Pacific States Marine Fisheries Commission

2011 ANNUAL REPORT

PUBLISHED FOR THE CONGRESS OF THE UNITED STATES AND THE GOVERNORS AND LEGISLATURES OF
WASHINGTON, OREGON, CALIFORNIA, ALASKA AND IDAHO

DUNGENESS CRABS


photo by Brett Holycross, PSMFC employee

64TH ANNUAL REPORT OF THE PACIFIC STATES MARINE FISHERIES COMMISSION

To the Congress of the United States
the Governors and Legislatures of the Five Compacting States
—Washington, Oregon, California, Idaho, and Alaska—

2011

Presented by the Commissioners of the Pacific States Marine Fisheries Commission
in compliance with the State enabling acts creating the Commission
and Public Laws 232; 766; and 315
of the 80th; 87th; and 91st Congresses
of the United States
assenting thereto.

Respectfully submitted,
PACIFIC STATES MARINE FISHERIES COMMISSION
Randy Fisher, *Executive Director*

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COMMISSIONERS, ADVISORS AND COORDINATORS 2011

State	Commissioners	Advisors	Coordinator
Alaska	Bryce Edgmon Sue Aspelund Eric Olson	Terry Johnson Don Lane Matthew Moir Gabe Sam Herman Savikko	Karla Bush (ADFG)
California	Thomas Harman John McCamman	Jim Caito Robert Fletcher Donald K. Hansen Mike McCorkle Aaron Newman Roger Thomas Kate Wing	Marija Vojkovich (CDFG)
Idaho	Cal Groen Joe Stegner Fred Trevey	Sharon Kiefer Virgil Moore Ed Schriever	Pete Hassemer (IDFG)
Oregon	Ed Bowles Betsy Johnson Jeff Feldner	Wayne Butler Steve Fick Liz Hamilton Paul Heikkila Rod Moore Brad Pettinger Frank Warrens	Caren Braby (ODFW)
Washington	Phil Anderson Brian Blake Harriet A. Spanel	Mark Cedergreen Marion Larkin Irene Martin Bill Robinson Terry Wright	Michele Culver (WDFW)


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MESSAGE FROM THE EXECUTIVE DIRECTOR

Randy Fisher, Executive Director

I am pleased to present the 2011 Annual Report of the Pacific States Marine Fisheries Commission. In this report, you will find detailed summaries of our activities and our progress in developing, managing, and conserving the fishery resources of our member states.

During 2011, I represented the Commission at important meetings of the Marine Fisheries Advisory Committee which advised the Secretary of Commerce on all living marine resources. I also met with key members of Congress and the Administration to discuss issues of importance to the states and the Commission as a whole.

As we completed Commission activities in 2011, the Commission is moving on to its sixty-fifth year in 2012. The following are the major important programs that we worked on in 2011:

Recreational Fisheries Information Network (RecFIN). All catch and effort information for each sampling month from the various surveys are loaded into the RecFIN database maintained at PSMFC with a one-month lag time. Access is available to the catch and effort information for all three states on the PSMFC website or at: www.RecFIN.org. Detailed explanations of the sampling conducted, sampling methodology and estimation statistics of the various sampling programs along with catch and effort estimates by month are available on this RecFIN website.

Pacific Fisheries Information Network (PacFIN.) The Pacific Fisheries Information Network (PacFIN) is the nation's first regional fisheries data network. Funded by a grant from the National Marine Fisheries Service (NMFS), PacFIN is a joint federal and state project focused on fisheries data collection and information management. PacFIN provides timely and accurate data to aid effective management of fisheries and fishery resources. In 2011, the PacFIN Office updated the central database with regular data feeds from 11 data sources and responded to at least 120 requests-for-information. Various selections of standard PacFIN reports were generated weekly or monthly and uploaded to the PSMFC and PacFIN website. The highlights of PacFIN central office activities in 2011 will be found in this report.

Alaska Fisheries Information Network (AKFIN). AKFIN reports catch data, harvest and value from commercial fisheries in Alaska using the best available data from data source agencies. Once these data are incorporated into its system, AKFIN reports information from several critical perspectives, which are used to identify and quantify impacts related to changes in fisheries management. These include species, area, gear, vessel, processor, community, and fishery participants by season. A review of activities in 2011 is provided later in this report.

Northern Pikeminnow Management Program. The Northern Pikeminnow Predator Control Program is a joint effort between the fishery agencies of the states of Washington and Oregon, and the Pacific States Marine Fisheries Commission (PSMFC). This 2011 season marked the 20th consecutive year of the Sport Reward Fishery component of the program. The Washington Department of Fish and Wildlife operated the sport-reward registration/creel check stations throughout the river and handled all fish checked into the program. Oregon Department of Fish and Wildlife provided fish tagging services, population studies, food habit and reproductive studies, as well as exploitation rate estimates. The Pacific States Marine Fisheries Commission provided fiscal and contractual oversight for all segments of the Program and processed all reward vouchers for sport-reward anglers.

PIT Tag Information System (PTAGIS). The Columbia River PIT Tag Information System (PTAGIS) is a data collection, distribution and coordination project. Over 2.7 million fish were marked with passive integrated transponder (PIT) tags in calendar year 2011. The proportions of salmon and steelhead tagged in 2011 were similar to those species tagged in 2010 (Table 2). In 2011, more than 1.1 million distinct tagged fish were detected by at least one interrogation site, generating over 1.7 million detection events (Table 3). One fish can generate many interrogation records as it passes through multiple PIT tag antennas at one or more detection sites. Over 15 million interrogation records were reported to PTAGIS in 2011. A more detailed presentation of PTAGIS activities is presented later in this report.

Aquatic Nuisance Species Prevention Program. The PSMFC and USFWS continue to lead the effort for zebra and quagga mussel rapid response planning for the Columbia River Basin. The Plan recognizes that a dreissenid invasion is an environmental emergency and any hope of containment necessitates fast action. The provisions of this Plan are intended to enhance agency coordination beginning with the discovery of an infestation by implementing containment and control efforts as soon as an infestation is discovered. An exercise to test of the plan implementation was done this past year in Libby, Montana. PSMFC continues to provide training to successfully intercept, inspect, identify, contain and decontaminate trailered watercraft suspected of carrying zebra mussels. The PSMFC ANS website continues to add new features, including a new section on economic impacts of ANS. It can be found at the following website: http://www.aquaticnuisance.org/resources/ais-economic-impacts.

West Coast Groundfish Observer Program (WCGOP). The WCGOP continued its efforts to collect discard data in the West Coast groundfish fisheries during 2011 while adjusting to the implementation of catch shares for the limited entry trawl fleet in January 2011. One of the stipulations of the catch share fishery is the vessels in this fishery must have 100% observer coverage. This change required the West Coast Groundfish Observer Program to quickly adapt to accommodate the much higher number of observers needed to cover this fishery while at the same time maintaining observer coverage in all the other groundfish fisheries on the West Coast. The observer program operated under two separate cooperative agreements with NOAA, one for the catch share fishery and one for the non-catch share fisheries. Non-catch share fisheries are all other groundfish fisheries not included in the catch share fishery.

During the year, the Commission staff was engaged in organizing and coordinating several meetings, as well as Commission Committee meetings that further the progress and goals of the PSMFC programs and projects. The larger meetings held this year included a national PIT Tag workshop in January in Stevenson, Washington; the Swordfish Workshop in May in San Diego, California; and the Commission Annual Meeting in August in Portland, Oregon.

I know the Commission had a very successful and productive year. Thank you to everyone who participated and supported our work.


photo by Brett Holycross, PSMFC employee

ANNUAL BUSINESS MEETING SUMMARY

August 31, 2011

Chairman Ed Bowles, State of Oregon, called the meeting to order at 7:30 a.m. Commission members in attendance were:

Joe Stegner, Idaho State Senator
Fred Trevey, Public member from Idaho
Sharon Kiefer, Assistant Director, Policy, Idaho Department of Fish and Game, sitting in for Virgil Moore
Jeff Feldner, Public member from Oregon
Ed Bowles, Administrator, Fisheries Division, Oregon Department of Fish and Wildlife
Eric Olson, Public member and Chair of the North Pacific Fishery Management Council from Alaska
Sue Aspelund, Deputy Director of Commercial Fisheries. Alaska Department of Fish and Game
John McCamman, Director, California Department of Fish and Game
Tom Harman, California State Senator
Barbara Emley, Public member from California
Michele Culver, Coastal Regional Director, Washington Department of Fish and Wildlife, sitting in for Phil Anderson
Harriet Spanel, Public member from Washington

The Commission unanimously approved the Financial Statement and the 2010 Annual Business Meeting Summary.

The Commission acted on 22 new PSMFC resolutions that were raised by the individual member states in their state meetings held on Tuesday.

John McCamman, from California, explained that the first four resolutions would be voted on as a block by the Commission. These four resolutions dealt with issues recommended by the Executive Committee and are intended to enhance communication between Commissioner members and PSMFC staff and increase Commission members' knowledge of PSMFC's fiduciary obligations and daily operations. These include:

Executive Committee review of PSMFC's budget and audit with independent auditor.
By January 2012, each state will review its policies, rules, and/or regulations to determine the appropriate process for identifying each state's commissioner to sit on the PSMFC Executive Committee. Once determined, the Executive Committee will meet with the independent financial auditors prior to each year's annual meeting to review the budget and audit.

Executive Committee review of PSMFC charter and goals and objectives.
PSMFC's Executive Committee will meet and review the PSMFC compact, goals and objectives (which include rules and regulations/ advisory committee/research policy) for review and approval of the Commission at is 2012 annual meeting.

Executive Committee new member orientation and educational updates.
PSMFC staff will conduct orientations for new Commission members and educational updates for Commission members and advisors either immediately prior to the annual meeting or at an earlier date by webinar.

Independent PSMFC financial audit RFP.
The Commission recommends that PSMFC staff prepare an RFP for an independent financial audit of the PSMFC and that the RFP process occur at least every five years. The RFP process will be reviewed by the Executive Committee.

This block of four resolutions was adopted unanimously.

The Commission then acted on the following resolutions:

NOAA science budget.
The PSMFC supports increases in the NOAA budget for science that supports fisheries management, including:

A. fisheries independent surveys
B. stock assessments
C. fisheries data collection
D. provide direct funding for GSI.

This resolution was tabled and incorporated into a similar issue regarding support for prioritization of funding for basic fisheries management issues over new initiatives that may compete for funding.

Fishermen's Contingency Fund process improvements.
The Fishermen's Contingency Fund is supposed to compensate commercial fishermen for losses caused by oil and gas activities. The PSMFC requests that NMFS review its claims process for the fund and make recommendations for issuing the payments faster, consistent with the law.

The Commission tabled this resolution and instead directed staff to investigate and research the fund, and by March 31, 2012, provide the Commission with any information it has found.

Federal funding priorities:
In a potential era of reduced federal spending, PSMFC strongly supports the prioritization of funding for basic fisheries management over new initiatives that may compete for funding. Items such as stock surveys, research, in-season management, fisheries dependent data, and observer programs should be fully funded first. Furthermore, NMFS regions', states' and RFMCs' funding priorities should be given priority when developing federal budgets. Lastly, if and when states are delegated with management of federal fisheries and/or implementing federal initiatives, adequate federal funding must be provided to those states.

Vote: 5-0.

Coastal and Marine Spatial Planning:
The PSMFC concurs with the Council Coordination Committee that the RFMCs must have representation on the Regional Planning Bodies (RPBs) envisioned under the Coastal and Marine Spatial Planning initiative. It is the RFMCs that are charged with developing recommendations for fisheries regulations for the Secretary of Commerce to consider. Not having RFMCs on the RPBs would be counterproductive to the stated goals of inclusive stakeholder involvement.

Vote: 5-0.

Federal funding for NPFMC Council Observer Program:
The PSMFC reiterates last year's unanimously supported resolution for federal funding that would help the NPFMC restructure and fund its observer program.

Vote: 5-0.

State of Oregon's natural resource budget:
The PSMFC supports increases in the State of Oregon's natural resources budget for science in support of management, and supports prioritization of science for management funding by the state legislature.

The State of Oregon withdrew this resolution.

Support for locally based Coastal and Marine Spatial Planning:
If the federal government proceeds with Coastal and Marine Spatial Planning (CMSP) efforts, it must recognize existing legal authorities (state, tribal, other), utilize a locally driven stakeholder process, and include federal support for capacity to engage at the local level. We believe that any CMSP planning must be new funding and not reallocated from existing programs. In addition, the PSMFC does not believe that there should be a federal requirement for state participation in coastal and marine spatial planning.

Vote: 5-0.

Third Party Fishery Sustainability Certification:
Third party fishery sustainability certification processes should involve the expertise of the relevant fishery management agencies throughout the development of draft and final reports.

Failed with a vote of 3-1 with Alaska voting yes.

Streamline federal regulatory and support functions for salmon habitat protection and restoration:
The PSMFC encourages better coordination and streamlining of federal regulatory and support functions related to salmon habitat protection and restoration.

Vote: 5-0.

Support for new acoustic sea lion deterrent device:
The PSMFC staff is directed to work in support of efforts by NMFS Southwest Region, Southwest Fisheries Science Center, and the Sportfishing Association of California to develop and test a new non-lethal acoustic sea lion deterrent device, but not at the expense of pending application for lethal controls.

Vote: 5-0.

Capital Construction Fund reform:
The PSMFC supports efforts to reform the Capital Construction Fund to expand the list of qualified withdrawals and rollovers of fund into retirement accounts as long as it will not increase capacity in fisheries.

Vote: 3-1 with Idaho voting no.

Oppose efforts to mandate mass marking:
The PSMFC shall oppose efforts to mandate that all federally funded hatcheries be required to mass mark all salmonis stocks, irrespective of management objectives.

The resolution was adopted 3-1 with Oregon voting no.

Support for funding for West Coast Catch Share Program:
The PSMFC supports adequate and equitable distribution of allocated funds to support the West Coast catch shares program through the three-year transition period, as well as one-year start-up funding for the restructured observer program in the North Pacific.

Vote: 5-0.

Reaffirm support for previous Mitchell Act, aquaculture and Pacific Coastal Salmon Recovery Fund resolutions:
The PSMFC reaffirms its support for its previously approved Mitchell Act, aquaculture, and Pacific Coastal Salmon Recovery Fund resolutions.

Vote: 5-0 with a directive to staff to provide previously adopted resolutions to each state coordinator for the purposes of discussion at the in-state meetings.

Amend the Marine Mammal Protection Act:
The PSMFC supports amendment of the Marine Mammal Protection Act to provide states additional management authority to address marine mammal conflicts, including lethal removal.

Vote: 5-0.

Aquatic Invasive Species funding:
The PSMFC supports marine aquatic invasive species (AIS) funding from NOAA to PSMFC for funding states' AIS programs and projects.

The resolution was adopted unanimously with the clarification that U.S. Fish and Wildlife Service funds for inland aquatic invasive species would come directly to PSMFC.

Reaffirm the cultural and economic importance of all Pacific and North Pacific fisheries:
Given the potential impacts of CMSP and potential changes in the Magnuson-Stevens Act, it is important to emphasize that fisheries create jobs and sustain coastal communities.

Vote: 5-0.

This concluded the Commission's deliberation on its resolutions.

Chairman Ed Bowles announced that next year's annual meeting will be hosted by California at the Intercontinental Hotel in San Francisco on August 19-22.

PSMFC's 2011 Business Meeting was adjourned at 10:00 a.m.

ANNUAL AWARD RECIPIENT

The Pacific States Marine Fisheries Commission presents an annual award that honors an individual, agency, or organization from the host state for outstanding contributions in support of Pacific Coast marine fisheries resources.

The Pacific States Marine Fisheries Commission is pleased to present the 2011 Award to:

NICK FURMAN

Nick Furman is the Executive Director of the Oregon Dungeness Crab Commission, an industry-funded commodity commission under the umbrella of the Oregon Department of Agriculture. He has held that position since 1990, leaving briefly in 2006 for 18 months to lead the Oregon Dairy Products Commission through a transition period.

Prior industry experience includes four years as a district sales manager for a large West Coast seafood company, six years as a "visiting" assistant professor of Fishing Technology at Southwestern Oregon Community College in Coos Bay, and 12 years of "hands-on" experience as a crewman and vessel captain in fisheries from California to Alaska.

Nick is also a long-time distance runner and an avid bicyclist. During the summer of 2004, he completed a "solo" bicycle ride from Coos Bay, Oregon to Cape Cod, Massachusetts, following the Lewis and Clark Trail for many of the 4,316 miles across the United States. His wife, Kathy, drove the sag vehicle and kept him hydrated during the hot, 100-mile days on the road. Together, they raised over $6,500 for a local domestic violence shelter. They also enjoy kayaking the many bays, rivers and estuaries along Oregon's South Coast.

ALASKA FISHERIES INFORMATION NETWORK

The **Alaska Fisheries Information Network (AKFIN)** is one of five regional co-operative state-federal programs that provide a framework to consolidate and support the collection, analysis, and reporting of a variety of information important for management of US fisheries. Funding for AKFIN is provided by an annual grant award from National Marine Fisheries Service (NMFS) to the Pacific States Marine Fisheries Commission. These funds support an AKFIN Support Center (AKFIN-SC) and an annual subcontract with the Alaska Department of Fish and Game (ADFG) for related tasks.

The AKFIN-SC supports the data needs of fisheries analysts and economists by consolidating commercial fisheries data and dispensing that data upon request using custom programming services and on-line tools. Information is aggregated from the ADFG Division of Commercial Fisheries, Commercial Fisheries Entry Commission (CFEC), NMFS Alaska Region, Alaska Fisheries Science Center, North Pacific Fishery Management Council (NPFMC), and PSMFC.

More specifically, AKFIN-SC reports catch data, harvest and value from commercial fisheries in Alaska using the best available data from data source agencies. Once these data are incorporated into its system, AKFIN reports information from several critical perspectives, which are used to identify and quantify impacts related to changes in fisheries management. These include species, area, gear, vessel, processor, community, and fishery participants by season.

A summary of work completed by the AKFIN-SC in 2011 include:

AKFIN Answers Development: *AKFIN Answers* is an online reporting tool that provides authorized stock assessors, social scientists, and economists with direct access to AKFIN's analytical database and metadata resources. This tool allows users to access prepared reports and to formulate ad-hoc queries that can be saved and shared with other analysts. Development in 2011 has focused on the following areas:

- **AFSC Community Profiles:** AKFIN is working with social scientists from the AFSC to develop a Community Profiling subject area and dashboard reporting page on *AKFIN Answers*, to be used to revise and improve a NOAA Technical Memorandum, the *Community Profiles for North Pacific Fisheries – Alaska*, which profiles the social and economic characteristics of ~200 fishing communities in Alaska. This reporting area is a comprehensive collection of over 400 pre-calculated data points, including relevant census, commercial, recreational and subsistence statistics by year and by Alaskan community. The following were completed by AKFIN in 2011:

    - A community name corrections table, which was necessary to combine state and federal datasets and to correct all misspelled community names;
    - An analysis and the subsequent development of a table to group Alaska sport fishing port-sites with the nearest and most representative communities.
    - A comprehensive user document that includes descriptions of sources and methods, a full data dictionary and a reference (work cited) list, which included all data sources compiled by AKFIN.
    - An expansion of AKFIN's database to include new datasets and sources for this and other projects. The expanded database included:
        - Demographic data from the Alaska Department of Commerce, Community, and Economic Development;
        - Information on the Statewide Harvest Survey from Alaska Department of Fish and Game (ADF&G);
        - Information on recreational fishing license holders and vendors as well as information on commercial crew license holders and vendors from ADF&G;
        - Information on fishing guide licenses and businesses from ADF&G;
        - Information on saltwater guide logbooks from ADF&G;
        - Information on subsistence harvesting of marine resources from ADF&G;
        - Community population estimates from the Alaska Department of Labor and Workforce Development;
        - Other subsistence harvest information on Pacific halibut and salmon as well as the corresponding permit holder information from ADF&G.
        - Marine mammal subsistence harvest information from the Alaska Beluga Whale Committee, U.S. Fish and

Wildlife Service, and ADF&G; and
    - Demographic data from the U.S. Census Bureau.
    - Specialized views of historic IFQ shareholder and quota share data from the Alaska Region's Restricted Access Management division.
- Development of several supporting subject areas in Oracle Business Intelligence (BI) to include the following presentation layers:
    - Community Profiling: Commercial, recreational, subsistence and census demographics by year and community.
    - Community Profiling – CDQ: Community Development Quota allocations and catch amounts by year and CDQ group.
    - Community Profiling – Rec Survey: Presentation layer that includes saltwater data from the Alaska Statewide Harvest Survey by year and region.
    - Community Profiling – Yearly Totals: Commercial, recreational and subsistence data summarized by year. These numbers reported separately to allow for an accurate count of entities by year.
- Creation of several Oracle Answers dashboards and reports for the Community Profiling dashboard to facilitate analysis of data by year, community, CDQ group or region. Dashboards, or pages with collections of like reports include:
    - Summary Reports – Series of 25 reports that summarize data sources and flag for confidentiality for export/import to the community profiles documents.
    - Detail Reports – Series of 8 reports that present the detail data for analysis, reporting all available fields from the Community Profiling subject area.
    - Full Data Download – A single downloadable report with over 400 fields that allows for an export of all Community Profiling subject area data in a single data field.
    - American Communities Survey – A single report that portrays almost 200 census demographics for export by community.
    - Alaska Sport Fish Survey – A single report of the recreational Alaska Statewide Harvest Survey by year and region.
    - Community Development Quota (CDQ) – A single report of allocations and catch by year and CDQ group.

- ***Stock Assessment Dashboard Development:*** AKFINs has been working with stock assessment authors to consolidate multiple fishery data sources so that mangers and scientists can access data efficiently and in formats specific to their needs. In cooperation with Marine Ecology and Stock Assessment program (MESA), the NMFS Regional Office, and FMA, AKFIN has developed reports that make the data sources regularly used available in one central location. Work completed in 2011.:
    - Commercial Catch Data – A series of reports that summarize commercial retained and discarded catch by year, gear, area, target, and species as well as activity in prohibited and non-target species.
        - Completed several enhancements to the commercial catch reports to support their fall assessments.
    - Observer Program Data – A series of reports that summarize observer haul, species composition, length, and age observations.
        - Completed several enhancements to the observer program data reports.
    - Longline Survey Data – A series of tables that summarize observations and include estimates of Relative Population indices.
        - Completed development of 11 separate subject areas in the OBIEE repository with 11 associated reports to include: Age View, Area Efforts, Area Stratum Efforts, Area View, Catch Summary View, Catch Summary View with NULLs, Depth Summary View, Length Frequencies, Length Summary View, Species Catch Codes, Web Areas.

Fleet Profiles: In collaboration with the North Pacific Fishery Management Council, AKFIN worked to identify all of the vessel fleets that collectively comprise the Alaska Fisheries. The primary objective of this cooperative project was to classify specific groups of vessels by their respective fisheries. For example, the project identified the vessels by length, homeport, year of construction and gear, as well as by the vessels' target species, and licenses and entitlements associated with the individual vessels. AKFIN also developed three separate GIS maps: (a) the halibut and sablefish IFQ fleets; (b) the groundfish fleets (without the H&S IFQ fleet); and (c) the charter halibut fleet in 2C and 3A (data on NMFS website) for this project. The work was used to create the April 2012 *Fishing Fleet Profiles* publication from the NPFMC staff.

NPFMC Data Requests: Below are issues the AKFIN-SC supplied data management, programming, and data analytical support on for NPFMC Staff and agency analysts:

- Initial Review of Analysis to Reduce GOA Halibut PSC Limit
- Initial Review of Crab Economic Data Report (EDR)
- Central GOA Rockfish Program
- Freezer Longliner (FLL) Vessel Replacement Analysis
- Final Action on Pribilof Blue King Crab (PBKC) Rebuilding Plan
- Final Action on GOA Pacific Cod Jig Fishery Management
- Final Action on GOA Flatfish Trawl Sweep Modifications
- Discussion Paper on Bering Sea/Aleutian Island Pacific Cod Split
- Bycatch-Chinook_GOA Analysis
- GOA Pacific Cod A-season Opening Dates Analysis
- A80 Vessel Replacement Sideboards Analysis
- Albatross and Sea Otter Critical Habitat Analysis

AQUATIC NUISANCE SPECIES PROGRAM

Aquatic nuisance (or invasive) species (ANS) are non-indigenous species that threaten the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters. ANS include non-indigenous species that may occur in inland, estuarine and marine waters and that presently or potentially threaten ecological processes and natural resources. In addition to adversely affecting activities dependant on waters of the United States, ANS adversely affect individuals, including health effects. One important criterion that the Pacific States Marine Fisheries Commission (PSMFC) uses to judge a species as a "nuisance" is its ability to harm commercial and recreationally important fisheries.

Highlights in 2011, for the Pacific States Marine Fisheries Commission's Aquatic Nuisance Species (ANS) Program, include:

1. The PSMFC and USFWS continue to lead the effort for zebra and quagga mussel rapid response planning Columbia River Basin. In 2008, *The Columbia River Basin Interagency Invasive Species Response Plan: Zebra Mussels and Other Dreissenid Species*" was competed with the goal of coordinating a rapid, effective, and efficient interagency response in order to delineate, contain, and when feasible, eradicate zebra, quagga, and other dreissenid mussel populations if they are introduced in CRB waters. The Plan recognizes that a dreissenid invasion is an environmental emergency and any hope of containment necessitates fast action. The provisions of this Plan are intended to enhance agency coordination beginning with the discovery of an infestation by implementing containment and control efforts as soon as an infestation is discovered. The Plan has now been signed by the Province of British Columbia, States of Oregon, Washington, Idaho, Montana, the USFWS, NOAA, and Columbia River Inter-Tribal Fish Commission). The plan can be viewed at http://100thmeridian.org/ColumbiaRT.asp.

2. In October 2011, the Pacific States Marine Fisheries Commission and U.S. Fish and Wildlife Service, in collaboration with the Montana Department of Fish, Wildlife and Parks, as well as state, federal and tribal participants from the US and Canada held a fifth "table-top" an exercise in Libby, Montana to evaluate the *Columbia River Basin Interagency Invasive Species Response Plan: Zebra Mussels and other Dreissenid Species and the Incident Command System Planning Process*. The exercise scenario included a confirmed finding of dreissenid larvae in Lake Koocanusa near Libby, Montana. After the initial Incident Command System training, participants were assigned to incident command system branches and positions, and participated in hands-on training activities that addressed tasks necessary during the first operational period of response. The exercise concluded with the presentation to the MAC group, a hot-wash, and closeout. See the after- action report at [http://www.100thmeridian.org/Columbia_RBT.asp]

3. Zebra and quagga mussels are spread on trailered watercraft moving from an infested to uninfested waterways. For the past four years, the PSMFC has been providing training for boating law enforcement personnel and others so that they can successfully intercept, inspect, identify, contain and decontaminate trailered watercraft suspected of carrying zebra mussels. In 2011, PSMFC continued trainings that were conducted throughout the Western United States. To date, over 65 WIT Level One training courses have been delivered in 19 western states to a total of over 3000 individuals representing over eighty different state, federal, local and tribal agencies and organizations. PSMFC also sponsors Level Two trainings delivered over two days at Lake Mead. This course focuses on actual field inspection and the decontamination of various types of quagga mussels infested watercraft leaving the lake. We have conducted 25 Level II trainings since 2007 and course graduates have trained thousands more of their own agency staff (including watercraft inspectors in Idaho, California, Washington and Oregon)

4. Uniform Watercraft Decontamination Protocols: The need for better coordination and consistency of protocols and standards related to preventing overland transport of zebra and quagga mussels on trailered watercraft is widely recognized, and one of the highest priority action items in the Western Region. To address this need, in 2009, the PSMFC completed the document *Recommended Uniform Minimum Protocols (UMPs) and Standards for Watercraft Interception Programs for Dreissenid Mussels in the Western United States*. This document, adopted by the Western Regional Panel on Aquatic Nuisance Species, now serves as a regionally accepted manual for watercraft decontamination. In 2011, we began a project to produce an updated version of this document (to be completed winter 2012). *For further information* go to: http://www.aquaticnuisance.org/wit

5. Providing administrative support, staffing and participation in numerous ANS interjurisdictional efforts, including the Columbia and Missouri River Basin 100th Meridian Initiative Groups; the Pacific Ballast Water Group; Invasive Species Advisory Committee, Western Regional Panel on Aquatic Nuisance Species, and the Green Crab Technical Group.

6. Recreational watercraft are the most likely vector by which zebra/quagga mussels will be spread into other western watersheds. PSMFC's (and cooperating agencies) AIS information and education campaign targets recreational anglers, boaters, marinas, enforcement personnel and others on the zebra/quagga mussel threat. For the past 11 years, PSMFC has attended sport and commercial fishing shows throughout the region (e.g., Boise, Portland, Seattle, Sacramento) exhibiting its ANS booth, distributing information to those most likely to come into contact with ANS. A highly popular zebra mussel education and watercraft inspection and decontamination training video "Don't Move a Mussel" was produced in 2008, followed by "Don't Move a Mussel, Seaplanes" in 2010. In 2011, we remade the DMM video with new information on the impacts of these mussels, as well as updated watercraft decontamination information. The video can be found here http://www.aquaticnuisance.org/video.

7. For the past nine years, PSMFC has partnered with Portland State University in a zebra mussel monitoring program. The program includes a volunteer monitoring project in 12 western states, and 16 agencies collecting plankton samples (in search for larval mussels) at 210 locations in 10 western states. PSU performs laboratory analysis on water samples. Beginning in 2010, PSMFC and PSU began partnering with the US Army Corps of Engineers to expand monitoring at Corps projects in the Columbia River Basin. In 2010, PSMFC also began to host a dreissenid monitoring database and map for the Columbia River Basin states of Idaho, Washington, Oregon and Montana. Go to: http://crbans.psmfc.org/monitoringdata/monitoringforaquaticanimals/zebraquaggamussel2010.html

8. The PSMFC ANS website continued to add new features, including a new section on economic impacts of ANS that can be found at http://www.aquaticnuisance.org/resources/ais-economic-impacts

ECONOMIC FISHERIES DATA PROGRAM (EFIN)

ALEUTIAN ISLANDS CRAB ECONOMICS PROJECT

The **Fisheries Economics Data Program (EFIN)** is a cooperative data collection effort to address the needs of fisheries managers and industry for economic data and information for the West Coast and Alaska. This project is conducted by the Pacific States Marine Fisheries Commission as part of a cooperative agreement with the National Marine Fisheries Service and with the help of the Pacific and North Pacific Fishery Management Councils. The goal is to provide reliable and timely data to assist with the monitoring and measuring of the economic performance of the harvesting and processing components of West Coast and Alaska fisheries.

In 2011, EFIN worked on:

- 2010 Fuel Report: Continued collection and maintenance of the West Coast and Alaska monthly fuel price survey. An annual summary was sent out to survey participants and other interested parties.
- Web page maintenance: Continued to collect data and update the EFIN web page. Updates include Gross Domestic Product (GDP), Consumer Price Index (CPI), Producer Price Index (PPI), State Labor Data and Employment Cost Index (ECI).
- Tri-State Crab Website maintenance: Archived previous year's website and created a new website for the 2011-2012 season that was updated with reports from California, Washington and Oregon.
- Web page maintenance for: "Bycatch characterization in the Pacific halibut fishery: A field test of electronic monitoring technology" Project and a new page added for "Alternative Observer Sampling within the Kodiak Trawl Fishery" a North Pacific Research Board Project 1017.
- Several PacFIN reports have been recreated and tested using Oracle Discoverer to provide dynamic user friendly reports. These reports are based on a table that puts together the PacFIN FT and FTL tables along with species, gear and other such codes added in for convenience and to be more user friendly.

Streamer Line project: As of December 31, 2011, 230 pairs of lines were shipped in 2011.

Alaska Crab Rationalization Program

Pacific States Marine Fisheries Commission (PSMFC) functions as the Independent Third Party Data Collection Agent (ITP-DCA) for the Bering Sea/Aleutian Islands (BSAI) Crab Rationalization Program. The purpose of the economic data collection is to aid the North Pacific Fishery Management Council (NPFMC) and National Marine Fisheries Service (NMFS) in assessing the success of this Program and provide data to aid in developing amendments necessary to mitigate any unintended consequences. Specifically, the data will be used to examine two aspects of the program: 1) the distribution of benefits between harvesters and processors arising under the harvest share/processor share allocations and arbitration system, and b) the distribution of landings of different harvest share types.

The North Pacific Fisheries Management Council (NPFMC) is interested in ensuring that it will be able to adequately assess the impact of the program on affected parties, which includes harvesters, processors and communities. Existing data collection programs have not provided the information required to understand the economic performance of crab fishermen, let alone to determine how this performance has changed after rationalization or what aspects of these changes are specifically attributable to crab rationalization. This data collection program will substantially reduce the types of analytical difficulties that were encountered in the past when attempting to examine the effects of the halibut/sablefish Individual Fishing Quota (IFQ) program and the American Fisheries Act.

At the beginning of this program in 2005, historic Economic Data Reports (EDRs) EDRs were collected for the years 1998, 2001 and 2004. In each subsequent year we have collected data using an annual EDR. Historical EDRs captured pre-Program implementation data for comparison to the economics of harvesting and processing before and after Program implementation. The annual EDR captures economic data on an annual basis at the conclusion of each calendar year's crab fisheries. The 2010 EDR was collected in June and July 2011. Participation in the data collection program is mandatory for all participants in the BSAI crab fisheries. Any owner or leaseholder of a vessel or plant that harvested or processed crab in any of the Bering Sea and Aleutian Islands crab fisheries during 2010 were required to submit an annual report.

EDRs were mailed to crab processing plants and vessels, collected, tracked, reported to RAM for permit and quota issuance, and reviewed for completeness. The EDR data was entered, archived and submitted to NMFS for analysis. PSMFC hired AKT, LLC to conduct random and outlier audits on the 2010 annual EDRs. These audits are being conducted to verify the quality of data collected in the EDRs as well as to provide guidance on improving future EDRs. This process is repeated every year for the previous year's fishery.

AKFIN built a relational database to house data, standardized variables and conducted metric analysis to help describe data. Reports and Forms are being built to allow permitted researchers access to the data.

Amendment 80 Economic Data Reports

Amendment 80 was adopted by the North Pacific Fishery Management Council (Council) in June 2006. The final rule implementing Amendment 80 published in the Federal Register on September 14, 2007. This action allocates several Bering Sea and Aleutian Islands (BSAI) non-pollock trawl groundfish species among trawl fishery sectors, and facilitate the formation of harvesting cooperatives in the non-American Fisheries Act (non-AFA) trawl catcher/processor sector.

The Council adopted Amendment 80 to meet the broad goals of: (1) improving retention and utilization of fishery resources by the non-AFA trawl catcher/processor fleet by extending the groundfish retention standard (GRS) to non-AFA trawl catcher/processor vessels of all lengths; (2) allocating fishery resources among BSAI trawl harvesters in consideration of historic and present harvest patterns and future harvest needs; (3) authorizing the allocation of groundfish species to harvesting cooperatives and establishing a limited access privilege program (LAPP) for the non-AFA trawl catcher/processors to reduce potential GRS compliance costs, encourage fishing practices with lower discard rates, and improve the opportunity for increasing the value of harvested species; and (4) limiting the ability of non-AFA trawl catcher/processors to expand their harvesting capacity into other fisheries not managed under a LAPP.

The groundfish species in the BSAI directly affected by Amendment 80 include:

- Atka mackerel
- Aleutian Islands Pacific ocean perch
- Flathead sole
- Pacific cod
- Rock sole
- Yellowfin sole

In addition, Amendment 80 would modify the management of halibut and crab prohibited species catch (PSC) limits.

Pacific States Marine Fisheries Commission (PSMFC) has been designated by NMFS to be the Data Collection Agent (DCA) for the Amendment 80 EDR program. The first annual Amendment 80 EDRs were collected in June 2010 for the 2009 calendar year.

In 2011, the 2010 annual EDRs were mailed to catcher processors, collected, tracked, reported to RAM for permit and quota issuance, and reviewed for completeness. The EDR data was entered, archived and submitted to NMFS for analysis. PSMFC hired RSM McGladrey, Inc. to conduct audits on the 2010 annual EDRs. These audits are being conducted to verify the quality of data collected in the EDRs as well as to provide guidance on improving future EDRs. This process is repeated every year for the previous year's fishery.

AKFIN built a relational database to house data, standardized variables and conducted metric analysis to help describe data. Reports and Forms are being built to allow permitted researchers access to the data.

The **Pacific Fisheries Information Network (PacFIN)** is the nation's first regional fisheries data network. Funded by a grant from the National Marine Fisheries Service (NMFS), PacFIN is a joint federal and state project focused on fisheries data collection and information management. PacFIN provides timely and accurate data to aid effective management of fisheries and fishery resources.

In 2011, the PacFIN Office updated the central database with regular datafeeds from eleven data sources and responded to at least 120 requests-for-information. Various selections of standard PacFIN reports were generated weekly or monthly and uploaded to the PSMFC and PacFIN website.

Following are highlights of PacFIN central office activities in 2011:

Internal System Upgrades
Internal system upgrades related to maintaining the success of current production applications were performed. These activities are supportive in nature and included database performance improvements, new production automation and retrieval scripts, new documentation and metadata.

Oracle Database Support
Contracted services were employed to provide database administration (DBA) support, including: Oracle software maintenance services to apply critical patches and database upgrades when necessary; database monitoring to include regularly scheduled checks of logs; backup procedures; and statistics and consultation regarding performance, upgrades and database tools and functionality.

PacFIN User Support
PacFIN staff continued to work with clients to establish accounts, grant table access and assist with data retrievals from the PacFIN prowfish server environment.

West Coast Small Boat Registry database project
A new contract with the Washington Department of Licensing (WA-DOL) was implemented to take effect January 1, 2012. The new contract provides for a continuation of weekly updates of WA-DOL vessel registration data to PacFIN.

PacFIN Explorer tool upgrades
The web-based "PacFIN Explorer" tool, now in full production, continues to expand its user base with authorized users via password protected accounts on the non-public side of the website. PacFIN Explorer is a data warehouse-style multi-dimensional query tool that selects data directly from the PacFIN database. Using dimensions, measures and filters, clients can build custom queries quickly and easily. This query tool is continually being refined to add additional features as requested by the designated user community.

Reporting landings from Alaska areas to Washington ports
In response to a request from the Alaska Department of Fish & Game (ADFG) and authorized by the Washington Department of Fish and Wildlife (WDFW), a web query form was created to extract commercial catch from Alaska areas that is landed in Washington ports. The web interface is password protected with access granted to a limited number of authorized individuals with signed non-disclosure forms on file with the PacFIN office.

Effort to attain accurate coast-wide reporting of federal permit identifiers on fish tickets
The absence of a command and control system for assigning catch to multiple federal permits assigned to a single vessel (stacked permits), each with varying trip limits, has proven challenging to accurate in-season reporting. In recognition of the importance of accurately estimating in-season landings attributed to the sablefish Daily Trip Limit (DTL) fishery, the Pacific Coast Fisheries Data Committee (PCFDC), meeting in late November of 2011, discussed the importance of accurate data capture and reporting of federal limited entry permit identifiers on fish tickets. To that end, a briefing was prepared for presentation to the Pacific Fishery Management Council (PFMC) at its April of 2012 meeting. The briefing makes the case for full compliance and validation of existing state agency requirements to accurately report permit identifiers on fish tickets. Currently, an algorithm designed to estimate Primary and DTL landings is applied. The algorithm is an attempt to provide the best possible in-season estimate of

the fixed gear sablefish distribution between primary season and DTL landings. However, since in the case of stacked permits, there is no way of knowing which limited entry permit the landings receipts are counted against, this algorithm uses logic agreed upon with the GMT to distribute landings across all stacked permits, taking into account differing tier limits on each permit and additional complications of in-season permit transfers. This was determined to be the best available method in the absence of accurate, validated reporting of permit assignments in the source fish ticket data.

QSM Software adaption to track IFQ fixed gear sablefish landings

The effort to isolate fixed gear sablefish landings attributed to the IFQ fishery was enhanced during this period with the application of in-season electronic fish ticket reporting data to identify IFQ fish tickets. This enhancement is a replacement for the previous application of fishing declarations data provided by NOAA/OLE. The OLE data, while useful, was never as complete as the electronic reporting data. The IFQ designation is used to determine when to exclude fixed gear sablefish landings (taken under a trawl permit and to be applied to an IFQ account) from the QSM Primary and DTL fixed gear sablefish landings reported in the QSM system. In the past, all sablefish landed on a trawl endorsed federal permit were tracked as trawl gear sablefish landings and excluded from the fixed gear Primary/DTL distribution in our QSM system. Now that IFQ account fishers with a limited entry trawl permit can "take IFQ species using any legal groundfish non-trawl gear" under the gear switching provision of federal regulation 660.140 and can also fish outside of their IFQ account with non-trawl gear in the fixed gear Primary and DTL fisheries, we needed to determine when they are fishing against their IFQ with fixed gear and when they are not.

HMS DRIFT GILLNET GEAR CORRECTIONS

Highly Migratory Species (HMS) gear code corrections were presented at the PCFDC meeting and to the HMS management team for final approval. The gear correction algorithm in PacFIN was developed in consultation with the HMS management team. It was agreed that HMS landings with miscoded gear types that have been conclusively identified as Drift Gillnet (DGN) by the HMS team should be corrected in the PacFIN database. This was accomplished with the revision of existing gear correction software. It was also agreed that in order to retain the original gear assignment from the CDFG source data, a new column named "gear_original" would be added to the FTL table. Both tasks were complete in 2011and resulting data improvements have been applied to the current stock assessment cycle.

Groundfish "sectors" reporting application

New work in response to the Kit Dahl request for reporting by groundfish "sectors" culminated in the addition of a new field in the PacFIN VDRFD table, which also allows for web based retrievals with the PacFIN Explorer tool. The field "dahl_sector" in the vdrfd table contains numeric codes identifying groundfish "sectors." These sectors are meant to identify landings according to fishery components, or sectors, used in management. Sectors are defined through a combination of species composition of landings, gear type, and permit status, among other factors. It should be noted that the results of this coding may differ from other categorizations of landings, such as that developed by the West Coast Groundfish Observer Program in their total mortality reports, because of differences in the underlying data structure (e.g., use of fish ticket data versus vessel summary data) and the procedures used to code the data. The dahl_sector codes are assigned at the vessel-day-gear level and species composition criteria used in sector coding are calculated on a vessel-day-gear basis (agid+drvid+tdate+grgroup).

NOAA/FIS/FOSS summary table addition

A new table to support the FIS Fisheries One Stop Shop (FOSS) project was completed during this period. The table includes annual catch and value summaries by species for on-shore and at-sea West Coast landings. A database link was established with the FOSS database server to allow for direct access to this table.

New procedure manual developed

A comprehensive revision of the PacFIN procedure manual was initiated during this period. The effort will update documentation of daily, weekly, monthly and annual procedures.

New staff hire

Kara McLean joined the PacFIN central office staff in October, filling the vacant Data Management Specialist position. She attended a training course in Oracle 11g fundamentals, October 31 – November 3.

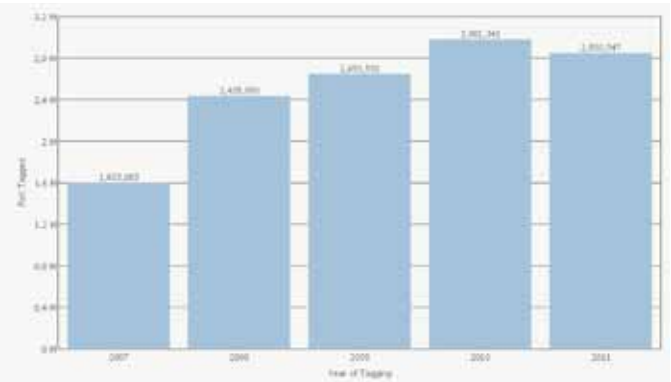
Meetings and Seminars

The Annual Pacific Coast Fisheries Data Committee (PCFDC) meeting was held November 29 – 30 in Portland, OR. PacFIN staff attended and presented.

The **Columbia River PIT Tag Information System (PTAGIS)** is a data collection, distribution and coordination project.

Over 2.7 million fish were marked with passive integrated transponder (PIT) tags in calendar year 2011 (Table 1). The proportions of salmon and steelhead tagged in 2011 were similar to those species tagged in 2010 (Table 2). In 2011, more than 1.1 million distinct tagged fish were detected by at least one interrogation site, generating over 1.7 million detection events (Table 3). One fish can generate many interrogation records as it passes through multiple PIT tag antennas at one or more detection sites. Over 15 million interrogation records were reported to PTAGIS in 2011 (Table 4).

TABLE 1

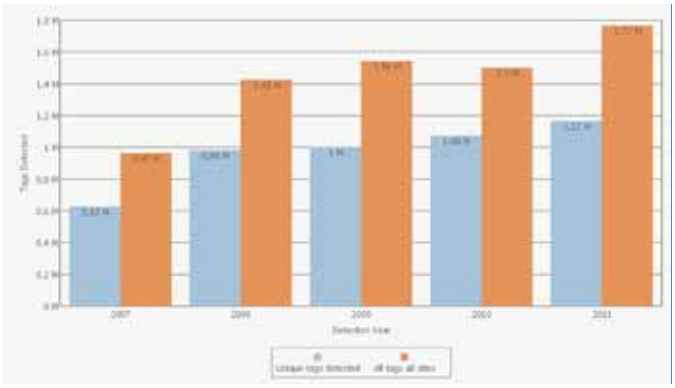


Number of fish marked with PIT tags, 2007-2011.

TABLE 2

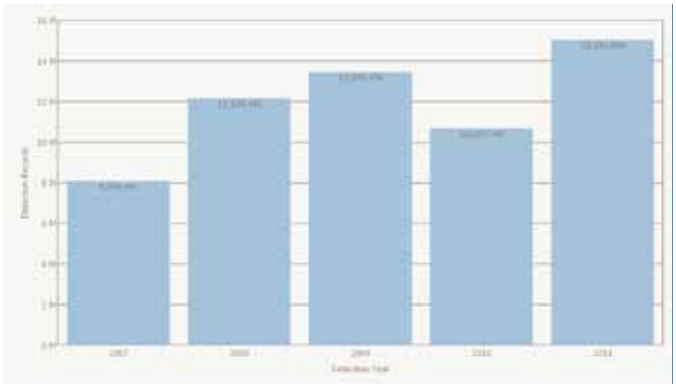
Proportions of fish marked with PIT tags, 2007-2011.

TABLE 3



Number of unique PIT tags detected (blue) and the number of all tags detected at all sites (orange), 2007-2011.

TABLE 4



Number of PIT tag detection records, 2007-2011.

PTAGIS continued to develop and maintain the software and systems used to collect and distribute PIT tag data. PTAGIS operated and maintained 24 interrogation sites with more than 410 PIT tag detectors. In 2011, the PTAGIS project implemented 18 Separation-by-Code projects for 12 agencies or organizations. PTAGIS distributed 1.65 million tags to 81 BPA Fish and Wildlife Projects. Also in 2011, 426 registered account holders accessed the PTAGIS database. These users completed almost 22.1 thousand queries, retrieving over 2.5 billion data records.

The **Recreational Fisheries Information Network (RecFIN)** is a cooperative effort between the state fishery agencies in Washington, Oregon, and California, the Pacific States Marine Fisheries Commission (PSMFC), and National Marine Fisheries Service (NMFS). The four goals of RecFIN are as follows:

- Develop and implement a State/Federal cooperative program for a coastwide marine recreational fisheries data system;
- Coordinate collection, management, and dissemination of Pacific coast marine recreational fishery data;
- Provide the data in a central location on a timely basis in the format needed to support state and federal work on Pacific marine recreational fisheries; and
- Reduce and avoid duplication of data collection efforts between RecFIN members.

The database contains recreational fishery data for the years 1980-89 and 1993 to the present. The primary source of data in the RecFIN database comes from the following five state sampling programs: Oregon: Oregon Recreational Boat Survey (ORBS) and the Oregon Shore and Estuary Boats Survey (SEB); Washington: Washington Ocean Sampling Program (OSP) and the Washington Puget Sound Boat Survey; California: California Recreational Fisheries Survey (CRFS). These programs are funded by NMFS along with state agency funding in all three states. The survey is spread out over about 800 fishing sites coastwide in the three states. Of these sites, about 57% are in California, 10% in Oregon and 33% in Washington state.

In 2011:
The state of California and PSMFC conducted the CRFS in California. Over 90,000 angler trips were sampled during the 12 month sampling program.

PSMFC provided partial funding for sampling in Oregon and Washington through RecFIN. Sampling was conducted by the states. A total of about 40% of all ocean boat angler trips were sampled in Oregon in 2011, where sampling occurred from March through October. A pilot survey funded through the Marine Recreational Information Program (MRIP) from NMFS allowed for winter sampling and sampling of minor ports that has not been done in a few years. As a result sampling occurred year round in 2011 in Oregon. These estimates were posted to the RecFIN database. The Oregon Shore and Estuary Boat Survey (SEB) was not conducted in 2011 because of insufficient funding.

The state of Washington conducted their Ocean Boat Survey and the Puget Sound Boat Survey in 2011. Sampling occurred throughout the year in Puget Sound and also year round on the coast as a result of an MRIP project that allowed for winter sampling similar to what was done in Oregon. Sampling rates were at about 40% of all ocean boat trips.

Two states utilized their angler license frame for estimation of fishing effort in certain modes of fishing. These include Puget Sound Boat trips in Washington and shore and private access and night boat effort in California. All other modes of fishing in the three states are estimated from direct field counts.

All catch and effort information for each sampling month from the various surveys are loaded into the RecFIN database maintained at PSMFC with a one-month lag time. Detailed explanations of the sampling conducted, sampling methodology and estimation statistics of the various sampling programs along with catch and effort information and estimates by month are available for all three states (OR, WA & CA) on the RecFIN website [www.recfin.org]. Beginning in late 2010, the RecFIN website completed a revision with a new look to provide easier access to catch and effort data and include updates to match recent management changes by the states and the Pacific Fishery Management Council.

In 2011, a Marine Recreational Information Program (MRIP) project was funded to review the California Recreational Fisheries Survey methodology by the MRIP contract statistical consultants. Similar reviews were done for the Oregon Recreational Boat Survey (ORBS) and the Washington Ocean Sampling Program (OSP). This completes a statistical review of the sampling methodology for all three states and for the major components providing catch and effort information to the RecFIN database. Finally, the redesign of the RecFIN database was completed in 2011 and further fine-tuning of the options on the database will continue based on user's input and evolving uses of RecFIN data.

Regional Mark Processing Center

The Regional Mark Processing Center (RMPC) serves federal, state, tribal and private fisheries agencies of the entire Pacific Coast by processing and exchanging coded wire tag (CWT) release, recovery and associated catch sample information. The RMPC adopts new data formats and implements software, hardware and personnel enhancements, in order to meet evolving CWT informational needs by the Pacific Salmon Commission (PSC) and other agencies, in support of the Pacific Salmon Treaty. In addition, the RMPC has the responsibility of serving as the single United States database to exchange CWT information with Canada in PSC format on a regular basis. The RMPC maintains the Regional Mark Information System (RMIS) database and coordinates the acquisition and validation of these data from the various agencies. Funding is provided by the U.S. Fish and Wildlife Service, PSC, NOAA Fisheries and Bonneville Power Administration (BPA). Over 50 million coded wire tagged fish are released Pacific Coast-wide every year, with approximately 1,200 different coded wire tag codes.

Data Validation
The CWT data load programs were upgraded to perform more rigorous cross-table checks of tag releases in format version 4.1 when validating newly submitted tag recovery datasets. This is an ongoing project as data uploading errors are identified and corrected. The staff worked closely with several agencies to implement improved validation of new data before it is merged with RMIS and to correct historical data already in the database.

Data Integrity
Maintaining data integrity is an important aspect of maintaining large databases and considerable time was spent working with the various data reporting agencies to resolve various inconsistencies found in the CWT data sets. While the number of errors was relatively small, it took considerable effort to resolve the reasons for the errors and to then correct them. Also significant effort was put into adding GPS coordinates (latitudes and longitudes) for land based release and recovery locations. This provides for more accurate mapping of the data.

RMPC Web Site
New updated information has been added to the RMPC website. Fifty-seven years of the proceedings of the Northwest Fish Culture Conference are now available, scientific papers related to the use of coded wire tags have been added and other relevant material is added as requested or the need arises. See: http://www.rmpc.org

Missing Recovery Data
Missing freshwater CWT recovery data for certain areas have been identified. The RMPC continues to work closely with the responsible agencies to coordinate the filling of those data gaps.

Fish Tagging Forum
Staff participated in the Northwest Power and Conservation Council's Fish Tagging Forum which was formed to study the efficacy of the various tagging strategies being used in the Columbia River basin. The forum was tasked to make recommendations to the Council for future tagging strategies and funding.

Annual Meeting of the Regional Committee on Marking and Tagging
The 2011 meeting of the Regional Committee on Marking and Tagging was hosted by the Department of Fisheries and Oceans Canada. Twenty-one people from around the region attended the meeting. Key issues included discussions and updates on coast-wide mass marking, coded wire tagging and selective fisheries activities. Other issues discussed: implementation of the new version 4.1 format of the database; guidelines for submitting data description files; information on RMIS usage by agencies; PSC Data Sharing Committee activities; PSC Selective Fisheries Evaluation Committee findings; Pacific Salmon Treaty funding to Canada and the States for CWT program improvements; results of CWT detection wand studies on Chinook done by Canada and by the NW Indian Fisheries Commission. Also, each participating agency gave an update on their marking and tagging activities in the region. NOAA Fisheries-Alaska staff gave an update on high seas CWT sampling and recoveries in the by-catch of Alaskan Pollock fisheries. Northwest Marine Technology staff gave a presentation on product updates and in particular the hand held tag

detector which is able to detect tags at a greater distance, thereby eliminating the need for mouth wanding of large salmon. It was agreed that the Regional Agreement document be edited and updated which was done later in the year.

Regional Coordination

RMPC staff participated in Pacific Salmon Commission committees and regional science and management teams to assist with coordinating coded wire tagging activities and providing CWT data. The RMPC continues working closely with Idaho Fish and Game in providing PSMFC staff to work on their hatchery data under a contract with the Lower Snake River Compensation Plan and with Oregon and Washington Departments of Fish and Wildlife to implement the coded wire tag recovery program in sampling sport, commercial and tribal fisheries for salmon and steelhead carrying CWTs under a Bonneville Power Administration funded contract. The recovered tags are read and decoded and the information is added to the RMIS database for use by fish management agencies to make science based decisions regarding populations of salmon and steelhead in the region. Staff also assisted research biologists in the region to acquire the CWT data they need for their projects.

Coded Wire Tag Data

New data recorded in the RMIS database in 2011 included over 1,100 differentially tagged groups of salmon released, comprising over 63 million tagged fish. Also, 218,000 fish were recovered with tags that were decoded and added to the database over the year.

Number of data rows in RMIS database tables added during calendar year 2011:

- Releases: 671 rows
- Recoveries: 181,494 rows
- Catch/Sample: 3,564 rows
- Locations: 242 rows

This data was received from multiple agencies from the member states of the Commission, was processed and validated to ensure accuracy and uploaded to the RMIS server. All the data is available to fisheries scientists and the public via the RMPC web site within 24 hours of receiving it.

A Chinook salmon containing a coded wire tag that was sampled from a commercial fishery.

The **StreamNet** project continued its function of disseminating standardized fish related data from the fisheries management agencies and tribes to data users in the Pacific Northwest. The project is funded by Bonneville Power Administration (BPA) through the Northwest Power and Conservation Council's Fish and Wildlife Program. The project is now supported under two separate contracts from BPA to PSMFC and the Columbia River Inter-Tribal Fish Commission, but the project continues to function as a single entity.

2011 found the project taking several new directions, including exploring the potential to disseminate higher level derived data and making significant progress in assisting partner agencies build internal database capacity. This was in addition to routine acquisition, standardization, georeferencing and dissemination of slightly summarized field level data.

The project pursued a new effort to locate derived data for use in broad scale reporting and assessment as a key participant in the Coordinated Assessments (CA) project, co-managed by the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) and the Columbia Basin Fish and Wildlife Authority (CBFWA). PNAMP, CBFWA and StreamNet constituted the core leadership team for the CA project.

The CA project is working with the state and tribal fisheries agencies/programs (the agencies) to develop a program of sharing data essential for assessing population status and productivity and fulfilling reporting requirements for the Federal Columbia River Power System Biological Opinion and other Endangered Species Act restoration activities. In 2011 CA conducted a pilot effort to initiate sharing of three high level indicators for the Viable Salmonid Population (VSP) model, along with metrics essential for calculating the indicators. Longer term, the intent is to expand the effort to a wider number of VSP indicators and other data useful for assessing habitat restoration and hatchery management program effectiveness, and to develop a Data Exchange Network for sharing the data.

In 2011, StreamNet assisted in developing a pilot Data Exchange Template (DET) that describes the specific data fields to be shared through the CA effort. StreamNet hired, trained and managed 10 data specialists in the pilot effort to locate the target indicators and metrics in the agencies and help the agencies identify gaps and needs impeding their ability to provide these data on a regular basis. The agencies then developed strategies for addressing the gaps and needs, which were consolidated in a basin-wide strategy document, available at http://www.pnamp.org/document/3546. Near the end of the year, StreamNet took on the role of leading finalization of the DET and developing tools to assist the agencies locate, organize and provide the data, all to take place in 2012.

Agency data system development made significant progress in 2011. The Idaho StreamNet data compiler was able to query data directly from the Idaho Fish and Wildlife Information System database, which StreamNet staff helped build, significantly shortening the time required to send standardized data to the StreamNet database and allowing him time to begin compiling additional data sets. StreamNet staff assisted WDFW with development of several database systems, and ODFW and StreamNet reached agreement on developing data systems that will be able to feed data to the Oregon Salmon Recovery Tracker online data tool. StreamNet staff at PSMFC, on other funding, also led development of a data system to estimate juvenile salmon production in the Central Valley of California, and continued support of a database project for occurrence data of coastal cutthroat trout.

StreamNet remains committed to working with fisheries management agencies and tribal fisheries programs to improve regional data sharing through collaboration and improved use of information technology.

CALIFORNIA DATA AND TECHNICAL ASSISTANCE PROJECTS

The California Cooperative Fish and Aquatic Habitat Data Program (**CalFish**) website (www.calfish.org), a multi-agency cooperative fisheries information site, is designed to gather, maintain, and disseminate fish and aquatic habitat data and data standards, and provides access to a growing number of fish and aquatic habitat datasets, through both geographical and tabular queries. Many of the following projects have data/ information available through the CalFish site.

The **California Habitat Restoration Project Database** (HRPD) effort continued to maintain and add data for projects funded through the California Anadromous Fish Restoration Grants Program. Work also continued with CALFED, a state/federal partnership conducting restoration efforts in the Central Valley. HRPD data is made available via the CalFish web site.

PSMFC continued to assist the California **Coastal Watershed Planning and Assessment Program** by providing field and technical staff and assistance to conduct stream habitat surveys and prepare watershed assessment plans for both the Northern and Southern coasts.

PSMFC continued work with the California Department of Fish and Game to assist them with the administrative aspects of conducting the **Adaptive Watershed Program**, which facilitates the completion of watershed, riparian, and stream habitat improvement projects to benefit salmon and steelhead streams of coastal California.

Continuing assistance was provided to the California **Ocean Salmon Program** by employing fisheries technicians at various coastal ports to sample commercial salmon fisheries, collect biological data and coded-wire tag information. Data collected are incorporated into the management and season setting for salmon fisheries coastwide.

The **California Passage Assessment Database** (PAD) locates and documents anadromous fish passage "sites" in all California coastal watersheds. This multi-agency cooperative effort has led to better information on known (and suspected) fish passage issues, and ultimately the correction of them through prioritized restoration projects and funding.

PSMFC continues to provide technical assistance and field staff for collecting and compiling data on the movement and timing of juvenile Chinook and Coho salmon (and other species) in the **Humboldt Bay Tributary Estuary Sampling Program**.

PSMFC's GIS and Data Specialists assist the CDFG Marine Region and the Resource Legacy Fund Foundation with **Marine Nearshore Habitat Data and Technical Assistance**. These positions provide daily technical assistance to staff responsible for the management of California marine species, habitat, and fisheries.

With funding provided by the California Department of Water Resources (CDWR), PSMFC is assisting CDWR and CDFG with the **Feather River Monitoring** project. Work includes data compilation and analysis for the Feather River (and Central Valley).

PSMFC Fisheries Technicians on the **Upper Sacramento Technical Assistance** projects continue to assist CDFG with running video monitoring stations, fish traps, conducting salmon carcass surveys, and collecting biological data.

PSMFC continued work with the California Department of Fish and Game to assist them with the administrative aspects of conducting the **Aquatic Resource Assessment Program**, by providing field technicians and research assistants to collect, compile, and analyze data and research on aquatic species, habitats, and natural communities.

PSMFC provides technical assistance and field staff for the **Coastal Restoration Monitoring and Evaluation** project. Staff monitors pending and completed coastal watershed restoration projects in California, collects habitat information, and compiles data. This information is used by managers to assess the success of restoration activities.

PSMFC's Southern California Habitat Assistant identifies habitat restoration projects such as erosion control, removal of fish barriers, and removal of non-native vegetation, in order to improve fish habitat and establish funding for the projects.

PSMFC continues to provide fisheries technicians in Mendocino County to assist in conducting a project designed to develop,

test, and implement the sampling scheme and field surveys described in the **CA Coastal Salmonid Monitoring Plan**.

PSMFC assisted in escapement surveys on the **Lower American River** to generate an estimate of spawners and their distribution, and conduct coded-wire tag surveys to accurately estimate occurrence of CWT fish in river and to obtain detailed information on sex and spawning status.

In the **San Joaquin River Basin**, PSMFC assists in water temperature data collection, conducting Stanislaus River Chinook salmon carcass survey, spawning Merced River Hatchery fall-run Chinook salmon, reading coded wire tags, data entry, fish screening, and monitoring entrainment of salmon into water diversions.

PSMFC is working with CDFG and the CDWR Head Lab to determine the **Age Structure of Central Valley Chinook Salmon Populations** by conducting scale analysis, assisting in the field collection of scales in Chinook escapement surveys, using the aging data in combination with coded-wire tag (CWT) recovery data to reconstruct the size of each returning brood year.

PSMFC assisted in successful completion of the fourth year of the **Central Valley Constant Fractional Marking Program**. The program is responsible for annually coded-wire tagging/adipose fin clipping 25% of the Fall Chinook salmon production in the Central Valley hatcheries.

At the **Coleman National Fish Hatchery**, PSMFC again provided seasonal personnel and services to assist the U.S. Fish and Wildlife Service mark and coded-wire tag juvenile Late-Fall Chinook salmon.

PSMFC assists in the implementation of the **Heritage and Wild Trout Program** by providing technical staff, expertise, supplies, and support services to assist with conducting high priority native trout resource assessment projects.

PSMFC administrative support assists the **Americorps Watershed Stewards Project** accomplish habitat restoration projects.

PSMFC is working with CDFG and the Ecosystem Restoration Program to develop a long-term **Comprehensive Central Valley Adult Chinook Salmon Escapement Monitoring Plan** and **Central Valley Steelhead Comprehensive Monitoring Plan** to estimate population status and trends in abundance in a statistically valid manner. These plans were completed in 2011.

PSMFC is working with the **Yuba County Water Agency, CDFG,** and other partners to implement field studies, monitoring, and other projects on the Lower Yuba River, including Rotary Screw Traps, Escapement Surveys, and the operation of the VAKI Riverwatcher Installation.

PSMFC assists with **Constant Fractional Marking (CFM) at Iron Gate Hatchery and Trinity River Hatchery** and provides staff and equipment to clip and tag 25% of all Chinook salmon released from the facility, which will provide critical harvest information to coastal Chinook life cycle monitoring programs.

PSMFC staff assists the **USFWS Comprehensive Assessment and Monitoring Program** by providing statistical analysis and database development

PSMFC provides assistance to the **USFWS National Fish Passage Program** to inventory and prioritize barriers to anadromous fish migration on the state highway system in Shasta and Tehama counties.

PSMFC provided staff assistance to conduct monitoring studies for **South Fork Eel River Coho**.

PSMFC personnel are assisting CDFG with the **migration of their web mapping technologies** from ArcIMS to an ArcGIS environment.

PSMFC is assisting the CA State Coastal Conservancy in conducting an in-stream flow study in the **Big Sur River and estuary**.

PSMFC provides support to the Heritage and Wild Trout Program's **Acoustic surveys on the Yuba River**.

PSMFC assists with the **Santa Ynez Watershed Assessment** as it documents the presence/ absence of steelhead, the habitat suitability, and restoration activities needed to facilitate the recovery of southern steelhead.

PSMFC provides assistance to complete the **Big Basin/ San Mateo Regional Area Spawning Ground Surveys** in order to estimate salmonid escapement in coastal streams.

PSMFC is assisting with the installation and implementation of **DIDSON Monitoring Stations** on Southern California streams.

PSMFC provides assistance to the **Battle Creek Fish and Ladder Monitoring Program**.

PSMFC provides staff and expertise to implement the **Sacramento Steelhead Monitoring Plan**.

Non-California projects (2011):

PSMFC provides technical expert assistance for the development of monitoring and evaluation strategies to support the **NMFS Salmon Recovery Plan** implementation.

PSMFC provides data stewardship services for the **NMFS Habitat Restoration Project Tracking Database**.

PSMFC provides personnel to assist the **IDFG Nampa Research Lab** with their fisheries research, field activities, and data management needs.

PSMFC provides technical and administrative support to implement the **IDFG Marking Program**.

PSMFC provides personnel and technical support to assist the **Lower Snake River Fish and Wildlife Compensation Plan** in managing hatchery data, and monitoring and evaluating hatchery efforts.

PSMFC provides personnel to assist with the implementation of fisheries management and research activities in the **IDFG Natural Production Section, Fisheries Management Section, and Eagle Fish Genetics Lab**.

PSMFC provides personnel to assist with collecting **DNA Genetic Samples in the Lower Columbia** for IDFG.

COOPERATIVE AGEING PROJECT

The **Newport Ageing Lab** was established to production age marine groundfish structures and is a collaboration between NOAA Fisheries and PSMFC. The lab is located in Newport, OR at the Northwest Fisheries Science Center (NWFSC), Barry Fisher Building. Otoliths, collected from federal surveys, observer programs and commercial catch, are the primary structures aged by this lab and are used to directly support U.S West Coast stock assessments. Age specific estimates of biomass, mortality and population trends are required to rigorously estimate the status of a fish stock. While this lab is primarily a production age reading lab, there are opportunities on an annual basis to conduct age-related research and assist in NMFS directed at-sea surveys.

In 2011, Newport Ageing Lab personnel:

- Continued ageing to support 7 U.S. West Coast groundfish stock assessments.

- Aged 23,276 otoliths from 9 species of U.S. West Coast groundfish, including: the rockfish - canary, darkblotched, Pacific Ocean perch, sunset and vermillion; the flatfish (sole) - Dover and petrale; and the roundfish - Pacific hake and sablefish. This includes the following types of ageing; production and double reads.
- Released 33,682 ages from 9 different species.
- Continued to populate the database that was put into place in 2010. This database allows the lab to track all data associated with a single specimen. The lab went 14 years without having this type of data management in place and we continue to add historic records to the database.
- Archived 30,782 age structures from 66 different species collected from NWFSC programs that include the At-Sea Hake Observer Program (ASHOP) and the groundfish trawl survey. This archive now encompasses 84 species and 229,827 structures collected from 2003 to 2011.
- Added 7,000 historic specimen records from Alaskan Fisheries Science Center directed surveys (AFSC) that took place from 1982 to 2002. This portion of our archive encompasses 13 species and 59,370 structures.
- Received the following number of otoliths from the states; 1086 otoliths from California (1 species), 10,280 otoliths from Oregon (7 species) and 2,431 otoliths from Washington (4 species). These structures will ultimately be sent back to the originating state agency after they are aged.
- Was involved in a collaborative project to determine the life history of vermillion and sunset rockfish. We finished ageing the vermillion in 2010 and began ageing the sunset in early 2011. The age and growth data will be included in a larger research project that is planned for future submission to a peer reviewed journal.
- Acquired 2 microbalances and we began to weigh otoliths before ageing them. It is possible that weight could be used a proxy for age and would facilitate the quick processing of historic samples that are un-aged. The lab weighed over 5,400 otoliths total from 3 different species.
- Hired 3 new age readers who started in November of 2011. The lab now has 7 personnel.
- One age reader participated in a leg of the 2011 NWFSC-directed Pacific hake Acoustic Survey.

FISH HABITAT EDUCATION PROGRAM

The **PSMFC Fish Habitat Program's** goal is to protect habitat for salmon and other marine fish species. It works to support conservation and restoration activities by watershed councils, promotes essential fish habitat and ecosystem based management policies, and conducts watershed tours for decision makers. These programs are funded primarily by the Wallop-Breaux Sport Fish Restoration program managed by USFWS. Additional support for habitat conservation work comes from NOAA's National Marine Fisheries Service which supported interstate work on marine debris and participation on Pacific Fishery Management Council's habitat committee, and work with Pacific Marine Estuarine Fish Habitat Partnership, and other regional forums. The National Fish and Wildlife Foundation through NOAA's Marine Debris Program provides grant funding to support gillnet recycling work.

Watershed Restoration Support

PSMFC coordinated, on behalf of a multi-entity steering committee, the first meeting of the Pacific Marine Estuarine Fish Habitat Partnership (FHP). A FHP is a national program (see www.fishhabiat.org) with federal, state, and non-governmental support, which provides funding and support to focus attention on habitat restoration efforts for key species or areas and accelerate and assist project to restore and conserve habitat. The meeting held in Portland, Oregon in May 2010 was designed to further develop and focus this candidate partnership, developing mission and goals that would help aid and add value to existing partnerships through a regional focus. It also sought to identify priority needs and determine the geographic scope for the group. Notes from that first meeting are posted on the website: http://www.psmfc.org/habitat/pmefhp.html. Through this first meeting, participants agreed that such a partnership would be valuable, agreed the work should be concentrated on fish habitat, not just salmon habitat, and agreed to continue efforts, expand the steering group, and seek funding for further work.

Habitat assessments, such as presented by Dr. K. Koski, will help inform the priorities for the Pacific Marine Estuarine Fish Habitat Partnership. (Photo by Fran Recht, PSMFC)

PSMFC also provides administrative and technical assistance and support to the Mid-Coast Watersheds Council and its partners to help further priority conservation and restoration efforts on Oregon's central coast, helping the group accomplish about a million dollars of work a year on priority conservation efforts (marsh habitat protection) and whole basin restoration work, informed by limiting factor assessments. Focus of the work is on conserving and improving habitat for coho, steelhead and other salmonids as well as restoring watershed function.

PSMFC administers a small grant program (from funds allocated by Oregon's Watershed Enhancement Board) that assists the Siuslaw and Mid-Coast areas of the central/south central coastal region with on-the ground project funding. This work allows $100,000 of state funds to be used over a two year period for small restoration projects ($10,000 and under) that meet priority basin needs.

PSMFC serves on the Alsea Stewardship Group, a multi-party group that works cooperatively with the U.S. Forest Service under federal stewardship contracting authority. This allows a portion of timber sale receipts (e.g. from thinning and commercial sales) to be retained in the Siuslaw National Forest for doing priority restoration projects as well as allows a portion of the funds to be used on restoration efforts on surrounding private lands (Wyden Authority) if there is a direct benefit to the forest watershed, fish and other species.

As part of the Yukon's fishery disaster relief program, a new gillnet was exchanged for larger web older nets that won't be legal to use. These nets, from the Lower Yukon will be consolidated with those from the upper Yukon and recycled into molded products. (Pictured, Fran Recht, helping load nets.)

Marine Debris Work

In the second year of a renewed effort to promote gillnet recycling in Alaska communities, Cordova, Dillingham, and Naknek, Alaska collected and shipped out about 60,000 lbs of webbing for recycling. Kenai was not able to revive its efforts. Petersburg is working to integrate net recycling into its general recycling program and has collected about 5000 lbs of unwanted netting. Juneau and Ketchikan Alaska initiated collection programs this year. For over 15 years, Seattle's Fishermen's Terminal and Bellingham's Squalicum Harbor have provided gillnet recycling opportunities for their fishermen. Additionally the Port of Seattle, with support from NOAA and the NFWF and Skagit River Steel and Recycling accept trawl nets from Alaska for recycling. PSMFC helps to promote awareness of this service. Funding from grant sources goes through PSMFC to local groups, including Indian Associations, a recycling group and a watershed council which hire their own local coordinator or use in-house staff to organize the net collection effort.

PSMFC has also been working to assure the recycling of gillnets from the Yukon that will no longer be allowed to be used, once gear regulation changes go into effect. The gear changes are a part of the Yukon River disaster relief program. NOAA funding has been sought to assure that distribution of new nets to fishermen will depend on exchange for an old net that will then be sent in for recycling. Only the webbing will be exchanged; the lead and cork lines from the old nets can be kept and re-used. The nylon gillnet webbing from all these communities goes to a recycler in Burlington, WA. The webbing is stockpiled until there is enough to bale for a container load (40,000 lbs). The materials are then marketed and shipped to the processor (generally overseas, although U.S. markets are developing for carpeting). There the web is chopped or ground up and then cleaned. This scrap is then melted and formed into small pellets. The pellets are sold into the secondary nylon market for manufacturers involved in the following industrial categories: auto parts, electronic parts, appliance parts, and utensils. The nylon pellets from the nets may be mixed with other nylon compounds or other compounds to make various parts. Some of the hundreds of molded items that can be made are: castors for chairs (wheels). chair bases after it is mixed with fiberglass, tool handles, autoparts. The technology has changed recently, so now recycled nylon is also able to be used in such things as plastic film (with a nylon filament) that lumber is wrapped up in, for example, upholstery and carpets.

PSMFC participates in the West Coast Governors Agreement on Ocean Health's Marine Debris action strategy team. A workshop was held in Seattle in early 2010 to concentrate on prevention and reduction of derelict fishing gear and planning was conducted for a workshop concentrating on land-based sources of marine debris to be held in early 2011 in San Francisco. Other actions involve promoting a derelict gear database for the west coast and setting up a multi-state coordinating body for marine debris focus.

Watershed Tours

PSMFC's watershed tour program is aimed at getting state, county, and city decision makers, the media, funding entities, and restoration project planners together with agency officials and local restoration practitioners to view habitat protection and restoration efforts and highlight needs for continued support for priority projects.

PSMFC helped sponsor watershed tours in March for restoration practitioners at the Salmonid Restoration Conference in Santa Cruz, California. Tour participants visited various types of stream restoration projects in Clear Creek, Battle Creek, the Upper Trinity River, the Shasta River, the Upper Sacramento River. A gravel augmentation project was also a focus of one of the tours.

Washington tours called 'Flying for Fish Habitat' are aerial tours conducted with the collaboration and assistance of Lighthawk, a non-profit group, which helps schedule volunteer projects and their planes. In 2010, the Flying for Fish Habitat Program coordinated flights with county commissioners and state senators to help assure continued funding for the high priority habitat work by the Nisqually Tribe on Ohop Creek removing dikes and re-establishing meanders on the mainstem. It also conducted flights in the Samish Watershed that highlighted priority water quality issues.

NORTHERN PIKEMINNOW PREDATOR CONTROL PROGRAM

The **Northern Pikeminnow Predator Control Program** is a joint effort between the fishery agencies of the states of Washington and Oregon, and the Pacific States Marine Fisheries Commission (PSMFC). This 2011 season marked the 21st consecutive year of the Sport Reward Fishery component of the program. The Washington Department of Fish and Wildlife operated the sport-reward registration/creel check stations throughout the river and handled all fish checked into the program. Oregon Department of Fish and Wildlife provided fish tagging services, population studies, food habit and reproductive studies, as well as exploitation rate estimates. The Pacific States Marine Fisheries Commission provided fiscal and contractual oversight for all segments of the Program and processed all reward vouchers for sport-reward anglers.

Highlights of the 2011 Season:

A program total of 173,981 fish were harvested in the sport-reward fishery.

Vouchers for 153,999 fish of the 155,057 total catch were submitted for payment with rewards totaling $984,688 including $6,010 paid as incentive coupons.

Rewards were paid at $4 for the first 100 fish caught during the season, $5 for fish caught in the 101-400 range, and $8 for all fish caught by an angler above 400 fish. Tagged fish rewards were $500.

A total of 1,108 anglers who registered were successful in catching one or more fish in 2011. The 2011 season ran from May 1, 2011 through October 10, 2011.

A total of 155 tagged fish were caught. Anglers were issued a special tagged fish voucher for all tagged fish brought to the registration station. The tag voucher was then sent in with the tag for verification and payment of $500 was made for each tagged fish. This resulted in tag reward payments of $77,500.

System-wide exploitation in 2011 of northern pikeminnow 250 mm or greater in fork length was 15.6% which incorporated a tag loss of 2.7%. The 2011 estimated reduction in potential predation was 36% lower than pre-program levels based on the 2011 exploitation rate.

WEST COAST GROUNDFISH OBSERVER PROGRAM

The **West Coast Groundfish Observer Program (WCGOP)** provides coast wide estimates of discards across groundfish fisheries throughout the year. The data used for these estimates are derived from data collected by observers at sea. These estimates are an important component to stock assessments and the management of groundfish stocks on the West Coast. Observers collect scientific, management, and other data through on-board interviews with vessel captains and crew, observations of fishing operations, measurements of selected portions of the catch and fishing gear and collection of biological samples.

The WCGOP continued its efforts to collect discard data in the West Coast groundfish fisheries during 2011 while adjusting to the implementation of catch shares for the limited entry trawl fleet in January 2011. One of the stipulations of the catch share fishery is the vessels in this fishery must have 100% observer coverage. This change required the West Coast Groundfish Observer Program to quickly adapt to accommodate the much higher number of observers needed to cover this fishery at the same time maintaining observer coverage in all the other groundfish fisheries on the west coast. The observer program operated under two separate cooperative agreements with NOAA, one for the catch share fishery and one for the non-catch share fisheries. Non-catch share fisheries are all other groundfish fisheries not included in the catch share fishery.

PSMFC has worked closely with NMFS to continue to adapt to the implementation of the catch share fishery. In preparation for the catch share implementation the program trained 119 catch share observers from November 2010-December 2011. In addition, for the non-catch share fisheries the WCGOP trained or briefed a total of 27 observers. Managing staff resources and prioritizing duties have been key tasks in 2011 as the program had up to 87 active catch share observers and maintained an observer core in the non-catch share fisheries of 13-40 observers seasonally matched to the fishing efforts of the groundfish fleets. In 2011, the WCGOP had 9,994 sea days with 7,892 of those in the catch share fishery and 2,102 in the non-catch share fishery.

In addition, PSMFC staff worked to procure observer gear to supply to the observers. This gear includes safety and sampling gear. Observers will be provided a net book with a broadband card to allow them to access the NOAA observer database and enter their data into the system.

2011 was the tenth year the WCGOP actively deployed observers in a variety West Czoast groundfish fisheries. The program has standardized its sampling and vessel coverage plans while remaining flexible to the needs of an evolving sampling plan created by the WCGOP with help from stock assessment authors and the Pacific Fisheries Management Council. Observers collect scientific, management, and other data through on-board interviews with vessel captains and crew, observations of fishing operations, measurements of selected portions of the catch and fishing gear and collection of biological samples.

The WCGOP Data Reports can be found at
http://www.nwfsc.noaa.gov/research/divisions/fram/observer/datareport/index.cfm.

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INDEPENDENT AUDITORS' REPORT

To the Board of Commissioners
Pacific States Marine Fisheries Commission
Portland, Oregon

We have audited the accompanying basic financial statements of the Pacific States Marine Fisheries Commission (the Commission) as of and for the years ended June 30, 2011 and 2010 as listed in the table of contents. These basic financial statements are the responsibility of the Commission's management. Our responsibility is to express an opinion on these basic financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the basic financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the basic financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the basic financial statements referred to above present fairly, in all material respects, the financial position of the Pacific States Marine Fisheries Commission as of June 30, 2011 and 2010 and the changes in its net assets for the years then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards*, we have also issued a report dated December 12, 2011 on our consideration of the Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in conjunction with this report in considering the results of our audits.

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 7 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by U.S. Office of Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*, and is also not a required part of the basic financial statements. The schedule of expenditures of federal awards is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

AKT LLP

Lake Oswego, Oregon
December 12, 2011

HEADQUARTERS STAFF 2011

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