongoing issue in both sport and commercial fisheries. Contact: Maggie Sommer, Assistant Program Manager, (541) 867-0300 ext. 237, Maggie.M.Sommer@state.or.us.

Recreational Groundfish

The recreational groundfish fishery in Oregon primarily targets black rockfish, with lesser catches of other nearshore rockfish species such as China and copper rockfish. Lingcod also are very popular with sport anglers. In 2005 the National Marine Fisheries Service declared that West Coast lingcod



stock, which includes the Oregon component, rebuilt to a healthy level from its previously depleted status. Other species caught in the sport groundfish fishery include cabezon, greenling, and yellowtail rockfish. Charter boats account for a substantial portion of effort and catch in this fishery. Private boats make up less than half of the statewide ocean fishing effort, but are more prevalent in Brookings on the south coast.

The importance of comprehensive marine fisheries and resource management planning received heightened public interest recently when the Oregon sport groundfish season closed Sept. 3, 2004 when sport fishers reached the federal black rockfish harvest cap. This was the first time the sport groundfish season did not last the full year. Following public meetings in October 2004, the MRP recommended to the Oregon Fish and Wildlife Commission more restrictive 2005 sport harvest regulations designed to achieve a full, year-round season. A new Web site was developed to help sport anglers track attainment of harvest caps in-season so that adjustments can be better anticipated. Further restrictions were implemented in

July 2005 when sampling data indicated the catch was progressing more quickly than anticipated. The MRP continues to monitor sport groundfish catch closely in conjunction with a public Sportfish Advisory Committee, and is managing the fishery for a year-round season. Contact Don Bodenmiller at (541) 867-0300 ext. 223, or Don.G.Bodenmiller@state.or.us .

Commercial Groundfish

Commercial groundfish fisheries in Oregon include federally managed groundfish trawl fisheries, which target species like petrale and Dover sole; federally managed open-access fisheries for species such as sablefish and lingcod, and the state-managed, limited-entry black rockfish, blue rockfish and nearshore fishery. Federal West Coast groundfish fisheries were severely curtailed from effort and catch levels in the 1990s and before, due to declining stocks. The MRP has been active in partnering with commercial fishers to develop selective gear types that can help keep fishing opportunities available by targeting healthy species such as flatfish while minimizing unintended bycatch of other – especially depleted – species such as canary rockfish.

The state limited entry commercial black and blue rockfish/nearshore fishery produces fresh and live fish for local and distant markets. Live fish bring a much higher price (up to \$7 per pound, compared to only \$1 or \$2 per pound for the same fish delivered dead or fresh). Live fish are usually shipped to the San Francisco or Seattle areas. The approximately 120 participants in this fishery make day trips on small boats to local nearshore reefs. Periodic landing limits for black rockfish, the primary target of the commercial nearshore fishery, have been reduced significantly since 2003 in order to stretch the fishing season throughout a full year, while accommodating greater levels of effort across the permitted participants. The result is very low limits that participants say undermine the economic viability of their businesses. The MRP will be facilitating industry discussions on the pros and cons of possible options to improve the situation, such as reducing the number of permits available, allowing permit stacking, moving to an individual fishing quota management structure, and other proposals. Contact Maggie Sommer at (541)867-0300 ext. 237 or Maggie.M.Sommer@state.or.us .



Pacific Halibut

Pacific halibut is a flatfish that can grow to more than 8 feet long and weigh up to 500 pounds. Pacific halibut commercial fishing began in the late 1880s with the movement of the Atlantic halibut fleet to the Pacific Ocean to pursue the large stocks found along Washington and Vancouver Island. Subsequent expansion extended the fishery both south and north and out to the offshore banks

throughout the known range of halibut on the American side of the Pacific, from northern California to the Bering Sea, a distance of over 2,000 miles.

By 1914 there were efforts to reduce the length of the season as well as the effort. The halibut industry petitioned both governments to manage and control the fishery. In 1923, Canada and the United States signed the Convention for the Preservation of the Halibut Fishery of the Northern Pacific Ocean. The treaty was noteworthy in that it was the first treaty to be concluded anywhere for the conservation of a depleted deep-sea fishery.

In 1975 the season was 125 days long, but as improving halibut stock and price conditions increased effort and demand, the season shrank to 25 days by 1985. Nearly a decade later in 1994 the season shrank to fewer than three days for a majority of the U.S. fishery. In 1991 the Canadian government adopted individual vessel quotas (IVQ) to manage the fishery. Then, in 1995, the U.S. adopted the individual fishing quota (IFQ) system. The commercial halibut fishery is now allocated to vessels and individuals respectively and the resulting fishery is managed on a nearly nine-month season. The results of this change are positive and resulted in increased value for the fishery, less wastage, and increased safety for the fleet.



Each year, the International Pacific Halibut Commission (IPHC) meets to set total allowable catch levels for halibut that will be caught in the U.S. and Canadian exclusive economic zones in the northeastern Pacific Ocean. The IPHC refers to U.S. waters off the states of Washington, Oregon and California collectively as “Area 2A.” Regulations for Area 2A are set by NOAA Fisheries Service's Northwest Regional Office. Halibut in Area 2A is divided between tribal and non-tribal fisheries, between commercial and recreational fisheries, and between recreational fisheries in Washington, Oregon, and California. The Pacific Fishery Management Council describes this halibut catch division each year in a Catch Sharing Plan. Contact Don Bodenmiller (541) 867-0300 ext. 223, Don.G.Bodenmiller@state.or.us .

Pacific Whiting

Pacific whiting (or hake, *Merluccius productus*) is Oregon’s largest commercial fishery by volume. Pacific whiting is primarily made into surimi, a minced fish product used to make imitation crab and other products. Recently, there has been growth in the marketing and production of Pacific whiting fillets.

The Oregon’s whiting fishery developed in the 1960s with the arrival of distant-water fleets from the former Soviet Union and eastern European nations. In the 1980s the fishery in the U.S. exclusive economic zone (i.e., 200 miles seaward of state waters) evolved into a joint venture operation



between foreign at-sea processing vessels and U.S. catcher vessels. By the 1990s, the fishery became a domestic fishery with three distinct sectors – catcher-processors that harvest and process at-sea; motherships that take deliveries from catcher vessels and process at-sea, and shoreside processors that take deliveries from catcher vessels.

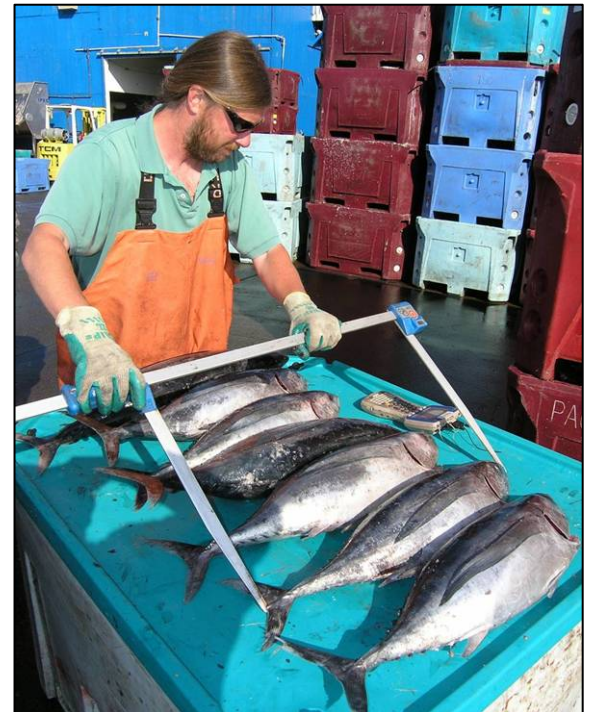
The shoreside whiting fishery, managed under a three-state Exempted Fishing Permit (EFP) program since 1993, allows all catch to be landed unsorted, meaning that incidentally caught fish are retained with the whiting and

sorted at the shoreside facility. This allows the fleet to conduct their fishing trips as quickly as possible, contributing to maintaining the quality of the whiting product. In this program, permittees are not penalized for the amount of prohibited or other species landed over the trip limits which would apply to non-EFP vessels. However, the shoreside fleet as a whole is capped, meaning that reaching the bycatch cap for a non-whiting species could mean the fishery closes before the entire whiting allocation is harvested. The MRP coordinates the coastwide Exempted Fishing Permit program monitoring and data collection for all three states. This includes processing permit applications, providing training to participants on annual regulations, and monitoring landings of hake and bycatch species. U.S. coastal Treaty Tribes in Washington State comprise a fourth sector of the Pacific whiting fishery. Since 2000, annual catch in the non-Tribal whiting fishery has averaged about 160,000 metric tons per year. This fishery is in the process of being converted to a federally-managed framework during 2007 and 2008. Contact Mark Saelens at (541)867-0300 ext. 251 or Mark.R.Saelens@state.or.us.

Highly Migratory Species

This group of species includes tuna, shark, billfish, and related species. Management of highly migratory species falls under international treaties because these species move throughout large areas of the Pacific and are fished by many nations and gear types. Only a small fraction of the harvest is taken within US waters, and US fisheries are managed under federal plans. There is some concern that reductions in other fisheries, such as groundfish, could push more people into HMS fisheries, resulting in increased fishing pressure on these species.

A variety of gear types are used in the commercial fishery, including troll, purse seines, and drift gillnets. Albacore tuna is a seasonally important target for both sport and commercial fisherman. It is one of the last open-access commercial fisheries off Oregon. Bycatch of other fish, turtles, and marine mammals and birds is a concern in HMS fisheries. Fishery restrictions designed to protect these species are a significant part of the management of HMS species along the West Coast.



The status of the albacore tuna population in the North Pacific is a concern. Albacore is a major commercial and sport fishery in Oregon. International fisheries commissions have called on all parties to prevent any increase beyond current levels of fishing effort. If the status of North Pacific albacore tuna worsens, more restrictive measures may be recommended. Fishing restrictions being considered for bigeye tuna (found primarily in California and south) may set a precedent for a depleted albacore fisheries rebuilding process. For example, a system of national limits is proposed for the catch of bigeye tuna to provide additional protection to this species, because of overfishing. Contact Cyreis Schmitt at (541) 867-0300 ext. 265 or Cyreis.C.Schmitt@state.or.us.

Coastal Pelagic Species

Northern anchovy, Pacific herring, Pacific (chub or blue) mackerel, Pacific sardines, Pacific saury, jack (Spanish) mackerel, and market squid are federally managed under the coastal pelagic species fishery management plan. Except for sardines, incidental landings are monitored through the ODFW commercial Developmental Fishery Program and a limited number of Developmental fishery permits are available for directed ocean harvest of these species. Currently, Oregon does not have established limited entry fisheries for these species; however, if a viable fishery develops it will be managed by the PFMC/NMFS with ODFW's assistance.

The commercial sardine fishery is jointly managed by the PFMC and, in Oregon, the MRP's Coastal Pelagic Species Program. Beginning in 2000, the Marine Resources Program worked closely with commercial fishers, the Pacific Fishery Management Council (PFMC) and the state of Washington to develop a fishery allocation system for sardines off the coast of Oregon and Washington.



In December 2005, the Oregon Fish and Wildlife Commission moved the Pacific sardine fishery from a developing fishery into a state-run limited entry fishery system. Twenty Oregon permits were established and made available to qualified participants in the fishery. The Commission added six more permits in August 2006. The Oregon fishery is managed by ODFW staff to track catch landing totals, collect biological information, and observe fishing activity at sea. The PFMC establishes an annual harvest guideline for the three west coast states (Oregon, California and Washington), which is allocated on a seasonal basis beginning in 2006. Updated catch and general fishery information can be found at <http://www.dfw.state.or.us/MRP/finfish/CPS.asp>. Contact Brett Wiedoff at (541) 867-0300, ext. 258 or Brett.L.Wiedoff@state.or.us.

Developmental Fisheries

A major focus of the Developmental Fisheries Program in recent years has been to move the sardine and the commercial bay clam dive fisheries out of Developmental Fisheries and creation of their own separate limited entry systems. In late 2005, the program successfully launched limited-entry sardine and bay clam dive fisheries after five years of work. The remaining developmental fisheries are much smaller in scale.

Developmental Fisheries program allows for limited access to new commercial fisheries which currently are not assessed, nor are they documented to be economically viable. The goal of the original program was to allow for a limited number of permits for newly-created fisheries so that gear, market and harvest rates could be analyzed with the cooperation and data collection mandated by the limited-permit program. A Developmental Fisheries Board was also



established by the State Legislature to advise the Oregon Fish and Wildlife Commission on the viability of these “trial” fisheries. In the past, new fisheries (such as the scallop dredge fishery off of Oregon in the late 1980s) were prosecuted before sustainable yields could be established. That stock was depleted and has not recovered. Now these undeveloped or emerging commercial fisheries, once approved as developmental fisheries, can be conducted on a limited basis to establish biological and market sustainable approaches. The 1993 legislation authorized ODFW to lead the permitting and fishery management aspects of the program and the Department of Agriculture was to help individual participants develop business plans and markets for future fisheries.

The goal is that successful fisheries would move into a limited entry commercial fishery if viable. Non-viable fisheries would end. Since its inception, four fisheries have moved from the Developmental Fishery program to limited-entry fisheries: brine shrimp, nearshore groundfish, sardines and bay clams. However, the Legislature did not grant additional revenues (absent a small dedicated account based on developmental fishery landing taxes) to support the significant staffing, science, research and data analysis needed to meet the goals of the legislation. At this time, the Developmental Fishery Board and MRP are working to evaluate the program and make recommendations for changes. Species that are still regulated under this program are: hagfish (or slime eels, see photo), coonstripe shrimp, grooved tanner crab, northern anchovy, swordfish, blue shark, giant octopus, marine snails, box crab and flat abalone. ODFW has a request for legislation in 2007 to authorize funding for this program evaluation and to fund specific research on one or more of the remaining developmental species fisheries. Options for this evaluation may include: new permitting process, a greater involvement by the Department of Agriculture, a moratorium (if ongoing funding is no longer available), and changes in policy related to unregulated commercial fisheries. Contact Brett Wiedoff or Patty Burke at (541) 867-0300 ext 258 or Brett.L.Wiedoff@state.or.us.

Commercial Crab Fishery

The ocean commercial Dungeness crab fishery is currently the most valuable single-species fishery in Oregon, valued at over \$50 million in revenue contributed to the Oregon Coast economy. Because of its status as Oregon's premier fishery in value, there is a more controversial policy development which evolves from this fishery each year. There is a smaller commercial bay crab fishery which operates under different season and gear restrictions than does the ocean fishery. The commercial Dungeness crab fishery is managed biologically through size, sex and season. Only male crabs of 6¼ inches across the shell back or larger are harvested commercially. The season usually lasts from Dec. 1 to Aug. 14, but the opening can be delayed if the crab quality is poor (softshelled due to late molt). A recovery rate – the ratio of the weight of meat picked from a crab to its total weight – was established by the crab industry to maintain the quality of Oregon crab in the market. Crabs are sexually mature and active breeders after their second year and grow to the legal harvest size in roughly four years. By not harvesting sexually mature but undersized male crabs so that they can breed with female crabs (which are never harvested), the reproductive capacity of the population is protected. Dungeness crab can live in excess of eight years and reach a size of 9 inches or larger.

The harvest of Dungeness crab is cyclical with a typical yearly commercial harvest of around 10 million pounds. In the last three seasons, commercial landings of Dungeness crab hit all-time highs of more than 23 million, 33 million and 27 million pounds respectively. Although these seasons were notable for their economic success, concerns about sustaining a healthy fishery in the long term were also



heightened. The MRP plays an active role in managing the Dungeness crab fishery on the West Coast through the Tri-State Commercial Crab Committee (convened by the Pacific States Marine Fishery Commission). The MRP works with the fishing industry in Oregon, and with our border states to address policy, management and enforcement coordination issues. These include state jurisdiction, enforcement, safety, domoic acid, limiting the amount of gear that can be fished, and pre-season testing.

In June 2006, the Oregon Fish and Wildlife Commission set limits on the number of Dungeness crab pots commercial crab boats may fish in the ocean during Dungeness crab season. The decision came after more than two years of meetings with the public and members of the crab industry. The

pot-limit plan grew out of a two-day “Crab Summit” in July 2005, when crab fishermen met with ODFW staff to discuss issues important to the industry. Since then, ODFW staff has worked with Oregon crab permit holders, processors and other interested public and received hundreds of phone calls, letters and emails as a result. The Commission directed staff to develop a plan for crab pot limits after members of the commercial crab industry voiced concerns about derby-style behavior during the winter opening of the season and problems associated with excess gear in this fishery. The Commission was briefed on the development of the plan and heard public testimony on it during their October, March and April meetings in 2006.

The plan adopted by the commission has three tiers of limits – 200, 300 and 500 pots per vessel, depending on the vessel’s landings during the six seasons between 1995 and 2001. This plan meets the Commission’s target of reducing the total number of pots in the fishery from approximately 200,000 pots to around 150,200. The next agenda for the commercial crab fleet is to develop a “pot stacking” program that would allow for the reduction of total crab permits while allowing acquisition of more gear while retaining the overall gear target goal. This will be equally controversial. For more on commercial crab issues visit http://www.dfw.state.or.us/MRP/crab_pot/ or contact Mitch Vance (crab biologist) or Cyreis Schmitt (crab policy), in the MRP Newport office, 541-867-0300 ext. 233 or ext 265 respectively Mitch.Vance@coho2.dfw.state.or.us, or Cyreis.C.Schmitt@state.or.us.

Razor Clam Fishery

Razor clams are found in stable, sandy, surf-swept beaches of the open coast and some coastal bays. The 18 miles of Clatsop Beach from the mouth of the Columbia River to Seaside produce more than 90 percent of Oregon’s harvested razor clams and associated effort. The fishery has both a recreational and commercial component. The recreational harvest has averaged 551,000 clams dug during 48,000 digger trips per year and the commercial fishery has averaged 98,000 clams dug by 110 harvesters per year.

Management of the fishery involves restrictions on gear, a seasonal closure on Clatsop beaches, a size limit in the commercial fishery, and provisions to close the fishery when certain toxins found in shellfish exceed safe levels. Normally, razor clamming south of Tillamook Head is open all year. Razor clamming from the Columbia River to Tillamook Head is open from Oct. 1 through July 14.

A major concern among fisheries managers and both recreational and commercial harvesters is wastage, the deliberate discarding or reburying of clams contrary to sport harvest regulations. Most discarded razor clams die because they are broken, have their necks cut off or are improperly placed back into the sand. MRP



staff conducts ongoing wastage surveys to determine rates among recreational and commercial diggers. They also work to educate the public about existing regulations, such as the requirement that recreational diggers keep the first 15 clams regardless of size or condition. In July 2006 the Oregon Fish and Wildlife Commission passed additional regulations aimed at reducing wastage by regulating the size of clam tubes or guns in the recreational fishery and forbidding their use by commercial diggers. An MRP study revealed clam guns, when used incorrectly, have a wastage rate 75 percent greater than diggers using shovels. Many of the initiatives to reduce wastage and better educate the public are the work of the Razor Clam Advisory Committee, consisting of recreational and commercial diggers, commercial buyers and members of the public at large. Contact: Matt Hunter, Astoria Marine Field Lab, 503-325-2462 or Matthew.V.Hunter@state.or.us.

Other Recreational Shellfish Fisheries

Oregonians enjoy the recreational harvest of a host of other shellfish species including primarily Dungeness and red rock crabs, bay clams (cockles, gapers, butter, littlenecks, softshells, and others), razor clams, bait shrimp, mussels and abalone. In addition, there is commercial harvest of some of the bay clams, bait shrimp, mussels, and one species of abalone (flat abalone).

In past decades, ODFW had an active shellfish program to monitor and manage these fisheries.

Declining funding over the past decade resulted in severe staffing and program cutbacks in sport shellfish management, leading to the elimination of this program. Current management of these recreational shellfish fisheries depends on bag limits and gear restrictions developed in the 1960s and 1970s, with no substantive monitoring of the fisheries or the status of shellfish stocks. In 2003, the Legislature enacted a new sport shellfish license with revenues dedicated to enhance programming in enforcement (Oregon State



Police), public health (Department of Agriculture) and management, monitoring, research and public education (ODFW). This new license received strong public support so that, in the case of ODFW, a shellfish program could be re-established to conduct the needed monitoring, management, and education activities. During the first two years of the new license program, ODFW maintained only one new staff position because it was not known if license revenues would be adequate to support a new program. It is now evident that the revenue stream can accommodate program needs, and MRP has requested that the Legislature authorize the use of these funds to revitalize the shellfish program beginning in the 2007-2009 biennium. Contact Jean McCrae at (541) 867-0300 ext. 245 or, Jean.E.McCrae@state.or.us.

Commercial Sea Urchin Fishery

Sea urchins are harvested, processed and packed in Oregon and shipped to markets in Japan and elsewhere as urchin roe, or “uni,” a common item found in sushi restaurants. Two species are harvested in Oregon: red urchins and purple urchins. Commercial sea urchin harvest began in Oregon at Port Orford in 1986. Landings quickly escalated and peaked at 9.3 million pounds in 1994. Since 1996, the urchin fishery has maintained only a fraction of its previous landings. Landings averaged roughly 570,000 pounds per year over the last decade, including 494,000 pounds landed in 2005. Urchins are harvested by divers using surface-supplied air at depths between 10 and 90 feet.

The urchin fishery in Oregon is managed primarily by restricting harvest to large-sized animals only and restricting the number of permitted harvesters. The size restriction allows urchins multiple reproductive chances before they grow large enough to be harvested. Red urchins must be 3½ inches or larger in shell diameter (not including spines) and purple urchins must be 2 inches or larger. The commercial sea urchin fishery in Oregon is limited to 30 permits. If the number of permits falls below 30, ODFW licensing holds a lottery to bring the number back up to 30. Contact Scott Groth, Charleston Field Office, at 541-888-5515 or Scott.d.groth@state.or.us.

Pink Shrimp Fishery Management

The fishery for pink shrimp or ocean shrimp (*Pandalus jordani*) is one of Oregon’s largest and most consistently valuable commercial trawl fisheries. Ocean shrimp are a small shrimp, usually ranging in size from about 100 to 160 whole shrimp per pound when they are brought to the docks for sale. Shrimp are cooked and peeled by large machines and the principal product form is an individually quick-frozen shrimp meat, often referred to as cocktail shrimp or salad shrimp. The commercial fishery for ocean shrimp is centered off Oregon, but operates from Vancouver Island, Canada, to Morro Bay, Calif.

Ocean shrimp are very short-lived and begin breeding at one year of age. They are protandric hermaphrodites, meaning that individuals change from male to female as they age, generally switching sex at age two. These

shrimp mate in the fall and carry their eggs over the winter on their swimming legs, releasing larvae in early spring. One year later, the newly settled shrimp begin to be caught by the fishery.



Shrimp are forage for a variety of fish species, including Pacific whiting, sablefish, petrale sole, arrowtooth flounder and several rockfishes. Shrimp, in turn, feed mostly at night on planktonic animals, including euphausiids and copepods.

The shrimp fishery is managed using consistent state regulations in Washington, Oregon and California, rather than through a federal fisheries management plan. The principal management regulation is a maximum count-per-pound (CPP) rule specifying that all landings in excess of 3,000 pounds must have an average count of 160 CPP or lower. Egg-bearing female shrimp also are protected by a season closure from November through March each year. Bycatch reduction devices are required to be used in this fishery at all times, making Oregon's fishery one of the lowest bycatch shrimp trawl fisheries in the world. This fishery has been chosen as a "best choice" by the Monterey Bay Aquarium's Seafood Watch Program and currently is being evaluated for certification as an environmentally sustainable fishery by the Marine Stewardship Council. Contact: Steve Jones, MRP Newport, 541-867-0300 ext. 239 or Steve.A.Jones@state.or.us.

MONITORING

Fisheries Sampling

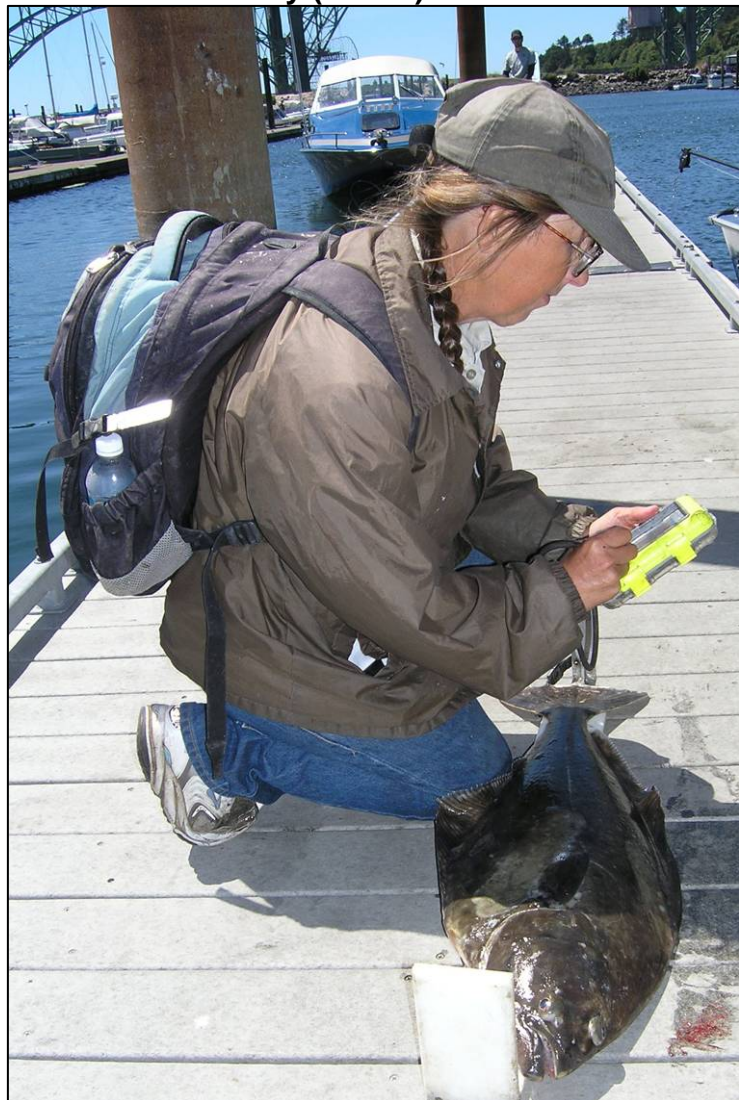
Around 40 percent of the MRP's budget is devoted to a sophisticated sampling program that monitors both commercial and sport fisheries along the Oregon coast. Port biologist and seasonal samplers survey fishers to determine the amount and kinds of fish landed, area of catch and information about the execution of the fishery. They also gather biological information from the landed catch – lengths, weights, age samples and so on.

The information is used both on an in-season basis to track fish landings for catch quotas and to ensure regulatory controls of fisheries. On a long-term basis, the information collected provides state and federal managers with data needed for assessing stocks and managing fisheries. The data become part of a West Coast data system to inform Oregon, Washington, and California regional fisheries management. Contact Bill Herber, Assistant Program Manager, MRP Newport, at 541-867-0300 ext. 227 or Bill.Herber@state.or.us .

Ocean Recreational Boat Survey (ORBS)

Each spring the MRP hires and trains around 30 seasonal employees to sample the ocean boat fishery as part of the Ocean Recreational Boat Survey (ORBS). These seasonal employees interview anglers and collect data used to estimate the catch and effort for the ocean recreational fishery. In addition, ORBS also samples estuary boats in the lower estuary areas where ocean sampling occurs. Shore-based anglers and estuary boat anglers are sampled by the Shore and Estuary Boat (SEB) survey. ORBS also collects biological samples to determine age, does at-sea observations and other data collection projects. In addition to the seasonal employees, the project, which was formed in 1979, is permanently staffed with a project leader, an assistant project leader, two field sampling coordinators, and one office specialist to process incoming data. One permanent information specialist is assigned to handle programming and upper-level data processing needs.

Sampling and catch estimates are stratified to the port, week, boat type



(charter or private), and target species levels. The project embraces new technologies and techniques that reduce costs, minimize data recording errors and shorten the time required to process the data and generate the estimates. Currently, preliminary catch-and-effort estimates in quota managed salmon seasons can be made via sampler call-ins on a daily basis, and final estimates are available within three days of the end of the week.

Field samplers directly interview returning ocean and estuary recreational trips at the boat ramps, moorages, and charter offices at the time of landing. Although the project does not generate catch estimates for the estuary fisheries, it does collect the basic catch-per-unit-of-effort data, and recover information from all tagged salmon regardless of the fishery. In addition, field staff track total fishery effort by making exit counts of private vessels and contacting all charter offices for total trips.

In 2005, ORBS samplers interviewed 3,131 recreational ocean charter vessel boat trips with 29,695 angler trips, and 21,457 ocean pleasure craft boat trips with 55,192 anglers. This equated to 60 percent of all charters and 48 percent of all private boat trips. Samplers examined 222,747 fish out of an estimated total catch of 416,900. ORBS samplers also recovered snouts from 1,176 coded wire tagged salmon in 2005 and scan for both black rockfish PIT tags and Pacific halibut PIT tags. Contact Eric Schindler, MRP Newport, at 541-867-0300 ext. 252 or Eric.D.Schindler@state.or.us .

Monitoring the Commercial Salmon Fishery

The Commercial Troll Sampling Project monitors the commercial ocean salmon fishery. Sampling staff primarily interview returning troll salmon vessels to determine number of days fished, the area of catch, recover coded wire tags and collect average weight data from the fleet. In addition, samplers assist in quota monitoring by collecting copies of the fish receiving tickets and making calls to project staff with updates on total landings at major buyers within the port.

The commercial samplers usually meet returning troll fishing vessels at the major fish buyers in their assigned port. However, in recent years there has been an increasing trend of more small buyers purchasing fish and fishers selling directly to the consumer from their boat. At times, this has created difficulties in meeting sampling goals and samplers now often have to track vessels down at smaller buyers and even sample when fish are being transferred to buyers operating out of the back of a pickup.

During the 2005 commercial ocean salmon seasons, staff sampled 98,199 chinook salmon and 958 coho salmon for coded wire tags out of total landings of 250,844 chinook and 2,632 coho. Samplers recovered 4,305 chinook tags and 109 coho tags. This equates to a sampling rate of 39 percent of the chinook landed and 36 percent of the coho landed. Contact: Eric Schindler, MRP Newport, (541) 867-0300, ext. 252, or Eric.D.Schindler@state.or.us .

Commercial Ocean Non-Salmon Monitoring and Sampling Project

MRP staff routinely monitor and sample commercial landings of groundfish (rockfish, flatfish, etc.), Pacific whiting, Pacific sardine and albacore tuna at most major Oregon coastal ports. Landings are sampled to obtain species composition of mixed species landings and to obtain length, sex and age structures on random samples of selected species.

The routine groundfish port sampling describes the population in the catch landed at Oregon ports. This sampling provides information needed for assessment, and long term sampling indicates population trends. A good catch sampling plan provides random samples to describe the age, size and sex composition of retained catch. The age samples can indicate strong year classes or years of good and poor recruitment. Additional maturity sampling can provide information on age and size at maturity and time of spawning and fecundity. Genetic sampling may indicate separate stocks which may need to be managed separately.



A recent law requires a vessel permit for commercial fishers to land black rockfish and blue rockfish and a nearshore fish endorsement is required to allow landing an additional 21 nearshore finfish species. Logbooks (vessel catch records) and landing records (fish tickets for fish processing plants) are monitored for catch location, fishing effort and landed weight. Sample data and monitoring information are provided to other MRP projects and scientists for fish stock assessment and management.

Management regulations along with fewer fish processing plants operating on the Oregon Coast makes a port biologist's job more challenging because there are fewer opportunities to sample landings. Sampling effort has increased in recent years on nearshore species, especially in the south coast area and on Pacific sardines in the Astoria area as the commercial importance of these species increases. Contact Carla Sowell, MRP Newport, at (541) 867-0300, ext. 222, or Carla.Sowell@state.or.us.

Black Rockfish Tagging Study

MRP researchers are in the fifth year of a black rockfish mark-and-recapture project that uses Passive Integrated Transponder (PIT) tags to determine the recreational fishery exploitation rate of this species. This information will result in improved accuracy of black rockfish stock assessments. Researchers catch the black rockfish and insert the PIT tag into the muscle tissue between the gills. ODFW port samplers in Newport and Depoe Bay – the two ports nearest the tagging area – scan each rockfish brought in by recreational anglers for the PIT tags. So far, of the 11,445 tagged fish, 543 have been recovered after port samplers scanned more than 190,000 black rockfish. Contact Polly Rankin, MRP Newport, (541) 867-0300, ext. 273, or Polly.S.Rankin@state.or.us.



Marine Mammals Monitoring



Nearly every spring and summer, Marine Mammal Program staff take thousands of aerial photographs of seals and sea lions to document their distribution and abundance in Oregon. Data from these surveys are used to determine population status and trends which in turn can be used to guide their management. The following summarizes survey results for the three most common pinnipeds in Oregon.

Pacific harbor seals – Since 1977, MRP biologists have monitored the distribution and abundance of harbor seals in Oregon. The statewide harbor seal population grew following protection under the Marine Mammal Protection Act of 1972 until stabilizing in the early 1990s. The estimated absolute abundance of harbor seals during the 2002 reproductive period was 10,087 individuals.

Steller's sea lions – In 1976 MRP biologists began monitoring the distribution and abundance of Steller's sea lions in Oregon. Steller's sea lion rookeries in Oregon are the largest and most important in U.S. waters south of Alaska. Counts from aerial surveys increased from about 1,500 animals in the mid-1970s to nearly 4,000 by the late 1990s, at an estimated annual rate of increase of 3.7 percent.

California sea lions – The abundance of California sea lions in Oregon is difficult to assess since they do not breed here, nor is a consistent proportion of the population ashore at any predictable time. However, during several recent winter surveys, MRP scientists counted 3,000-5,000 California sea lions in Oregon waters. During this same period a roughly equivalent number of sea lions may be to the north in the waters off Washington and British Columbia, Canada. These rough estimates would suggest that nearly 10,000 California sea lions may pass through Oregon coast waters each year from fall through spring. Contact Robin Brown, MRP Corvallis, at (541) 757-4186, ext. 242, or Robin.F.Brown@state.or.us.

Pink Shrimp Monitoring



MRP's Pink Shrimp Project staff monitors shrimp landings and fishery activity annually to maintain an ecologically sustainable trawl fishery. Monthly samples of the catch are evaluated in all major ports to identify the size, sex and age of the shrimp being captured. Fishery logbooks and landing receipts are collected and analyzed each year to estimate the size of the shrimp stock to evaluate whether current harvest levels are sustainable. The use of bycatch reduction devices to minimize bycatch is also monitored. The results derived from this monitoring program are summarized and shared with the shrimp fleet and the public each March through the Annual Pink Shrimp Review, a newsletter that is distributed to about 450 fishermen, processors and interested persons. The latest shrimp newsletter (17th Annual) is available at: <http://www.dfw.state.or.us/MRP/publications/>. Contact Steve Jones, MRP Newport, at (541) 867-0300, ext. 239, or Steve.A.Jones@state.or.us.

Razor Clam Stock Assessment

MRP recently began a project to annually assess the size of the razor clam stock on north Oregon coast beaches. Accurate assessments of razor clam populations will help ODFW understand and manage razor clam fisheries in the future. The stock assessment work is confined to the 18 miles of beaches from the mouth of the Columbia River to Seaside where 90 percent of Oregon's razor clamming harvest occurs.



Biologists sample the razor clam population using a device consisting of a powerful water pump and hose to inject water into the sand and float clams to the surface. The sampled clams are counted, measured and returned unharmed to the sand. The data collected allow biologists to estimate the total abundance of clams on the north coast beaches and predict future harvestable clam abundance based on the number of young clams. Contact Matt Hunter, Astoria Marine Field Lab, at (503) 325-2462 or Matthew.V.Hunter@state.or.us.

Monitoring Phytoplankton – an Early Warning for Shellfish Toxin Problems

Razor clams and other bivalves are filter feeders that feed on single-celled plants called phytoplankton. Some species of phytoplankton manufacture biological toxins that, if ingested, can be stored in the clam. When a “bloom” of phytoplankton occurs, large numbers are available for the shellfish to consume. If warm-blooded animals consume contaminated clams, the stored toxin can be harmful or even fatal. Symptoms can affect the gastrointestinal and neurological systems. There are two types of biological toxins that occur in West Coast razor clams and other bivalves: domoic acid and paralytic shellfish poisoning. Depuration rates (how fast the toxins leave the clam) vary depending upon the biotoxin, the level of contamination, the time of year, the species, and the age of the clam. Lower levels can be flushed out in a matter of weeks, while high levels may last years.

MRP initiated Oregon’s Harmful Algal Bloom monitoring project in June of 2005, after a coastwide shellfish harvesting closure due to domoic acid. Currently ODFW staff in conjunction with Oregon Department of Agriculture are working to monitor five sites along the coast of Oregon for any potential signs of the phytoplankton that cause domoic acid (*Pseudo-nitzschia sp.*) and paralytic shellfish poisoning (*Alexandrium sp.*).

Phytoplankton sampling takes place weekly at the Clatsop beach site and bi-monthly at four other test sites in Curry, Coos, Lane and Lincoln counties. Staff examine the samples to determine which species of phytoplankton are abundant along the coast. Any *Pseudo-nitzschia sp.*, *Alexandrium sp.* or other variety of phytoplankton are recorded and quantified. The results are then checked against acceptable levels. This provides an early warning of potential toxin problems that can cause a shellfish closure. Contact Matt Hunter, Astoria Marine Field Lab, at (503) 325-2462 or Matthew.V.Hunter@state.or.us.

RESEARCH

Several research projects are under way at the Marine Resources Program to better understand the nearshore environment and its inhabitants. One focus of the research is on the behavior and physiology of rockfish species designated by the federal government as overfished. ODFW manages several diverse and complex mixed-stock marine fisheries. Oregon commercial and sport fishers demand more innovative approaches to resource management than simply closing fisheries. To this end, several research projects currently explore the viability of using selective retention and selective capture as management tools in the sport bottomfish fishery. Contact Dave Fox, Assistant Program Manager, (541) 867-0300, ext. 228, or Dave.S.Fox@state.or.us.

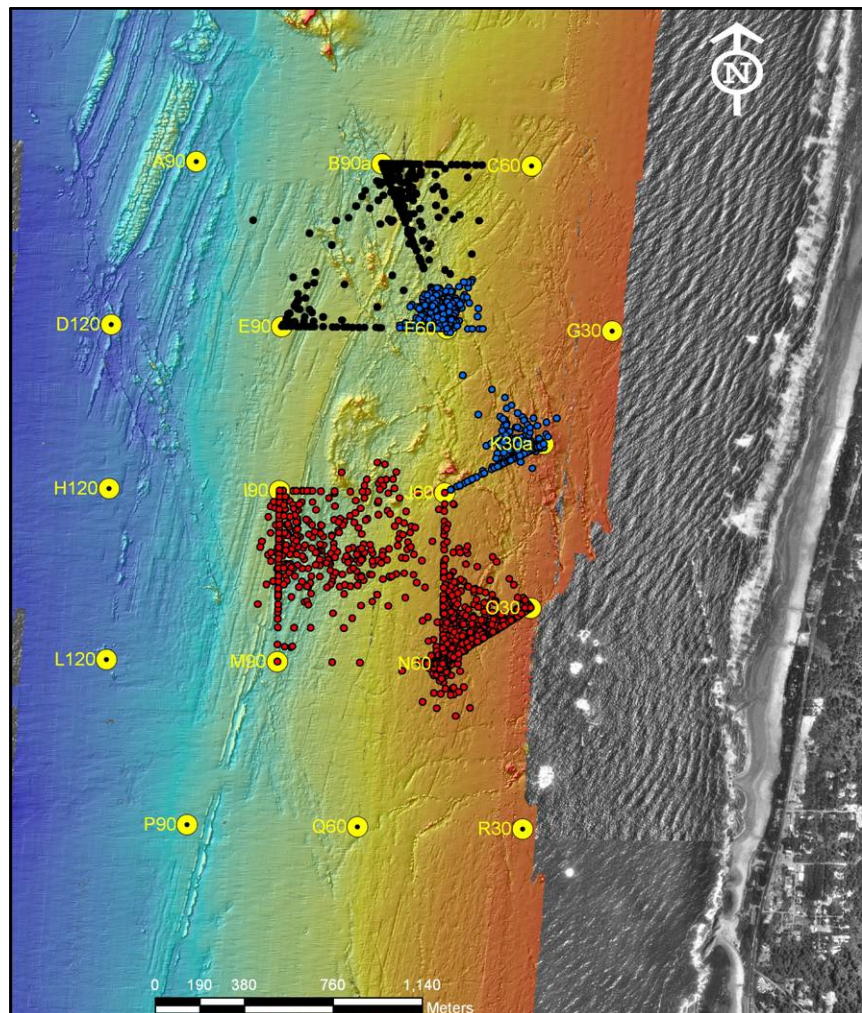
Studying the Movement Patterns of Rockfish

Acoustic tagging of black rockfish provides scientists and fisheries managers with new information about this long-lived species, which is a mainstay of the coastal commercial and recreational fishery. The black rockfish studies use acoustic transmitters surgically implanted in 42 fish and an array of receivers to monitor movements over an annual cycle. The transmitters are depth sensitive to 50 meters so researchers can track the vertical as well as the horizontal movements of the fish over a 3 km by 5 km grid of acoustic receivers.

The map at the right graphically depicts the movements of three black rockfish over a year. It also shows the placement of the receiver array used in the study.

The study proved what fishers and researchers have long suspected:

- Black rockfish have small home ranges (about 160 acres) but may relocate to adjacent areas
- Repetitive movements provide evidence of homing ability, at least over short distances
- Movements were large enough to satisfy assumptions about mixing for tagging studies, but



small enough to consider a fishing area a discrete population – generally, when black rockfish aren't caught on these reefs, they have not left, but just aren't biting.

- Females left the area more often than males during spawning periods.

Contact Steve Parker, MRP Newport, at (541) 867-0300, ext. 256, or Steve.J.Parker@state.or.us.

Barotrauma Studies

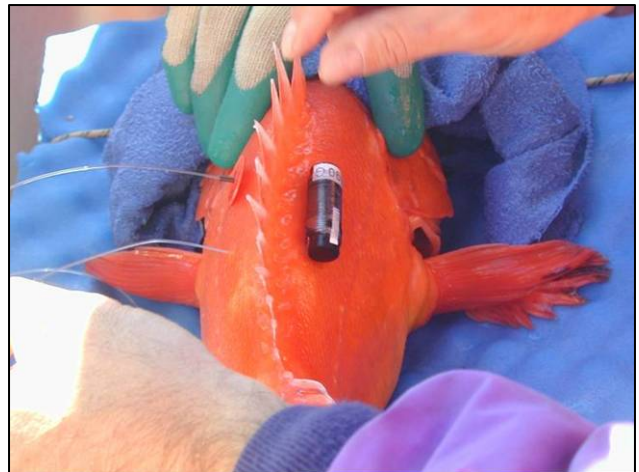
Releasing fish without swim bladders, like lingcod, halibut and cabezon, is a good management option because they likely have a high survival rate. Rockfish, on the other hand, suffer from expansion of gases in their swim bladders and embolism when they are brought up from depth, a condition called barotrauma, and often die as a result. For this reason releasing rockfish species that are undersized or are prohibited under fishing regulations a less viable management strategy.



One MRP study examines the survival potential of rockfish that are returned to depth before being released. Using a “cage-cam,” a device developed at the MRP, researchers were able to watch the effects of deep release on nine commonly-caught species of Oregon rockfish. Although the survival of these rockfish for days and months after capture is unknown, the cage-cam studies showed a remarkable reduction in barotrauma symptoms in most of the species when they were released quickly at depth. Further study is being conducted to demonstrate long-term survival rates. With additional research, selective retention with deep release may be a viable tool for managing Oregon’s diverse bottom fishery. Contact Steve Parker, MRP Newport, at (541) 867-0300, ext. 256, or Steve.J.Parker@state.or.us.

Yelloweye Rockfish Survival

A similar, but smaller, study used acoustic telemetry to follow the movements of yelloweye rockfish and to provide long-term survival data on this large rockfish following deep-release methods. For this study, six yelloweye were captured in water 35 fathoms deep on Stonewall Bank. They were then tagged with external acoustic tags and released using the cage-cam and deep release. MRP researchers placed a receiver array around the tagged fish to determine their survival from movement and depth data.



At least five of the six tagged fish survived a week (derived from vertical movement patterns) and three were still in the grid and alive after one month. Yelloweye rockfish show less vertical

movement than black rockfish, but more spatial movement, which caused a problem for the small-scale array. One of the most valuable lessons learned from this small study was that acoustic tagging of rockfish and maintaining a receiver array is possible at 35 fathoms in the rough winter seas of the North Pacific. Contact Steve Parker, MRP Newport, at (541) 867-0300, ext. 256, or Steve.J.Parker@state.or.us.

Finding Ways to Allow Anglers to Target Certain Species

Fishers have long known that their success at catching desired species depends on how they set up their tackle. MRP researchers began selective capture studies to examine how tackle set up can allow fishers to avoid catching depleted species. Although these are still pilot studies, the results hold promise in reducing or avoiding certain species.



These preliminary studies so far have looked at shrimp flies versus purple worms (purple worms caught significantly more black rockfish), large baits versus small baits (to target halibut and avoid rockfish), and weights with long leaders to keep bait off the bottom (thus avoiding bottom-dwelling species and targeting mid-water fish). MRP researchers are devising more experiments in the hope of finding predictable fishing methods that allow anglers to avoid overfished and undersized fish while still allowing fishing opportunities for abundant stocks. Contact Bob Hannah, MRP Newport, at (541) 867-0300, ext. 231, or Bob.W.Hannah@state.or.us.

Marine Mammal Research

MRP's Marine Mammal Program conducts applied research on pinniped diet, movements and survival.

Diet – Program staff study pinniped diet through the collection and analysis of scat (fecal) samples. Coastwide scat collections have provided insight into the seasonal abundance, yearly variation and type of fishes consumed by pinnipeds in Oregon. Staff place particular emphasis on assessing the dietary importance of fish species of concern such as salmonids and groundfish.

Movements – Movements of individual seals and sea lions provide insight into where they feed, rest, and reproduce. Research to date focused on tracking of harbor seal movements in the Alsea River estuary using radio and acoustic telemetry, California sea lions movements in the Columbia River estuary and along the West Coast using satellite telemetry, and Steller sea lion movements using resights of permanent marks.

Survival – Though Oregon Steller's sea lion population is healthy, they are nonetheless listed under the Endangered Species Act due to significant declines in abundance in western Alaska. MRP's Marine Mammal Program, in cooperation with the National Marine Fisheries Service, is conducting

a long-term study of Steller's sea lion in Oregon in order to compare survival and other associated parameters with declining populations in parts of Alaska.

Strandings – Marine Mammal staff respond to reports of beach strandings of marine mammals in order to obtain information on species occurrence, food habits and recovery of biological specimens for research and education. This activity includes recovery of information from animals tagged or marked in various research efforts. Contact Robin Brown, MRP Corvallis, at (541) 757-4186, ext. 242, or Robin.F.Brown@state.or.us.

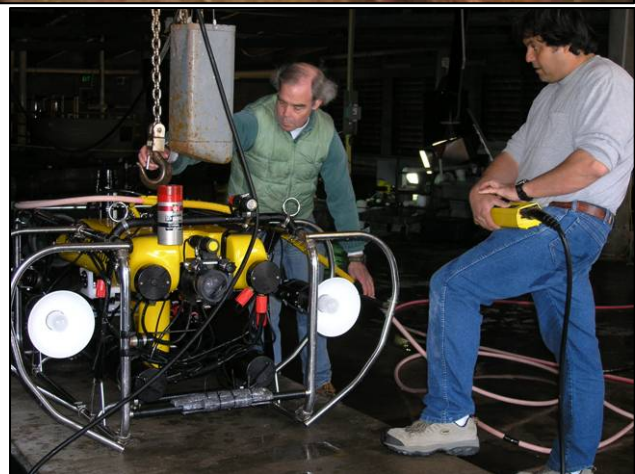
Marine Habitat Surveys

Cataloging Oregon's nearshore habitat is enhancing our understanding of habitat type, distribution and species-habitat relationships. Habitat surveys that began more than a decade ago using scuba equipment, are now carried out primarily with a Remotely Operated Vehicle (ROV). These surveys verify habitat



interpretations made from detailed multi-beam sonar surveys and are used as a basis for estimating densities of important bottom-associated species.

The Marine Habitat Project recently concluded investigations on Perpetua Reef that addressed whether rock-associated species make use of very small patches of rocky substrate. The project is currently working with a commercial fishing vessel out of Port Orford on a pilot survey that will result in an increased understanding of important groundfish resources on Orford Reef. In the future, the MRP plans to use the ROV to understand

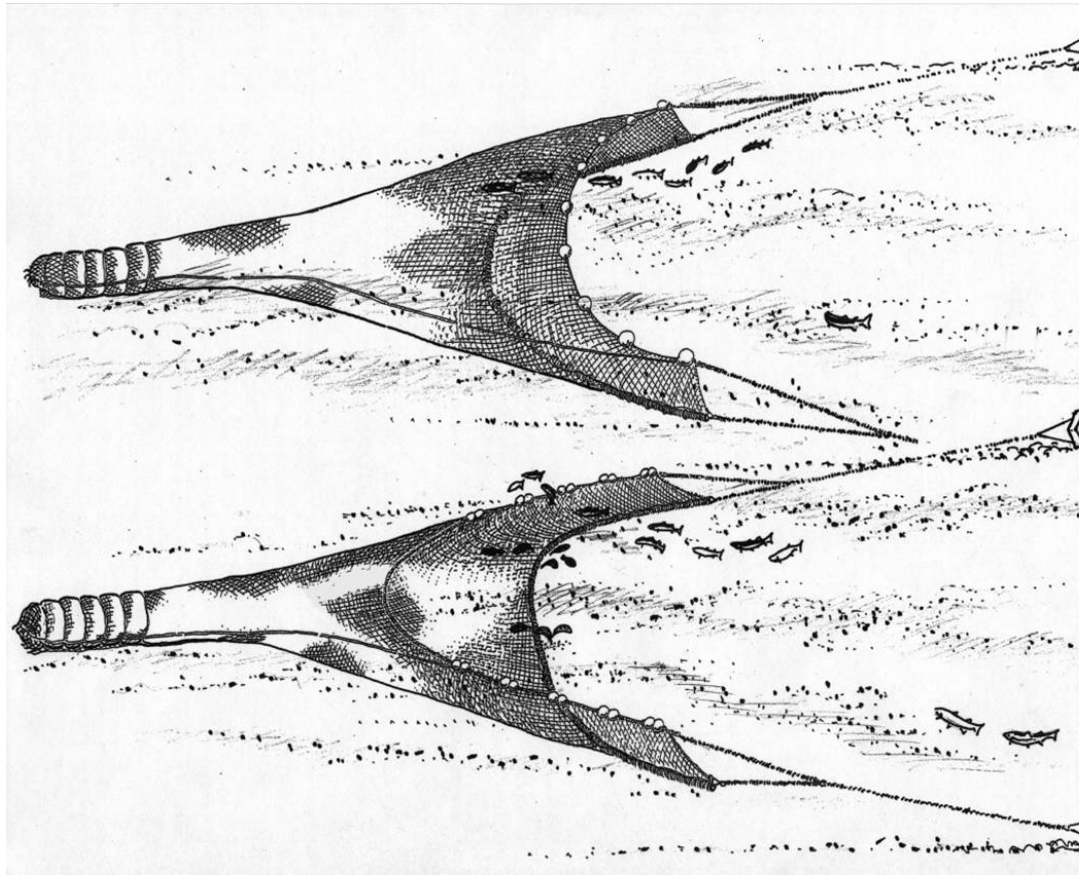


changes over time in habitat and fish density that may result from fisheries management measures. Contact Hal Weeks, MRP Newport, at (541) 867-0300, ext. 279, or Hal.Weeks@state.or.us.

Bycatch Reduction in Commercial Fisheries

ODFW's Marine Resources Program worked on a number of projects this past year directed at reducing bycatch in West Coast commercial fisheries. Several years of collaborative research came to fruition in 2005 with the implementation of federal rules requiring the use of selective flatfish trawls for all trawl fishing inside 100 fathoms off Oregon, Washington and northern California. ODFW-funded research on the selective trawls conducted in 2000-2003 showed that these low-rise nets with cut-back headropes maintained flatfish catches while reducing the catch of overfished rockfish

species by 50 percent to 90 percent. This allows commercial fishermen using the cut-back headropes higher monthly limits for shelf flatfish and a return to more trawling on the shelf, less on the slope.



Selective flatfish trawl with a cut-back head rope (bottom) significantly reduces bycatch of overfished species allowing commercial fishermen higher monthly limits for flatfish.

Work by MRP researchers developed bycatch reduction devices for trawls used for pink shrimp. These devices were embraced by the fishing industry and became a requirement for shrimpers. The MRP staff continues to work with commercial shrimp fishermen to further refine the spacing of the metal bars used in the devices to improve fishing effectiveness and bycatch reduction. The rule requires a 2-inch maximum spacing between bars. Since the rule was instituted, the average bar spacing has dropped to 1.25 inches and some vessels tighten spacing further with bars 1 inch apart. MRP researchers are experimenting with 0.75-inch bar spacing that reduced juvenile rockfish catch by an additional 94 percent.

As a result of these efforts, the Oregon pink shrimp fishery is now being considered for Marine Stewardship Council Certification as an “ecologically sustainable fishery.” If successful, it will be the first shrimp trawl fishery in the world to be MSC certified. The fishery was recently declared a “best choice” by the Monterey Bay Aquarium’s Seafood Watch Program.

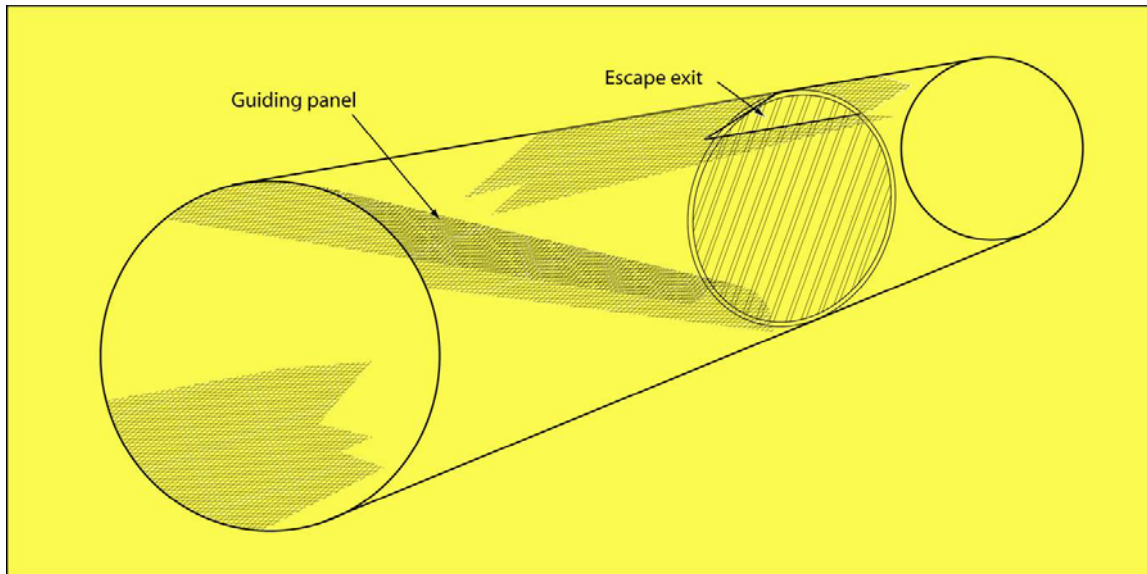


Diagram of a bycatch reduction device in a pink shrimp trawl.

Implementation of the selective flatfish trawl and bycatch reduction devices in the pink shrimp fishery has vaulted the West Coast into the lead nationally in the implementation of bycatch-reducing trawl gear. Contact Bob Hannah, MRP Newport, at (541) 867-0300, ext. 231, or Bob.W.Hannah@state.or.us.

Testing Imaging Sonar in Trawl Nets

A sonar device developed for the military is proving to be a useful tool in evaluating fish behavior around trawl nets and fish traps. The University of Washington developed the DIDSON Sonar for the Navy for port security, underwater mine detection and identification. DIDSON stands for Dual frequency Identification SONar.

The new technology produces a real-time moving image using ultrasonic frequencies. It has an advantage over video because it eliminates possible changes in fish behavior and bias in the research produced by the bright lights required by video. It also has a relatively long range: video only sees about 5 meters in the best conditions, infrared has a range of less than 2 meters in water while the DIDSON has a range of about 20 meters and has an ultimate range of about 65 meters.



One study examined how sablefish, a species sensitive to artificial light, behave around the baited traps (sablefish pots) used to catch them. The system allowed researchers to see all around the pot and observe the behavior of fish in the vicinity of the baited pot in total darkness. A second project looked at the usefulness of the system to examine fish behavior in and around trawl nets. The video images created by the DIDSON enabled researchers to see fish responding to the net and to see the shape and structure of the gear while it was fishing in ways that had never been possible before. These two studies were in collaboration with Northwest Fisheries Science Center and the Alaska Fisheries Science Center. Further cruises are planned for this research. Contact Keith Matteson, MRP Newport, at (541) 867-0300, ext. 244, or Keith.M.Matteson@state.or.us.

Fish Stock Maturity and Ageing Studies

Work continues on maturity studies to develop improved length and age at maturity for species for which little information exists, such as china, vermillion, tiger, and copper rockfish, as well as kelp greenling and cabezon. Because these species are not abundant in fishery landings, it will take several years of sampling to accumulate enough samples for an accurate description of maturity parameters. Aging of fish is a critical component in improved stock assessments.

The Marine Resources Program employs a full-time age-reading specialist, who determines the age of fish using different anatomical structures, usually otoliths. The otolith, sometimes called an ear bone, floats on cilia that line pockets in the fish's skull and help it stay balanced and oriented in murky or dark water. It has growth rings, like a tree, that can be analyzed through a microscope to determine the age of a fish. Currently, the age-reading specialist is working on ageing sport-caught black rockfish from 2003 through 2005 for the 2007 stock assessment. Contact Josie Thompson, MRP Newport, at (541) 867-0300, ext. 247, or Josie.E.Thompson@state.or.us.



through 2005 for the 2007 stock assessment. Contact Josie Thompson, MRP Newport, at (541) 867-0300, ext. 247, or Josie.E.Thompson@state.or.us.

Cooperative Research

The MRP conducted a cooperative research project with the Port Orford Ocean Resource Team (POORT), a non-profit community-based organization made up of members from the recreational and commercial fishing industry as well as members of the community in Port Orford, Oregon. The extended sampling project collected and sampled nearshore species of concern: china rockfish, cabezon, and greenling. The MRP managed the project, staff trained POORT members to take biological samples and to record data. Commercial nearshore fishers were hired by POORT to collect nearshore species. POORT collected biological samples including otoliths for aging, gonads for histology, fin clips for genetics, as well as recording length and weight. Contact Dave Fox, (541)867-0300, ext. 228, or David.S.Fox@state.or.us.

Marine Resources Program

Staff

Marine Resources Program Staff

Program Managers

Patty Burke has been the Manager of the Marine Resources Program since 2002. She came to Oregon with 20 years of experience in state government natural resource program management and policy development. She has a Ph.D. and M.S. in marine fishery genetics from the Zoology Department of the University of New Hampshire. Since taking on the leadership of the MRP, Patty has put an emphasis on working in cooperation and partnership with Oregonians who are affected and regulated by our program. She has focused on working closely with coastal communities to address the significant federal reductions in groundfisheries in recent years. She puts a priority on working to bring the research and policy work of the MRP staff to decision-makers to establish new options for coastal fisheries such as: limited entry fisheries (nearshore and developmental fisheries), essential fish habitat protections, and innovative gear bycatch reduction regulations. She focuses on collaborative approaches both



within the MRP program team and in developing regulatory options to meet new fishery constraints and challenges. Patty is an avid outdoors person, kayaker, a struggling fly fisher and, like most of the MRP staff, a passionate dog lover. Patty.M.Burke@state.or.us or (541) 867-0300 ext. 226.

Dave Fox is the Assistant Program Manager over research, shellfish and budget. Dave joined ODFW 17 years ago as Marine Habitat Project Leader when the MRP's marine habitat work was just getting started. Prior to fisheries reductions, Dave recognized nearshore and rocky reefs as essential habitat to sustainable fisheries. His vision and pioneering spirit allowed new funding opportunities and creative research to begin developing in fishery independent survey techniques using SCUBA and ROV technologies. His program was the first to employ state-of-the-art sonar survey methods to characterize nearshore rocky reef habitat. Now that habitat-based management measures are being emphasized in the Council process, the groundwork Dave has provided demonstrates the resource benefits in Oregon. In his role as Assistant Program Manager, Dave was responsible for implementing staff recruitment and position changes necessary to bring the new Program Manager's vision of a re-organized and more effective MRP to reality. He is now focusing on rebuilding MRP's shellfish program, which was virtually eliminated 10 years ago.



Dave has lived his entire life near the ocean, first in California, then on the Oregon coast for the past 25 years. He grew up tidepooling, surfing, and fishing, and has wanted to work in a marine

resource field ever since he can remember. He now lives on a small farm just east of Newport with his wife, two children, and too many animals to count. When not at work Dave enjoys surfing, remodeling his home, and working the land.

David.S.Fox@state.or.us or (541) 867-0300 ext. 228.

Bill Herber is the Assistant Program Manager for Data and Technical Services for the Marine Resources Program's management team. Before coming to the MRP in 2006, he worked at the ODFW Natural Resources Information Program in Corvallis.



Bill worked for more than 10 years planning, developing, implementing and managing information technology solutions for various organizations, both in government and the private sector. His programming experience and his innovative problem-solving record of accomplishment is combined with an emphasis on meeting user needs efficiently and effectively.

In addition to his work for ODFW, Bill was the manager of Information Systems at Mid-Valley Hospital in Washington State, where he built the program from the ground up and established a strong staff team operating under a \$4 million budget. He also deployed and managed a multi-hospital regional information system that included hardware, infrastructure, software and desktop support, all within rigid state and federal health care regulatory constraints. Prior to that, Bill served as a land surveyor and GIS Coordinator for a county noxious weed program in Washington. There he developed a GIS/database mapping program, while supervising field crews.

From 1988-1993, Bill served in the U.S. Army as an Airborne Infantry squad leader in combat in Operation Desert Storm. In that capacity he also developed the first testing and review process of GPS equipment for use in active ground combat. He has numerous citations for achievement throughout his career.

When not working, Bill enjoys spending time with his wife, son and daughter boating, fishing and scuba diving. He also is an accomplished metal worker. Bill.Herber@state.or.us or (541) 867-0300 ext. 227.

Maggie Sommer is the Assistant Program Manager for commercial and sport marine fisheries, habitat programs and our new nearshore program. Maggie received her master's degree from OSU in Marine Resource Management. After finishing her degree, she was awarded the Sea Grant Natural Resource Fellowship to develop a GIS analysis of all the man-made erosion control structures on the Oregon coast. She then worked for NOAA Fisheries doing marine Essential Fish Habitat analysis. She joined the Marine Resources Program as the Nearshore Project Leader in 2004 working to create a nearshore resource management strategy as a framework for Oregon coastwide conservation. She coordinated the management and monitoring of Oregon's commercial nearshore fishery – mostly hook-and-line groundfish fishing.



Maggie grew up on the Chesapeake Bay and spent summers on the Delaware shore. She graduated from the University of Virginia and worked as head chef and manager of an upscale restaurant in Virginia for five years. She then spent three years at a biological field station in the Bahamas, working as the dive safety officer, and later as station director managing 30 employees. When she's not at work, Maggie enjoys learning to play the ukulele, scuba diving, and cooking. Maggie.M.Sommer@state.or.us or (541) 867-0300, ext. 237.



Lori Parker is the Administrative Manager for the Marine Resources Program. Lori oversees the support staff, coordinates personnel actions and purchasing, and supervises our busy front office licensing and permitting functions for commercial and sport fisheries. Lori has been with MRP since 2000 coming to us with her husband Steve (MRP Research Project Leader) from the east coast. Lori grew up in Rhode Island and spent five years in Maine before she and Steve came to Oregon. Some of her previous experience includes serving as an executive secretary at Fleet Bank, Bangor, Maine and office coordinator for the Telecommunications Department at Eastern Oregon University.

Lori is the strong thread that keeps the MRP program going on a daily basis. She has a commitment to excellent customer service, to a strong team-based approach to our work, and supports all of our MRP field offices while providing excellent coordination with ODFW headquarters in Salem. Lori works with her husband Steve on their newly-built home which is quickly becoming a menagerie of farm and domesticated animals. Lori is a talented vocalist (community choir and church) and loves the outdoors, needlepoint, quilting, reading and baking. Lori.A.Parker@state.or.us or (541) 867-0300 ext. 259.

Brandon Ford is the Public Information Representative for the MRP or, as most people in the program refer to him, “The I&E Guy.”

Brandon started out as a reporter and editor working at newspapers in Oregon, Washington and Utah after earning a degree in journalism from Brigham Young University. He then worked in hospital public relations. Between those two careers he was the public relations manager for the tall ship *Lady Washington* during her construction and through her maiden voyages.

Brandon and his wife have three grown children and three grandchildren. When not working for ODFW he runs a small furniture-making business. In addition to fine woodworking, he enjoys playing the cello, photography, scuba diving, sailing, rowing, beach walking and other water-related activities.

Brandon.Ford@state.or.us or (541) 867-0300 ext. 277.



Project Leaders and Other Staff

Kelly Ames recently joined MRP as an Assistant Project Leader overseeing the recreational at-sea observations and biological data collection as well as the shore and estuary boat sampling project.

Kelly has a bachelor's degree in biology from the Wichita State University in Kansas. Following graduation, she migrated northwest to work in the Bering Sea and Gulf of Alaska as a groundfish observer, collecting biological data for the National Marine Fisheries Service. After five years as a fisheries observer, Kelly worked for the International Pacific Halibut Commission first as a field biologist collecting data at-sea for the annual stock assessment survey and then as the stock assessment survey coordinator, responsible for managing and directing the stock assessment survey program. She also participated in several research projects including a coastwide marine fish tagging program using Passively Integrated Transponder (PIT) tags, an investigation of seabird distribution and abundance, and an examination of environmental contaminants in 13 Alaskan fish species.

Kelly recently completed all the required coursework for a master's degree in Environmental Policy and Management. Currently, she is completing her thesis project, which is an investigation of species distributions in relation to location, temperature and depth. Kelly.L.Ames@state.or.us or (541) 867-0300 ext. 291.



Rob Ames is the Ocean Salmon Assistant Project Leader for the Marine Resources Program. Before joining the MRP, Rob worked as an assistant research scientist at the University of Washington in Seattle. He worked for Dr. Julia Parrish, Associate Professor of the School of Aquatic and Fisheries Sciences, studying fish schooling behavior. In addition to his work at the University of Washington, Rob worked for the International Pacific Halibut Commission as a field biologist and contract scientist, and the National Marine Fisheries Service as a groundfish observer in Alaska.

Originally from British Columbia, Rob did his undergraduate work in marine science at the University of Hawaii and completed a master's degree in environment and management at Royal Roads University in Victoria, B.C.

When not working, Rob enjoys spending his time in the outdoors hiking, sport fishing and surfing. Robert.T.Ames@state.or.us or (541) 867-0300 ext. 271.



Robert Anderson is the Central Coast Sampler for the Pacific States Marine Fisheries Commission working out of the Newport MRP office. He samples recreational fisheries year-round collecting age structures (fish otoliths) in the summer and port sampling during the winter months.

Before moving to the Northwest, Robert worked for the Department of the Army as a civilian employee game warden at the 90,000-acre Fort A.P. Hill in Virginia. He worked for the National Parks Service at Grand Canyon, Devils Tower and Independence National Historical Park in Philadelphia. He also worked as a refuge officer in the Wichita Mountains helping to re-establish prairie dog colonies. In Alaska, he worked as a fisheries technician for Alaska Fish and Game and as an enforcement technician for NOAA Fisheries.

When not at work, Robert enjoys boogie boarding, riding a bicycle and fishing. Robert.C.Anderson@state.or.us or (541) 867-0300 ext. 260.

Don Bodenmiller has been the project leader for the sport groundfish fishery and the Pacific halibut fishery since 1997. He joined ODFW 27 years ago and worked in research, district and wildlife management, but most of his time was spent working for MRP.

Don's MRP work includes a long stint on the Pacific States Marine Fisheries Commission's Salmon Technical Team and a few seasons of conducting at-sea research. His vision is a sustainable and stable marine sport fishery for Oregon.

Don received his bachelor's degree in natural resources from the University of Michigan in 1974. He spent a few years working for the Everglades National Park, Oregon State Parks, and private industry prior to joining ODFW in 1979.

When not working, Don operates his small farm and enjoys fishing. Don.G.Bodenmiller@state.or.us or (541) 867-ext. 223.



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Shawn Brateng divides his time between the Hatfield Marine Science Center and the MRP doing information technology and computer support work. In addition to troubleshooting computer hardware and software problems, he assists with technology purchases.

Shawn learned his trade on his own, troubleshooting, assembling and repairing computers. He worked at a local computer shop for six years building and servicing computer systems for individuals and businesses. He also did private consulting. He started working part-time at HMSC in 2002 and that job became full-time in 2003 when he started working at the MRP.

Shawn grew up in Ilwaco and moved to Newport in 1986. He is well-known in the Newport area for his acting and directing in community theater for the last 25 years. That is also where he met his

wife. He enjoys spending time with his wife, reading, watching movies and playing, collecting and designing board, card and video games. Shawn.Brateng@state.or.us



Robin Brown is the leader of ODFW's Marine Mammal Research Program. Robin began working on marine mammal research and management issues in the Pacific Northwest in the late 1970s as a research assistant at Oregon State University's Hatfield Marine Science Center.

In 1984, Robin took a position with ODFW as the leader of the agency's first project directed at monitoring and assessing the status of pinnipeds (seals and sea lions) in Oregon coastal waters. One objective of ODFW's work with pinnipeds has been to collect information (distribution, abundance, population trends, movements, food habits and foraging behaviors) that could be used to evaluate the potential impacts of these top-level predators on important marine fishery resources. The work of ODFW's marine mammal program is widely recognized as significant, and program staff members have produced a number of important reports and manuscripts on marine mammal topics. Robin regularly represents ODFW on various state and federal task forces and advisory groups related to marine mammals and fishery issues. He also responds frequently to information requests from local, state and federal government staff on these topics.

In his off time, Robin enjoys working around his home, in the yard, garden and shop, bicycle riding, reading, fishing and crabbing, upland game bird hunting, and amateur competitive skeet shooting. Robin.F.Brown@state.or.us or (541) 757-4186 ext. 242.

Troy Buell works as the black rockfish PIT tagging and scanning coordinator. He also works on other research – primarily in the recreational sector – including bycatch reduction through gear design, nearshore rockfish maturity studies and survival of captured and released rockfish.

Troy grew up in south Tillamook County and earned a bachelor's degree in marine biology at Oregon State University in 1999. After college, he sailed from Oregon to Costa Rica and back and spent two years living and snowboarding in Rockies of Colorado.

He began working at ODFW counting chinook and coho salmon smolts in screw traps in Tillamook County. He also worked as a researcher on a flatfish trawl, black rockfish barotrauma and black rockfish passive integrated transponder (PIT) tagging studies. In between seasonal positions, he worked as stone mason and carpenter. In 2004 he was the Flatfish Trawl Field Leader and continued to work with black rockfish PIT tagging and barotrauma studies.

He currently lives in Lincoln City with his fiancé and her daughter and two dogs. He enjoys playing the guitar, ocean fishing, sailboats, scuba diving, surfing and snowboarding. Troy.V.Buell@state.or.us or (541) 867-0300 ext. 225.



Jane Butterfield has been the North Coast Sampling Coordinator for the Ocean Sampling Project since July 2004. She is responsible for training and monitoring groundfish and salmon troll samplers, collecting data and delivering it to Newport. Jane disseminates information back to samplers, and acts as a liaison with the North Coast fishing community. Jane is also responsible for the creel and spawning ground samplers on the Salmon River Chinook Project.

Before coming to the MRP, Jane was a fish habitat restoration biologist in Tillamook putting sticks and stones in the stream to make fish homes. She also worked across the U.S. with the Forest Service on a variety of research projects and assisted with resolving forest aquatic problems. Jane also was an instructor with the continuing education program for the U.S. Forest Service and other state and federal agencies, teaching a variety of aquatic survey and monitoring methods.

While growing up in Tillamook she dreamed of working for ODFW helping with the management of the natural resources. When not working, she enjoys spending time out in the field with family, fishing, clamming and hunting. Jane.L.Butterfield@state.or.us or (503) 842-2741.

Ted Calavan is the Fisheries Information Specialist for the commercial groundfish fishery. Ted error checks and processes data and age structures (fish otoliths) collected by the port biologist from Astoria to Brookings. Ted, as the “fish ticket guy,” is the final error check for all of the commercial groundfish landing tickets generated up and down the Oregon coast. Along with these duties, Ted is also “Mr. Fix-it” for MRP and curator of the MRP work shop.



Ted has a vast knowledge of fabrication and building skills developed while working for ODFW for nearly 20 years, most of which was spent working as a fish hatchery technician. While working for the hatchery system, Ted helped develop a computer program that is used at most of the ODFW hatcheries for programming fish growth for release and stocking. He has also been in charge of many scientific studies at the hatchery including fish feed and growth, fish displacement for accurate inventories, and coloration of hatchery reared rainbow trout. While working at MRP, Ted designed and built an adjustable fish measuring device that is currently used by the port samplers up and down the Oregon coast.

In his off time, Ted enjoys building musical instruments, spending time with his family, and sailing and fishing in the waters off of Newport in his wooden ketch “Lahela.”

Ted.R.Calavan@state.or.us or (541) 867-0300 ext. 249.

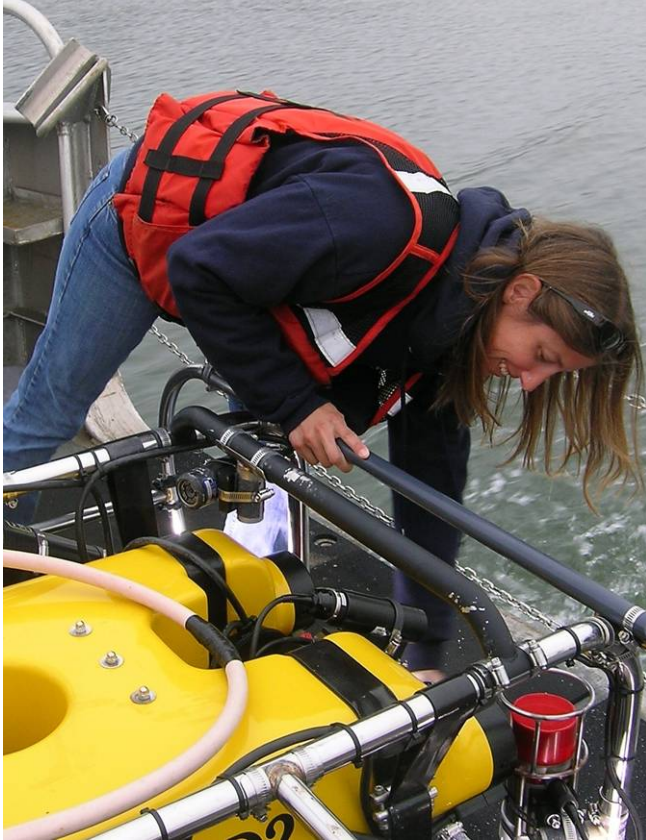


Kelly Corbett is a research biologist who works for different programs inside the MRP including shellfish, developmental fisheries, marine habitat and at-sea research. Currently she is working mostly on the recreational crab and razor clam monitoring projects.

Her previous jobs with ODFW were as a data assistant and port sampler in the Ocean Salmon Project. She also worked on the Coastal Chinook Research and Monitoring Project in the mark and recapture study of adult Chinook salmon on the Siletz River.

In 2004, Kelly graduated from the University of Puget Sound in Tacoma with a bachelor’s degree in biology. While a student, she did a third-year exchange at the University of Stirling in central Scotland. She hopes to go to graduate school in marine fisheries research and management in the near future.

When not at work she loves to fly fish, hike, garden, travel and bike. Kelly.Corbett@state.or.us or (541) 867-0300 ext. 248.



Cristen Don is the Nearshore Assistant Project Leader for the Marine Resources Program. Her interests and expertise are in the areas of marine ecology and ocean policy. Cristen joined the MRP in 2004 to help develop the *Oregon Nearshore Strategy*. Cristen is working with other MRP staff on the development of a comprehensive Nearshore Fisheries Management Plan for Oregon. She also is involved with emerging wave energy projects on the Oregon coast as they relate to marine resource issues.

Cristen grew up (mostly in the water) on the sunny coast of Ventura County in southern California. She attended UC Santa Cruz where she received a bachelor's degree in marine biology in 1996. She spent four years living in the San Francisco Bay Area where she worked at a winery and then in the environmental science and engineering field. She moved to the Pacific Northwest to pursue a master's degree in marine affairs at the University of Washington, where she graduated in 2002.

After school she accepted a fellowship with NOAA Fisheries analyzing marine areas for proposed designation as critical habitat for Pacific salmon populations listed under the Endangered Species Act. In 2004 she landed her dream job with ODFW and moved to her favorite Oregon beach town of Newport. Cristen's favorite things to do include surfing, skiing, traveling, karaoke, reading and spending as much time outside and in the water as possible. Cristen.N.Don@state.or.us or (541) 867-0300 ext. 284. Nearshore Project webpage: <http://www.dfw.state.or.us/MRP/nearshore/>

Dave Douglas has been the North Coast Groundfish Port Biologist since 1979 at the MRP Astoria Field Office. An Oregon native, he attended Oregon State University to play baseball and study fisheries science, graduating with a bachelor's degree in the latter in 1974.

He worked from 1974 to 1978 at various ODFW seasonal jobs along the coast as well as several stints during the winter months at Klaskanine Salmon Hatchery. He also covered the pink shrimp port biologist duties up through the late 1980s.

When not at work, he enjoys his family, playing late-night blues on the local community radio station and visiting the Steens Mountains with his brothers to visit a friend in French Glen. Dave.A.Douglas@state.or.us or (503) 325-2462.



Mark Freeman is the Technical and Data Services Assistant Project Leader for the Marine Resources Program. His duties include programming hand-held computers for use by the recreational dock samplers as well as managing the recreational sampling database.

Mark's first job with ODFW was in 1991 as a commercial groundfish sampler. In 1994, Mark took a position in Newport as the Commercial Finfish Data Coordinator. His duties included commercial catch data analysis and summary distribution. He took another position, in 2004, as the Recreational Fisheries Programmer and Data Analyst.

Mark received a bachelor's degree in marine resources management from Oregon State University in 1990. Mark's favorite things to do are spending time with his family, reading and fishing. Mark.Freeman@state.or.us or (541) 867-0300 ext. 229.



Craig Good is the ODFW South Coast Port Biologist, a position he's held since the summer of 2005. Craig is primarily responsible for executing the Commercial Groundfish Sampling Project in the Curry County fishing ports and managing the Brookings Field Office. As a port biologist, he also serves as the liaison between ODFW and commercial fishers and buyers, answering questions on everything from fishing regulations to species identification. The Brookings office also conducts small research projects focusing on the commercial nearshore fishery in cooperation with the commercial fleet and with commercial fishing organizations.

Craig graduated from Humboldt State University (with exchange to University of Hawaii) and began invertebrate aquaculture research work on the Big Island, developing

culture techniques for several species of limpet, sea cucumber, abalone, and cowry. This was followed by work in the development of hatchery techniques for tropical pearl oysters and the design, construction, and operation of pearl oyster hatcheries in Hawaii and the Marshall Islands.

Craig moved to Oregon in 1998 and served as Senior Aquarist and a principle collector for the opening of the newest exhibits at Oregon Coast Aquarium in Newport. Before coming to the Marine Resources Program, he also managed the Life Support Department at the Oregon Zoo in Portland. There, Craig was responsible for operating, maintaining, and improving all the zoo's aquatic life support systems and designing and troubleshooting systems in new exhibits.

Craig feels fortunate to have had the opportunity to dive with over 20 species of shark and many other forms of marine life and enjoys surfing. Craig.D.Good@state.or.us or 541-412-7364.

Scott Groth is the South Coast Shellfish Biologist. He grew up in upstate New York, where he learned to enjoy the outdoors from his father who was a nature photographer and his grandfather who was an outdoorsman. He attended college in Oswego, NY where he studied biology and played hockey and golf. After working in water quality programs on Lake Ontario and hiking the Appalachian Trail, he moved to Oregon, where his wife attended graduate school. He worked for three years as a commercial fisheries observer in the Bering Sea and Gulf of Alaska. He also worked in many capacities for ODFW, including salmonid habitat and spawning surveyor, and with mark/recapture projects. He and his wife moved to Norfolk, Va., for a few years where they both worked for the Army Corps of Engineers.



As a shellfish biologist for the MRP, he performs a number of sampling and research duties including shrimp, crab, urchin, abalone and clams. He also does web and educational material development and experimental science focusing on the biology and populations of shellfish in Oregon.

He lives in North Bend with his wife, twin daughters and three dogs.

Scott.D.Groth@state.or.us or (541) 888-5515.



Bob Hannah is the Project Leader for commercial pink shrimp, squid and scallop fisheries. He completed his undergraduate education at Johns Hopkins University, where he studied oceanography and natural sciences. After working as a field biologist for an environmental consulting firm for a few years, Bob went on to get a master's degree in fisheries at Humboldt State University, focusing on fish population dynamics and fish age and growth. After graduate school, Bob worked for several years helping the Hupa Valley Tribe set up a management and monitoring program for their salmon gillnet fishery and dealing with tribal/non-tribal salmon allocation issues.

Bob's interest in applied fisheries research brought him to ODFW in 1988 when he joined ODFW's Marine Program as Project Leader for the commercial pink shrimp, squid and scallop fisheries. One of Bob's first initiatives was to establish the annual pink shrimp newsletter, a mid-March summary of the prior year's shrimp fishery that is in its 17th annual edition this year. In the area of shrimp fishery research, Bob's work has focused mostly on two areas; the shrimp trawl fishery's effect on the population dynamics of shrimp and ways to reduce bycatch in the shrimp trawl fishery. In these areas, Bob's work has benefitted greatly from collaborations with the Assistant Project Leader for pink shrimp, Steve Jones.

With the onset of crisis conditions in Oregon's groundfish fishery, Bob's research emphasis shifted to include projects aimed at solving groundfish-related problems. Groundfish research projects have included the development of a selective flatfish trawl, development of improved maturity data for several groundfish species, passive integrated transponder tagging and acoustic tagging projects to determine harvest rates, discard survival and movements of rockfish and studies aimed at measuring survival and behavior of discarded rockfish suffering from barotrauma. These projects were completed in collaboration with Dr. Steven Parker, Polly Rankin, Keith Matteson and many others. Bob's current research efforts focus on the effects of barotrauma on behavior of discarded rockfish and the development of more selective recreational fishing gear to reduce the bycatch of overfished rockfish species. Bob.W.Hannah@state.or.us or (541) 867-0300 ext. 231.

Matt Hunter is the Shellfish and Estuary Project Leader working with all commercial shellfish, except pink shrimp and Dungeness crab. He is based in the Astoria field office and works with recreational razor clam fisheries for the entire coast.

Matt has worked for ODFW for more than years. For nine years he worked on salmon, sturgeon, smelt and shad management issues in the commercial and recreational fisheries on the Columbia River. He came to the Marine Resources Program in 2001 focusing on razor clams, pink shrimp and crab. His current projects include: Population assessment of Clatsop Beach razor clams, Oregon coastal phytoplankton monitoring harmful algal blooms, and Razor clam maturation studies on Clatsop Beach.

Matt earned a bachelor's degree in marine biology from Oregon State University. He worked the Hatfield Marine Science Center as a scientific interpreter for a summer. He also did research on a South American Guanaco, an endangered species and relative of the llama.

He enjoys spending time with his wife and two children, hunting and fishing. He also coaches and referees youth soccer and basketball. Matthew.V.Hunter@state.or.us or (503) 325-2462.



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Lori Jesse is the whiting fisheries data analyst for the MRP. She is employed by Pacific States Marine Fisheries Commission and coordinates the observer program with processors and commercial fishers in the California, Oregon and Washington shoreside whiting fishery. She also tracks whiting landings and bycatch levels for in-season fishery management, compiles biological data and completes post-season data analysis.

Before coming to the MRP, Lori worked briefly as a scuba instructor and dive master until moving to Alaska to work for the North Pacific Groundfish Observer Program as an observer for six years. She has a bachelor's degree in zoology from the University of Alberta as well as an advanced diploma in Geographic Information Systems from the Centre of Geographic Sciences in Nova Scotia, Canada.

When not at work, Lori enjoys hiking and exploring new places, scuba diving, reading and spending time with her dog. Lori.Jesse@state.or.us or (541) 867-0300 ext. 289.

Steve Jones is the Ocean Investigations Assistant for the MRP. He works primarily with commercial pink shrimp, fisheries sampling, checking logs books and data analysis. He produces the annual *Pink Shrimp Review* newsletter with Bob Hannah. He also works with Bob on at-sea research testing, by-catch reduction devices and other projects.

Jonsey (a nickname he's had since grade school) has worked for ODFW for 25 years, most of it for the MRP. And most of that was working in shellfish: squid, scallops, shrimp, spot prawns and crab. He received a bachelor's degree in wildlife management in 1976 and master's degree in marine biology in 1980, both from Humboldt State University.

When not working, Jonsey enjoys ping pong, gardening, hunting and fishing – just about anything to play on the water or in the woods.

Steve.A.Jones@state.or.us or (541) 867-0300 ext. 239.





Mark Karnowski is the Data Coordinator at MRP. His duties include database management and analysis of commercial fishing data.

Mark grew up in Ohio and Wisconsin and moved to Fresno, Calif., where he graduated with a bachelor's degree in environmental biology from California State University.

He was a seasonal biological aid for the U.S. Forest Service and California Fish and Game for a few years. He then worked for Kings River Conservation District in California for four years where his projects focused on temperature and habitat modeling.

He moved to Corvallis where he worked for Oregon State University. While at OSU, he became an expert in radio and acoustic telemetry while tracking tagged smolts down the Columbia River.

Mark enjoys spending time with his two daughters, kayaking, fishing and woodworking.

Mark.D.Karnowski@state.or.us or (541) 867-0300 ext. 280.

Gway Rogers-Kirchner is MRP's Groundfish Management Project Leader. She oversees commercial and sport groundfish management. In this position, she participates in the federal fisheries management process as well as the state management process.

Gway earned a bachelor's degree in wildlife biology in 1998 from Washington State University. While in school in Pullman, Gway worked on various wildlife-related projects, including woodland caribou feeding trials and American kestrel nesting studies. She spent her summers working for Washington's Department of Natural Resources as a wildland firefighter, and surveying timber sales for spotted owls. After graduating, she began working for Pacific States Marine Fisheries Commission as a Marine Recreational Fisheries Statistics Survey Sampler, interviewing anglers and examining their catch.

In 2001, Gway began working for ODFW's Northwest Region as an Experimental Biology Aid, running fish traps on the Siletz and Alsea Rivers. The duties of this position also included seining various river systems to monitor salmon smolt production, and conducting chinook and steelhead spawning ground surveys and adult resting-hole surveys. In 2002, Gway became the Assistant Project Leader for MRP's Ocean Sampling Project. The Ocean Sampling Project collects and analyzes data on Oregon's commercial ocean salmon fishery and conducts the Ocean Recreational Boat Survey to estimate effort and catch in the ocean recreational boat fishery.

Gway loves spending time with her family. Her hobbies are quilting, gardening, and reading. Gway.R.Kirchner@state.or.us or (541) 867-0300 ext. 267.





Donna Lamb is the Fiscal Analyst for the Marine Resources Program tracking and managing budgets, position numbers, allocations, and many other duties.

She began working for ODFW in 1980 as a seasonal sport salmon data entry operator. Several years later she became the lead worker in the Ocean Salmon Data Processing Unit. From there she began assisting the Ocean Salmon Project Leader managing budgets and worked her way up to her current position.

Her hobbies include quilting – especially baby quilts, traveling, reading, playing with her dog, Cooper, and

playing practical jokes on members of the MRP. Donna.L.Lamb@state.or.us or (541) 867-0300 ext. 241.

Jean McCrae is the Acting Shellfish Program Supervisor, developing goals, objectives and priorities for the newly reorganized MRP shellfish program. She has worked for ODFW for 32 years. Jean has a bachelor's degree in wildlife science from Oregon State University.

She worked for a number of years in seasonal positions with a variety of duties: commercial salmon checking, sport salmon, steelhead, trout and razor clam surveys, salmon and steelhead spawning surveys, adult and juvenile salmon tagging, trapping juvenile salmon, and recovery and de-coding of salmon coded wire tags. She was also the manager of a research laboratory maintaining and coordinating the use of laboratory life support systems, emergency systems, lab equipment, and building and ground maintenance.

She worked as a research assistant for groundfish and shrimp projects writing computer programs to analyze effort-catch data and age-growth statistics. She then worked as an assistant shellfish project leader working with scallop, squid, sea urchin, clam, crab, and invertebrate commercial and recreational fisheries collecting and analyzing biological and fishery information.

Before accepting the acting shellfish supervisor position, she was the project leader for commercial developmental fisheries, which develops management plans for underdeveloped marine fisheries, both finfish and shellfish species.



Outside of work, Jean enjoys boating, crabbing, and competing in dog agility competitions with her Border collie and Australian shepherd. Jean.E.McCrae@state.or.us or (541) 867-0300 ext. 245.



Scott Malvitch, is the port biologist for Newport and the central coast. He samples commercial groundfish and tuna landings. As the port biologist, he also serves as the liaison between ODFW and commercial fishers and buyers.

Scott graduated from the University of Massachusetts in Wildlife and Fisheries Biology and did some post-graduate studies in Oregon.

Before coming to ODFW, he surveyed endangered species throughout the Northwest and Hawaii studying everything from birds and small mammals to terrestrial mollusks. Since coming to work for the Marine Resources Program Scott has worked on several black rockfish studies and in the salmon life cycle project.

When not at work, Scott enjoys wine making, playing the banjo and fiddle and boatbuilding. His most recent boat is an 18-foot traditional wooden Banks dory he uses to fish out of Depoe Bay. Scott.Malvitch@state.or.us or (541) 867-0300 ext. 234.

Keith Matteson is the Assistant Project Leader for at-sea research and for developmental fisheries. Keith specializes in underwater imaging, such as his recent collaborative work with National Marine Fisheries Service using ultrasonic imaging sonar exploring the behavior of fish as they encounter the selective flatfish trawl.

Keith spent many years working in the commercial fish processing industry. He worked as a marine mammal observer for Pacific States Marine Fisheries Commission. He worked on the trawl observer program before taking his current position with the Marine Resources Program in 1997.

Keith enjoys skiing and touring on his motorcycle as well as photography and hiking. Keith.M.Matteson@state.or.us or (541) 867-0300 ext. 244.



Arlene Merems is the Assistant Project Leader for the Marine Habitat Project. She received a bachelor's degree in Wildlife Management from Humboldt State University in 1985. Prior to joining MRP in 1989, Arlene lived in S.E. Alaska and Vancouver, B.C. In Alaska, Arlene worked at a salmon processing plant unloading fish from commercial salmon boats. In Vancouver, she worked in the independent film business.

Arlene joined MRP to help launch the Marine Habitat Project, created in response to the federal government's interest in offshore oil and gas exploration. Arlene developed and provided GIS expertise and was among the first to examine fishery logbook data using GIS. Arlene's history with the Marine Habitat Project includes conducting a long-term rocky shores inventory along the Oregon shoreline, conducting seabird surveys, and Scuba surveys of fish, urchins, and habitat on nearshore reefs. Most recently, Arlene assists in the analysis of ROV fish survey data and sonar bottom habitat mapping data. Arlene represented MRP in various habitat management issues, such as dredge material disposal, oil spill response, PFMC Habitat Committee, OPAC, and manages scientific taking permits for marine species. Arlene also provides GIS assistance to other MRP projects.

Arlene has lived most of her life near the Pacific Ocean beginning in Huntington Beach, Calif. By car, she has traveled the west coast from Cabo San Lucas, Mexico to southeast Alaska. After 22 years in the Pacific Northwest, Arlene still hasn't adapted to the cold, damp climate. In her spare time she enjoys hiking, biking and running with her dog, Maya, skiing, and floating rivers and lakes. Arlene.R.Merems@state.or.us or (541) 867-0300 ext. 246.



Bill Miller is the Nearshore Fish and Habitat Biologist. He is a Remotely Operated Vehicle (ROV) specialist for the Marine Resources Program doing underwater fish and habitat surveys. Bill recently completed a pilot study out of Port Orford to see if it was possible to do surveys off of a small commercial fishing vessel. He also assisted with the Partnership for Interdisciplinary Studies of Coastal Oceans at Oregon State University to assess the recent hypoxic event off the Oregon coast.

Bill started working for ODFW out of the Astoria field office sampling whiting and groundfish. Then he worked as a field crew leader for the Columbia River sea lion tagging project. He then did shellfish and groundfish surveys. In 1998 he began working in Marine Habitat Project mapping bottom types using sonar. He then worked as an age-reading specialist. In 2003 he became the ROV specialist.

Bill received a bachelor's degree in marine biology from Cal State Long Beach in 1994. When not at work Bill enjoys surfing, scuba diving and walking his three dogs. William.N.Miller@state.or.us or (541) 867-0300 ext. 266.

Steve Parker is a Marine Research Scientist and has been with the MRP since 1999. Steve's research interests revolve around the behavior and ecology of temperate marine fishes. He studies movement patterns in relation to stock management and marine reserve design, mechanisms determining reproductive success of marine fishes, bycatch reduction using behavioral interactions with fishing gear, the physiological ecology of barotrauma in rockfishes, and has a long-standing interest in the behavioral and physiological mechanisms of orientation, navigation, and migration.

Steve serves as Oregon's representative on the Science and Statistical Committee of the North Pacific Fishery Management Council. Steve's background has given him experience working with endangered species, hatchery supplementation programs for salmon, and working with the fishing industry, federal agencies, and tribes on complex fishery management issues.

Steve has a bachelor's degree and master's degree in zoology from the University of Rhode Island and a Ph.D. in ecology from the University of Maine. He also brings this experience to students at Oregon State University by teaching applied fishery management courses. When he isn't working, he likes to go hunting, fishing, razor clamming, home brewing and working on his small farm with his wife, Lori. Steve.J.Parker@state.or.us or (541) 867-0300 ext. 256.



Polly Rankin earned a Bachelor's in Ecology and Evolutionary Biology from the University of Arizona. She conducted fish ecology field work during and after college, mainly in Mexican waters. She worked as an aquarist and as Curator of Fishes and Invertebrates in the public aquarium industry before joining the MRP's at-sea research group in 2000.

At ODFW, she works with Steve Parker and Bob Hannah in a variety of research projects designed to evaluate fish behavior and survival in response to capture and discard in fisheries. In the last few years, the at-sea research team has been investigating barotrauma, or pressure related injuries, in rockfish. They conducted laboratory tests using pressurized aquaria to look at swim bladder acclimation rates and survival for fish undergoing simulated capture.

Currently, the team is using acoustic telemetry to look at the movements of rockfish living on nearshore reefs. "I love working for ODFW," Polly said. "The work is fascinating and challenging, and the people here are terrific." When Polly is not at work, she enjoys scuba diving and hiking. Polly.S.Rankin@state.or.us or (541) 867-0300 ext. 273.

Susan Riemer is an Assistant Project Leader for the Marine Mammal Research Program stationed in Central Point. Susan started her career with ODFW 21 years ago as a seasonal ocean salmon sampler. She graduated from Humboldt State University with a bachelor's degree in Wildlife Management.

Susan spent her first five years with ODFW working in various seasonal positions in Eastern Oregon and along the coast. In 1990 she began working in the Marine Mammal Research Program, counting pinnipeds in aerial surveys along the coast, responding to stranded marine mammals, and participating on various research projects. Susan focused on the prey of seal and sea lions in the early 1990's. Much of her work is in response to the concerns of fishers over the impact pinnipeds could be having on depressed salmonid stocks. During this time she has developed a comparative collection of NE Pacific fishes which include more than 250 specimens. Susan has shared her prey identification skills with other agencies including Washington Department of Fish and Wildlife and the National Marine Fisheries Service.



She has participated in field studies on pinnipeds from Astoria to Brookings. Currently Susan is working on manuscripts describing the diets of central coast Harbor seals and Steller and California sea lions coast wide.

Susan spends her free time with her husband and daughter and their three dogs. She also enjoys gardening, quilting, making gingerbread houses and is a PTO board member at her daughter's school. Susan.D.Riemer@state.or.us or (541) 826-8774.



Mark Saelens is Oregon's representative on the Pacific Fishery Management Council's (PFMC) Groundfish Management Team (GMT). He is also the Regional Coordinator of the Shoreside Pacific whiting observation program (SHOP).

Mark joined ODFW in 1975 and manages commercial groundfish fisheries and the implementation of cooperative industry at-sea and shoreside observer programs. Over the course of his career, Mark developed many of the first microcomputer based data systems, including a database that included groundfish trawl and shrimp trawl information from all three Pacific Coast states. During 1991-1995 he developed the Cooperative (groundfish) Ageing Project (CAP).

From 1996-1999, Mark served as the chair of the Groundfish Management Team of the Pacific Fisheries Management Council and initiated a review of groundfish harvest policy which resulted in more conservative groundfish management via more realistic harvest policies. After 15 years of regional management travel, Mark has developed an extensive contact list and is well versed in how federal, state and local jurisdictions intertwine.

When not focused on his fisheries management duties, Mark spends most of his free time coaching youth baseball and basketball. Mark.R.Saelens@state.or.us or (541) 867-0300 ext. 251.



Eric Schindler is the leader of the Ocean Sampling Project and keeps the MRP's largest field project up and running. He annually recruits and trains about 30 seasonal sampling staff who provide the raw catch and effort data for both recreational and commercial ocean salmon fisheries as well as catch and effort estimates for non-salmon ocean recreational fisheries.

A third generation Oregonian, Eric knew since kindergarten that he wanted to be a marine biologist. He graduated in 1986 with a bachelor's degree in fisheries science from Oregon State University. Between terms in 1982 and 1983, he worked three tours of duty as a foreign fisheries observer on board Japanese longliners and trawlers in the Bering Sea and along the Aleutian Islands. In the summers of 1984 and 1985, he worked as a seasonal port sampler for ODFW in Pacific City.

In his spare time, Eric enjoys hunting and fishing activities with a special interest in hunting ducks and fishing for albacore. On a dare, Eric joined his daughter in the 2003 local production of "Annie" and has since been in "Damn Yankees," "My Sister Eileen," "The Music Man," and "Into the Woods" where he played the Big Bad Wolf. He also helps out on the local Ducks Unlimited committee and is a volunteer hunter safety instructor. Eric.D.Schindler@state.or.us or (541) 867-0300 ext. 252.

Cyreis Schmitt is the MRP's Marine Policy Project Leader working on agency and legislative policy development and Dungeness crab policy.

She was born and raised in Olympia, Washington, and became interested in marine life because of a junior high marine biology club. She went on to earn a B.S. in Oceanography and Zoology and a Master's in Fisheries from the University of Washington.

Before coming to the MRP, Cyreis was the Acting Program Manager for Groundfish in the Fishery Resource Analysis and Monitoring Division at the Northwest Fisheries Science Center of the National Marine Fisheries Service. Before that she worked at the Washington Department of Fish and Wildlife where she was the Division Manager for Habitat Conservation. Cyreis supervised more than 100 staff located among six regional offices. Prior to that, she served for four years as an agency legislative liaison on policy, fiscal and operational issues affecting fish and wildlife.

She started working at WDFW in 1986 as a fisheries research biologist and her responsibilities grew to include assessment, fishery monitoring and management of Puget Sound groundfish. While at WDFW, she also completed the Executive Seminar Program at Lewis and Clark College and has had on-going participation in the Career Executive Program for Washington state employees. Cyreis began her career in 1974 at the International Pacific Halibut Commission, where her work included studies on the early life history of halibut and analyses of longline and trawl surveys. During her career, she has authored 15 publications on groundfish research and management.

Cyreis loves to travel, enjoys walking, has done ceramics (and has a kiln), and has served as an Explorer Scout Leader for careers in fisheries. Cyreis.C.Schmitt@state.or.us or (541) 867-0300 ext. 252.



Jill Smith is the Assistant Project Leader for shellfish for the Astoria field office. Her job includes working with commercial shrimp, crab and sardines.

After graduating from Oregon State University with a degree in zoology, Jill joined the Peace Corps and worked in Bolivia. Since Bolivia is landlocked, she really missed seeing the ocean for the three years she worked there. After the Peace Corps she worked as a steward on a small cruise ship that cruised Baja, Mexico, in the winter and Southeast Alaska in the summer. Jill's next job was with a camping company leading tours in Mexico, Canada and the U.S. Most of those in the 15-passenger vehicle



were foreigners seeking new and exciting experiences exploring national parks and cities. She especially enjoyed the activities like sky diving, flight seeing and white-water rafting.

In 2001, after 10 years of footloose living, she moved to the Oregon coast and got a job as the port sampler for the ODFW Astoria field office. She still enjoys going on adventures – like visiting Russia, Mexico, Nicaragua, the Caribbean and around the US – but she is always happy to get back home to work with the MRP staff and fishermen. Jill.M.Smith@state.or.us or (503) 325-2462.

Carla Sowell is the Project Leader for the Commercial Groundfish Sampling project and co-leader with Brett Wiedoff for the Commercial Nearshore Fishery Management. She supervises the commercial fisheries samplers and port biologists from Brookings to Astoria.

Carla has worked for ODFW since 1981. She started as a port sampler for sport and commercial salmon in Brookings. Then she went to the Gold Beach office as the crew leader for the Rogue River Huntley Park seining project. She was the assistant to the Gold Beach Salmon and Trout Enhancement Program biologist, collecting brood stock and working with volunteers. She also worked in a classroom education project conducting presentations in 13 classrooms for third and seventh graders each year. She then worked as the port biologist in the Brookings office for about four years where she was responsible for the commercial groundfish sampling project in Brookings, Gold Beach and Port Orford. She came to Newport in her current position in 2005.

When not at work, she enjoys woodworking, fishing, hiking and the outdoors. Carla.Sowell@state.or.us or (541) 867-0300 ext. 222.



Josie Thompson is the Age Reading Specialist for the Marine Resources Program. Josie spends her days determining the age of fish using different anatomical structures, usually otoliths. The otolith, sometimes called an ear bone, has growth rings, like a tree, that can be analyzed through a microscope to determine the age of a fish.

Josie is currently working on ageing sport-caught black rockfish from 2003 through 2005 for the 2007 stock assessment. She is also getting the Marine Resources Program's collection of otoliths organized and inventoried.

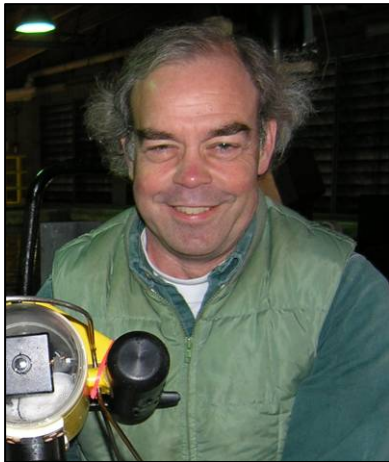
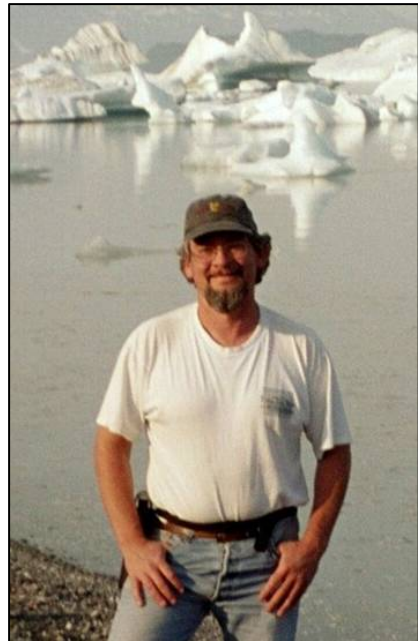
This is not her first job for the Oregon Department of Fish and Wildlife. When she was an undergraduate at the University of Arizona in Tucson, she got her first job as a fisheries sampler. After graduating with a bachelor's degree in ecology and evolutionary biology, she decided to return to Newport and completed her master's degree at Oregon State University in Marine Resource Management.

A native of Phoenix, she enjoys surfing, hiking and going to concerts. She lives in South Beach. Josie.E.Thompson@state.or.us or (541) 867-0300 ext. 247.

Mitch Vance is the MRP's Shellfish Project Leader with a focus on the Dungeness crab fishery. Before joining the MRP in 2005, Mitch worked for OSU/Cooperative Institute for Marine Resources Studies as a Research Assistant with Dr. Bill Peterson on a significant research program involved with salmon food availability and climate change. His specific project focused on zooplankton distribution and species specific behaviors that affected their retention in the productive areas along the continental shelf.

Mitch's experience includes a significant knowledge base on Pacific Northwest marine flora and fauna. He is trained in marine ecology, sediment toxicology, coral reef biosystems, and molluscan aquaculture. Mitch has worked on projects covering oyster culture and nutrition, mysid toxicology, and both estuarine and ocean zooplankton ecology. He has excellent experience in project design and management, contract management and supervision. Mitch has his M.S. degree in Fisheries from OSU.

Mitch enjoys snowboarding, fishing, scuba diving, whitewater rafting, and exploring all of the Pacific Northwest. Mitch.Vance@state.or.us or (541) 867-0300 ext. 233.



Hal Weeks is the Marine Habitat and Nearshore Project Leader for the MRP. He first joined ODFW 16 years ago to work on freshwater fish conservation issues, and moved to Newport to join MRP in 1996. He worked first as the Pacific Whiting Project Leader, then as Project Leader for the Coastal Chinook Research and Monitoring Project, and joined the Habitat Project in 2003.

Hal grew up in Connecticut. He has a bachelor's degree in biology from Harvard and a PhD from Cornell. His career has focused on the intersection of science with marine policy decisions. He has served with the U.S. State Department Fisheries Office and the North Pacific Fishery Management Council. He maintains a long association with the Shoals Marine Laboratory in Maine where he teaches a two-week field class on animal behavior and scientific method during his vacations. He is an avid Red Sox fan and home brewer.

Hal.Weeks@state.or.us or (541) 867-0300 ext. 279.

Carrie White is a member of MRP's Data Technical Team. She is responsible for processing all incoming field data for both the Commercial Ocean Troll Salmon Sampling Project and the Ocean Recreational Boat Survey. These projects collect and analyze data on Oregon's commercial ocean salmon troll fishery and estimates effort and catch in the ocean recreational boat fishery.

Carrie was raised in San Jose, CA, and moved to the Newport area in 1988. Before joining the MRP team in 1998, Carrie spent eight years as a customer service insurance agent for an independent insurance agency in Newport. She began working for ODFW in March of 1998 in MRP's front office, assisting customers as a Public Services Representative. In May of 1998, she moved to her current program as both



the data services assistant and a port sampler, collecting information from anglers on the docks.

In 2001, Carrie's position transitioned into a full time data services assistant. Currently, she leads approximately 25 seasonal port samplers, and plays an integral part in all aspects of the program by assisting with program software development, preparing and assigning sampling equipment, participating in several sampler training sessions, and ensuring that the data collected is complete and error free. Carrie's position is one of continuously evolving, with new experiences every year.

In her free time, Carrie enjoys all things art. She is an avid artist, and her paintings have been on display at several local art shows. She also enjoys expanding her horizons with a number of studies, and swimming in the Siletz River. Carrie.L.White@state.or.us or (541) 867-0300 ext. 243.

Brett Wiedoff's duties include nearshore commercial, coastal pelagic and developmental fisheries and supervision of the black rockfish PIT tagging project. Before that, he was the Nearshore Resources Project Leader and worked with the Nearshore Team to create the Nearshore Strategy.

Brett came to ODFW in 2000 working as a seasonal sport and commercial sampler for the Oregon Ocean Sampling Project in Gold Beach. In 2001 he moved to Newport working for two years sampling troll salmon landings and doing spawning surveys. He then worked on the black rockfish tagging project and on the shoreside hake observation program. Port biologist Gary Hettman gave him his nickname, the "hake guy," and he has yet to shake it.

Brett graduated from the University of Wisconsin Stevens Point in 1994 and started his career researching cognitive responses in captive bottle-nosed dolphins at Sea Life Park Hawaii. He changed to fisheries in 1999 volunteering at the USGS station in northern Wisconsin near Lake Superior.

When not at work, Brett enjoys surfing and walking on the beach with his wife, home brewing, finding hot springs in the Cascades and fishing for steelhead. Brett.L.Wiedoff@state.or.us or (541) 867-0300 ext. 258.



Nick Wilsman is the Port Biologist in Charleston. Primarily, he monitors the non-salmon commercial fish landings into Coos Bay, but is also a point of contact for commercial fishing industry people and the public. He holds a bachelor's degree in biology with a marine emphasis from Oregon State University.

His fisheries work started with a year on the Bering Sea working as an observer. In 1998, he started sampling recreational and commercial groundfish landed in Brookings for ODFW. Nick worked as a port sampler in Port Orford and Gold Beach before taking his current job in Charleston.

Nick lives in Coos Bay and spends his free time snorkeling, diving, spear fishing and trying to learn underwater photography. Nick.V.Wilsman@state.or.us or (541) 888-3279.



Bryan Wright has been the Biometrician for MRP's Marine Mammal Research Program since 2000 and is responsible for the statistical aspects of program study design, data analysis, and interpretation as well as the development and maintenance of program databases and GIS. He has also provided technical assistance to marine recreational fisheries staff since 2002.

Bryan holds a bachelor's degree in wildlife from Humboldt State University and a master's degree in statistics from Oregon State University.

Before coming to ODFW, Bryan worked for several state, federal, private, and non-profit natural resource organizations studying woodrats in

California, plants and animals on the Nevada Nuclear Test Site, shorebirds above the Arctic circle, woodcock and black bear in Louisiana, herons and egrets along the Atlantic seaboard, and forest bats in Oregon.

He lives in Corvallis with his wife, son, and daughter, and enjoys spending time with family and friends, remodeling his home, camping, hiking, and reading. Bryan.E.Wright@state.or.us or (541) 757-4186 ext. 225.

Linda ZumBrunnen has been an Assistant Project Leader for the Non-Salmonid Recreational Sport Fishing Project since 2003. Prior to that, she worked for the Pacific States Marine Fisheries Commission supervising the federal marine sport fishing survey in Oregon. Previous job titles also include salmon spawning ground surveyor, creel sampler, foreign fisheries observer, Peace Corps volunteer and helium balloon vendor.

She graduated from the California Polytechnic State University in San Luis Obispo where she majored in biology and her favorite class was Goat Showmanship.

When not at work Linda enjoys traveling, gardening, scrapbooking, volunteering in her 7-year-old son's classroom, and trying to convince her husband that having two Border collies is better than one. Linda.ZumBrunnen@state.or.us or (541) 867-0300 ext. 260.



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Publications

MRP Publications 2001 – 2006

- Amend, M.; Fox, D.S.; Romsos, C. 2001. 2001 Nearshore rocky reef assessment ROV Survey. Newport, OR: Oregon Department of Fish and Wildlife. 33 pp.
- Brown , R. F., B. E. Wright , S. D. Riemer , and J. Laake. 2005. Trends in abundance and current status of harbor seals in Oregon : 1977-2003. *Marine Mammal Science* 21(4):657-670.
- Charnov, E.L. and R.W. Hannah. 2002. Shrimp adjust sex ratio to fluctuating age distributions. *Evolutionary Ecology Research* 4:239-246.
- Collier, P.C. and R.W. Hannah. 2001. Ocean Shrimp, p. 118-120 *In* W.S. Leet, C.M. Dewees, R. Klingbel and E. J. Larson [ed.], *California's Living Marine Resources: A Status Report*. California Dept. of Fish and Game. University of Ca. Publication SG01-11. 592 p.
- Davis, M. W. and S. J. Parker. 2004. Fish size and exposure to air: Potential effects on behavioral impairment and mortality rates in discarded sablefish. *North American Journal of Fisheries Management* 24 (2): 518–524.
- Davis, M. W. and S. J. Parker. Submitted. Fish sensitivity to bycatch discard stressors is size-related: Implications for sablefish highgrading and discard mortality rates. *North American Journal of Fisheries Management*.
- Emmett, RL; Brodeur, RD; Miller, TW; Pool, SS; Krutzikowsky, GK; Bentley, PJ; McCrae, J. 2005. Pacific sardine (*Sardinops sagax*) abundance, distribution, and ecological relationships in the Pacific Northwest. *California Cooperative Oceanic Fisheries Investigations Reports* 46:122-143.
- Fox, D.S.; Merems, A.; Amend M.; Weeks, H.; Romsos, C.; Appy, M. 2004. Comparative Characterization of Two Nearshore Rocky Reef Areas: A high-use recreational fishing reef vs. an unfished reef. Newport, OR: Oregon Department of Fish and Wildlife. 67 pp.
- Gallagher, C. M., R. W. Hannah and G. Sylvia. 2004. A comparison of yield per recruit models for the Oregon ocean shrimp, *Pandalus jordani*, fishery. *Fisheries Research* 66:71-84.
- Grantham, B.A., F. Chan, K.J. Nielsen, D.S. Fox, J.A. Barth, A. Huyer, J. Lubchenco, B.A. Menge. 2004. Upwelling-driven nearshore hypoxia signals ecosystem and oceanographic changes in the Northeast Pacific. *Nature* 429: 749-754.
- Hannah, R. W., and K. M. Matteson. (in press). Behavior of nine species of Pacific rockfish after hook and line capture, recompression and release. *Trans. Amer. Fish. Soc.*
- Hannah, R. W. and S. A. Jones. 2005. A Survey Evaluating Shrimp Abundance, Sex Composition, Bycatch and Trawl Gear Performance on the Northern Oregon Shrimp

Grounds – Fall 2004. Oregon Department of Fish Wildlife, Information Report Series, No. 2005-01. 33p.

Hannah, R. W. and S. J. Parker. 2004. Use of an exempted fishing permit to test a discard reduction strategy for the deepwater complex trawl fishery. Oregon Department of Fish Wildlife, Information Report Series, No. 2004-03. 18p.

Hannah, R. W. and S.A. Jones. 2001. Bycatch Reduction In An Ocean Shrimp (*Pandalus jordani*) Trawl From a Simple Modification to the Trawl Footrope. J. Northw. Atl. Fish. Sci. 27:1-7.

Hannah, R. W. and S. J. Parker. (in press). Age-modulated variation in reproductive development of female Pacific ocean perch (*Sebastes alutus*) in waters off Oregon. Proceedings, Lowell Wakefield Symposium on Biology, Assessment and Management of North Pacific Rockfishes.

Hannah, R. W., and S. J. Parker. In Press. The influence of maternal age and size on reproductive efficiency in Pacific ocean perch off the West Coast. 23rd Lowell-Wakefield Symposium, Biology, Assessment, and Management of North Pacific Rockfishes, Alaska Sea Grant, Anchorage.

Hannah, R. W., S. J. Parker and T. V. Buell. 2005. Evaluation of a Selective Flatfish Trawl and Diel Variation in Rockfish Catchability as Bycatch Reduction Tools in the Deepwater Complex Fishery off the U.S. West Coast. N. Amer. J. of Fish. Mgt. 25:581-593.

Hannah, R.W. 2003. Spatial changes in trawl fishing effort in response to footrope diameter restrictions in the U.S. west coast bottom trawl fishery. N. Amer. J. of Fish. Mgt. 23:694-703.

Hannah, R.W. and S. A. Jones. 2003. Measuring the height of the fishing line and its effect on shrimp catch and bycatch in an ocean shrimp (*Pandalus jordani*) trawl. Fisheries Research 60:427-438.

Hannah, R.W. and S.A. Jones 2001. Bycatch reduction in an ocean shrimp (*Pandalus jordani*) trawl from a simple modification to the trawl footrope. J. Northw. Atl. Fish. Sci. 27:227-234.

Hannah, R.W., S. A. Jones and K. M. Matteson. 2003. Observations of fish and shrimp behavior in ocean shrimp (*Pandalus jordani*) trawls. Oregon Dept. Fish Wildl., Information Rept.Ser., Fish. No. 2003-03. 28p.

Hannah, R. W., S.J. Parker and E.L. Fruh. 2002. Length and age at maturity of female petrale sole (*Eopsetta jordani*) determined from samples collected prior to spawning aggregation. Fish. Bull. 100:711-719.

- Huber, H. R., S.J. Jeffries, R.F. Brown, R.L. DeLong, and G. Van Blaricom. 2001. Correcting aerial survey counts to estimate the abundance of harbor seals (*Phoca vitulina richardsi*) in Washington and Oregon. *Marine Mammal Science*, 17(2):276-293.
- King, S. E., R. W. Hannah, S. J. Parker, K. M. Matteson, and S. A. Berkeley. 2004. Protecting rockfish through gear design: Development of a selective flatfish trawl for the U.S. West Coast bottom trawl fishery. *Canadian Journal of Fisheries and Aquatic Sciences*. 61(3):487-496.
- Kvitrud, M. A., S. D. Riemer, R. F. Brown, M. R. Bellinger, and M.A. Banks. 2005. Pacific Harbor Seal (*Phoca vitulina*) and Salmon: Genetics Presents Hard Numbers for Elucidating Predator-Prey Dynamics. *Marine Biology* 147:1459-1466.
- Matteson, K. M., R. W. Hannah, J. T. Golden, and P. Crone. 2001. Evaluation of Pot and Longline Gear as Survey Tools for Sablefish. Oregon Dept. Fish Wildl. Information Rept.Ser., Fish. No. 01-03. 63p.
- Merems, A. 2003. 2002 Nearshore rocky reef assessment, ROV Survey. Newport, OR: Oregon Department of Fish and Wildlife. 24 pp.
- Milston, R., M. W. Davis, S. J. Parker, B. L. Olla, C. B. Schreck. 2006. Characterization of the physiological stress response in Lingcod. *Transactions of the American Fisheries Society*. 135:1165-1174.
- Milston, R., M. W. Davis, S. J. Parker, B. L. Olla, C. B. Schreck. Submitted. Characterization of the physiological stress response in Lingcod. *Transactions of the American Fisheries Society*
- Moyers, S, J. White, B. Riggers, M. Williams, C. Sheely and H. Weeks. 2003. Umpqua River Fall Chinook Salmon Escapement Indicator Project: 1998 - 2002. Cumulative Progress Report. Oregon Department of Fish and Wildlife, Marine Resources Program, Newport, OR. 41 pp.
- Musick, J.A., M.M. Harbin, S.A. Berkeley, G.H. Burgess, A.M. Eklund, L. Findley, R.G. Gilmore, J.T. Golden, D.S. Ha, G.R. Huntsman, J.C. McGovern, S.J. Parker, S.G. Poss, E. Sala, T.W. Schmidt, G.R. Sedberry, J.J. Weeks, and S.G. Wright. 2000 Marine, estuarine, and diadromous fish stocks at risk of extinction in North America (Exclusive of Pacific salmonids). *Fisheries* 25(11): 6-30.
- Norman S. A., C. E. Bowlby, M. S. Brancrato, J. Calambokidis, D. Duffield, P. J. Gearin, T. A. Gornall, M. E. Gosho, B. Hanson, J. Hodder, S. J. Jeffries, B. Lagerquist, D. M. Lambourn, B. Mate, B. Norberg, R. W. Osborne, J. A. Rash, S. Riemer, and J. Scordino. 2004. Cetacean strandings in Oregon and Washington between 1930 and 2002. *Journal of Cetacean Research and Management* 6(1):87-99.

- Nottage, J. A., and S. J. Parker. The Shoreside Hake Observation Program: 2005. Oregon Department of Fish and Wildlife, Fish Research Project, 23 pp. Progress Report Series, Portland, Oregon.
- Oregon Department of Fish & Wildlife. 2001. Oregon Marine Fisheries: 2000 Status Report, 2001. ODFW, Marine Resources Program. 109 pp.
- Oregon Department of Fish & Wildlife. 2002. An Iterim Management Plan for Oregon's Nearshore Commercial Fisheries, June 2002. ODFW, Marine Resources Program. 133 pp.
- Oregon Department of Fish & Wildlife, Marine Resources Program. 2006. Oregon's Nearshore Marine Resources Management Strategy. Newport, OR, ODFW, ___pp.
- Orr, A. J., A. S. Banks, S. Mellman, H. R. Huber, R. L. DeLong, and R. F. Brown. 2004. Examination of the foraging habits of Pacific harbor seal (*Phoca vitulina richardsi*) to describe their use of the Umpqua River, Oregon, and their predation on salmonids. *Fishery Bulletin* 102:108–117.
- Parker, S. J. 2001. Summary of the 2001 shoreside Pacific whiting fishery. Oregon Department of Fish and Wildlife, Fish Research Project, 19 pp. Annual Progress Report, Portland, Oregon.
- Parker, S. J., and P. S. Rankin. 2003. Tag location and retention in black rockfish (*Sebastes melanops*): Feasibility of using PIT tags in a wild marine species. *North American Journal of Fisheries Management* 23:993-996.
- Parker, S. J., H. I. McElderry, P. S. Rankin, and R. W. Hannah. 2006. Buoyancy Regulation and Barotrauma in Two Species of Nearshore Rockfish. *Transactions of the American Fisheries Society*. 135:1213-1223
- Parker, S. J., H. I. McElderry, P. S. Rankin, and R. W. Hannah. In Press. Buoyancy Regulation and Barotrauma in Two Species of Nearshore Rockfish. *Transactions of the American Fisheries Society*.
- Parker, S. J., M. R. Saelens, S. A. Kupillas, and R. W. Hannah. 2004. Using an exempted fishing permit for a large-scale test of a selective flatfish trawl in the continental shelf flatfish fishery. Oregon Department of Fish and Wildlife Information Reports 2004-01. Fish Division, Salem, OR. 22p.
- Parker, S. J., P. S. Rankin, J. M. Olson, and R. W. Hannah. In Press. Movement patterns of black rockfish in coastal Oregon waters. 23rd Lowell- Wakefield Symposium, Biology, Assessment, and Management of North Pacific Rockfishes, Alaska Sea Grant, Anchorage.

- Parker, S. J., P. S. Rankin, R. W. Hannah, and C. B. Schreck. 2003. Discard mortality of trawl-caught lingcod in relation to tow duration and time on deck. *North American Journal of Fisheries Management* 23:530-542.
- Parker, S. J., S. A. Berkeley, J. T. Golden, D. R. Gunderson, J. Heifetz, M. A. Hixon, R. Larson, B. M. Leaman, M. S. Love, J. A. Musick, V. M. O'Connell, S. Ralston, H. J. Weeks, and M. M. Yoklavich. 2000. Management of Pacific Rockfish. *Fisheries* 23:22–25.
- Pitcher, K. W., P. F. Olesiuk, R. F. Brown, M. S. Lowry, S. J. Jeffries, J. L. Sease, W. L. Perryman, C. E. Stinchcomb, and L. F. Lowry. *In press*. Status and trends in abundance and distribution of the eastern population of Steller sea lions (*Eumetopias jubatus*). *Marine Mammal Science*.
- Riemer, S. D. and R. Mikus. *In press*. Aging fish otoliths recovered from Pacific harbor seal scat samples. *Fishery Bulletin*.
- Riggers, B., H. Weeks, J. White, M. Hogansen and S. Jacobs. 2003. Fall Chinook Salmon in the Coos River: spawner escapement, run reconstruction and survey calibration 1998 - 2000. Final Report. Oregon Department of Fish and Wildlife, Marine Resources Program, Newport, OR. 39 pp.
- Shiple, J.B, H. Weeks and J. Barrett. 2004. On the Development of a National Ocean Policy. *Fisheries*. 29(5): 24 – 28.
- Theberge, S. F., and S. J. Parker. 2005. Release methods for rockfish. Sea Grant Communications, Oregon State University.
- Weeks, H., A. Merems and B. Miller. 2005. 2004 Nearshore Rocky Reef Habitat and Fish Survey, and Multi-Year Summary. Final Report for 2004-05 Grant, Cooperative Agreement No. PS05035. Oregon Department of Fish and Wildlife. 20 pp.
- Weeks, H and A. Merems. 2004. 2003 Nearshore Rocky Reef Habitat and Fish Survey, and Multi-Year Summary. Final Report for 2003-04 Grant. Cooperative Agreement No. 001-3176C-Fish. Oregon Department of Fish and Wildlife. 13 pp.
- Weeks, H., B. Riggers and J. White. 2003. Fall Chinook Salmon in the Siuslaw River: spawner escapement, run reconstruction and survey calibration 2001 - 2002. Cumulative Progress Report. Oregon Department of Fish and Wildlife, Marine Resources Program, Newport, OR. 36 pp.
- Weeks, H., B. Riggers and J. White. 2003. Fall Chinook Salmon in the Coquille River: spawner escapement, run reconstruction and survey calibration 2001 - 2002. Cumulative Progress Report. Oregon Department of Fish and Wildlife, Marine Resources Program, Newport, OR. 32 pp.

- Weeks, H., and S. Parker. 2002. Scientific and management uncertainty create competing precautionary needs for fishery managers. *Fisheries*. Vol 27, No. 3. P. 25-27.
- Weeks, Hal; Merems, A. 2004. 2003 Nearshore Rocky Reef Habitat and Fish Survey, and Multi-Year Summary. Final Report for 2003-04 Grant. Cooperative Agreement No. 001-3176C-Fish. Oregon Department of Fish and Wildlife. 13 pp.
- Weeks, H. 2002. West coast ground fisheries management – the challenge of connecting nature with people through science and politics. *Current*. 18(1): 21 – 24.
- Weeks, H. and S. Berkeley. 2000. Uncertainty and precautionary management of marine fisheries: Can the old methods fit the new mandates? *Fisheries*. 25(12): 6 – 15.
- White, J., H. Weeks and B. Riggers. 2003. Nehalem River Fall Chinook Salmon Escapement Indicator Project: 1998 - 2002. Cumulative Progress Report. Oregon Department of Fish and Wildlife, Marine Resources Program, Newport, OR. 49 pp.
- Wiedoff, B. L., and S. J. Parker. The shoreside whiting observation program: 2004. Oregon Department of Fish and Wildlife, Fish Research Project, 27 pp. Progress Report Series, Portland, Oregon.
- Wiedoff, B. L., J. Conrad, and S. J. Parker. The shoreside hake observation program: 2003. Oregon Department of Fish and Wildlife, Fish Research Project, 27 pp. Annual Progress Report, Portland, Oregon.
- Wiedoff, B. L., and S. J. Parker. The shoreside whiting observation program: 2002. Oregon Department of Fish and Wildlife, Fish Research Project, 22 pp. Annual Progress Report, Portland, Oregon.
- Williams, J.E., C.A. MacDonald, C.D. Williams, H. Weeks, G. Lampman and D. W. Sada. 2005. Prospects for Recovering Endemic Fishes Pursuant to the U.S. Endangered Species Act. *Fisheries*. 30(6): 24 – 29.
- Wright , B. E., S. D. Riemer , R. F. Brown , A. M. Ougzin, and K A. Bucklin. *In press*. Assessing pinniped predation on a threatened salmonid species. *Ecological Applications*.
- Wright, B. E. 2005. Better seal and sea lion surveys through GIS. *ArcUser*. 8(1):20-21.

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Acronyms and Abbreviations

Acronyms and Abbreviations

| | |
|--------------------|--|
| AFSC | Alaska Fisheries Science Center |
| AK | Alaska |
| BOR | Bureau of Reclamation |
| C.F.R. | Code of Federal Regulations |
| CA | California |
| CDFG | California Department of Fish and Game |
| DDT | dichloro-diphenyl-trichloroethane |
| DEQ | Department of Environmental Quality |
| DHS | Department of Human Services |
| DLCD | Department of Land Conservation and Development |
| DOGAMI | Department of Geology and Mineral Industries |
| DPS | Distinct Population Segment |
| DSL | Department of State Lands |
| ELW | Extreme Low (Tide) Water |
| ENSO | El Nino/Southern Oscillation |
| EPA | Environmental Protection Agency |
| ESA | Endangered Species Act |
| F/NWC | Fisheries Northwest Center (NMFS Routing Code) |
| FAA | Federal Aviation Administration |
| FERC | Federal Energy Regulatory Commission |
| HR | Habitat Refuge |
| I&E | Information and Education (ODFW Division) |
| MG | Marine Garden |
| MHHW | Mean Higher High Water |
| MHW | Mean High Water |
| MLLW | Mean Lower Low Water |
| MLW | Mean Low Water |
| MMS | Minerals Management Service |
| MRP | Marine Resources Program (ODFW Program) |
| NANOOS | Northwest Association of Networked Ocean Observing Systems |
| NAVD | North American Vertical Datum |
| Nearshore Strategy | Nearshore Marine Resources Management Strategy |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NWR | National Wildlife Refuge |
| OAR | Oregon Administrative Rules |
| ODA | Oregon Department of Agriculture |
| ODAv | Oregon Department of Aviation |
| ODEQ | Oregon Department of Environmental Quality |
| ODF | Oregon Department of Forestry |
| ODFW | Oregon Department of Fish and Wildlife |
| ODLCD | Oregon Department of Land Conservation and Development |
| ODOA | Oregon Department of Agriculture |
| ODOGMI | Oregon Department of Geology and Mineral Industries |
| ODOT | Oregon Department of Transportation |

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| ODSL | Oregon Division of State Lands |
| OFWC | Oregon Fish and Wildlife Commission |
| OHD | Oregon Health Department |
| OMB | Oregon Marine Board |

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|--------|---|
| OPAC | Ocean Policy Advisory Council |
| OPRD | Oregon Parks and Recreation Department |
| OR | Oregon |
| ORS | Oregon Revised Statutes |
| OSMB | Oregon State Marine Board |
| OSP | Oregon State Police |
| OSP | Optimum Sustainable Population |
| OSU | Oregon State University |
| OWRD | Oregon Water Resources Department |
| PACOOS | Pacific Coast Ocean Observing System |
| PFMC | Pacific Fishery Management Council |
| PISCO | Partnership for Interdisciplinary Studies of Coastal Oceans |
| POORT | Port Orford Ocean Resources Team |
| PSMFC | Pacific States Marine Fisheries Commission |
| PSU | Portland State University |
| ROV | Remotely Operated Vehicle |
| RR | Research Reserve |
| SCUBA | Self Contained Underwater Breathing Apparatus |
| SWFSC | Southwest Fisheries Science Center |
| SWG | State Wildlife Grants |
| U.S.C. | United States Code |
| USEPA | United States Environmental Protection Agency |
| USACOE | United States of Army Corps of Engineers |
| USBLM | United States Bureau of Land Management |
| USCG | United States Coast Guard |
| USCOP | United States Commission on Ocean Policy |
| USDA | United States Department of Agriculture |
| USFAA | United States Federal Aviation Administration |
| USFS | United States Forest Service |
| USFWS | United States Fish and Wildlife Service |
| WA | Washington |
| WDFW | Washington Department of Fish and Wildlife |