



Pacific States Marine Fisheries Commission
2016 ANNUAL REPORT

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AND THE GOVERNORS AND LEGISLATURES OF
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69TH ANNUAL REPORT OF THE PACIFIC STATES MARINE FISHERIES COMMISSION

— *Alaska, California, Idaho, Oregon and Washington* —

2016

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.

Respectfully submitted,

PACIFIC STATES MARINE FISHERIES COMMISSION

RANDY FISHER, *Executive Director*

Headquarters

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COMMISSIONERS, ADVISORS AND COORDINATORS 2016

STATE	COMMISSIONERS	ADVISORS	COORDINATOR
Alaska	Charles Swanton Cathy Giessel Eric A. Olson	Terry Johnson Don Lane Matthew Moir Herman Savikko Beverly Hoffman	Karla Bush (ADFG)
California	Charlton H. Bonham Richard Gordon Barbara Emley	Jim Caito Ken Franke Donald K. Hansen Mike McCorkle Roger Thomas Kate Wing	Sonke Mastrup (CDFW)
Idaho	Virgil Moore Dan Johnson Vacant	Sharon Kiefer Ed Schriever Joe Stegner Jim Fredericks	Pete Hassemer (IDFG)
Oregon	Ed Bowles Jeff Feldner Caddy McKeown	Walter Chuck Steve Fick Liz Hamilton Dorothy Lowman Lori Steele Brad Pettinger Richard Heap	Caren Braby (ODFW)
Washington	Michele Culver Brian Blake Phil Anderson	Robert Alverson Irene Martin Dale Myer Robert Jones Al (Butch) Smith Steve Watrous	Heather Reed (WDFW)



MESSAGE FROM THE EXECUTIVE DIRECTOR

Randy Fisher, *Executive Director*

It is a pleasure to provide the 2016 Annual Report of the Pacific States Marine Fisheries Commission (PSMFC).

In addition to the PSMFC work that is reported here, we also joined with our sister Commissions to present our joint view to Congress regarding future funding priorities for the core missions of National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS).

The following are the Commissions views and comments on federal issues before Congress.

NOAA FISHERIES BUDGET

The Commission strongly supports full funding for the National Marine Fisheries Service in the Fiscal Year 2018 appropriation bill for the Commerce-Justice-Science line items. In an era of reduced federal and state spending, the Commission believes that funding for basic long-term fisheries management programs should be given priority over new initiatives. These priority programs include stock surveys, fisheries research, collection of fishery-dependent data, in-season management and observer sampling programs. Adequate funding should be provided to the States when Federal fisheries management or initiatives have been delegated to the States for implementation.

The Commission is concerned that initiatives such as the NOAA Climate Change Strategy, the corresponding Regional Action Plans, and the Ecosystem-Based Fishery Management Roadmap may be diminishing funding for the core fishery management and data programs. The Commission supports identifying new funding to address ecosystem management

plan development and implementation activities associated with building the capacity to address issues associated with climate change. The Commission also believes that new funding should be identified to augment coast-wide research and monitoring addressing changing ocean conditions, harmful algal blooms and ocean acidification.

We recommend that the Congress continue to place special emphasis on collaboration programs such as the Inter-Jurisdictional Fisheries Act which combine State and Federal funding for fishery and ocean projects. The Commission also supports full funding for the Regional Fishery Management Councils (RFMCs) and the NMFS Regions. Fisheries conservation and management programs are administered regionally. Stable funding for the States, RFMCs and the NMFS Regions is critical to successful fishery management.

The Commission strongly supports the continuation of NOAA funding for habitat conservation and restoration. NOAA awards collaboration grants from funds appropriated under the Sustainable Habitat Management line item for habitat restoration grants. These federal funds are leveraged with state, local, and private contributions for restoration projects. Each project has robust volunteer and community involvement.

The Commission also believes that the Salmon Management Activities line item of the NOAA Fisheries budget should be increased to reflect the importance of the Pacific Salmon Commission and the operation and maintenance of the Mitchell Act hatcheries, each of which is funded within this line item. The Mitchell Act funding levels have been static and are insufficient to meet the escalating costs of the production associated with mitigation for the construction and operation of the federal hydropower system, minimizing the adverse

effects of this mitigation on stocks listed under the Endangered Species Act, and meeting international expectations for production associated with implementing the Pacific Salmon Treaty. Washington State in particular is concerned about the insufficient funding for the maintenance, fish production and mass marking of hatchery fish below the Bonneville Dam. Additional funding is also necessary for the United States to participate in the negotiation of the annexes to the Pacific Salmon Treaty and in particular, for the voting-member States and Tribes to participate.

STATE AUTHORITY TO MANAGE THE WEST COAST DUNGENESS CRAB FISHERY

The Commission strongly supports the federal statutory provision to delegate management authority of West Coast Dungeness Crab to the States of Washington, Oregon, and California. The States jointly establish conservation goals through the Tri-State Dungeness Crab Committee with the assistance of the Commission. The States use their respective fishery landing and permit laws to ensure that fishermen in both state and federal waters comply with conservation and management measures. The management system has worked well for over two decades, freeing up the Pacific Fishery Management Council and NMFS Northwest Region to focus on more pressing fishery conservation issues.

The fishery is currently unregulated in federal waters. Unless the current authority is extended, the Pacific Fishery Management Council will be forced to move forward with a Dungeness Crab Management Fishery Management Plan. The federal costs of Plan development and implementation are estimated to be roughly \$1 million annually, costs which are being directed at a fishery that is already well managed and for which the States are covering management costs. We strongly recommend that the Congress pursue an extension of the statutory authority on an expedited basis.

WEST COAST WHALE ENTANGLEMENTS

NOAA Fisheries is using funds from the Bycatch Reduction Engineering Program to initiate collaborative efforts between marine mammal researchers and West Coast pot and longline

fishermen to better understand the increase in the number of large whales that have become entangled in recent years. A NOAA grant to the Commission will bring fishermen and marine mammal specialists together to explore new gear configurations or practices that may help reduce entanglements. PSMFC has scheduled a workshop of fishermen and other stakeholders during March 29-30, 2017 at the Embassy Suites in Portland, OR to explore ideas that could help minimize entanglements. PSMFC will distribute findings and recommendations from the workshop to the fishing community and identify regional fishermen willing to try new designs or practices on a voluntary basis. PSMFC will then work with fishermen to test the most promising approaches. The collaborative effort to identify solutions is supported by crab fishing industry groups and the fish and wildlife agencies in Washington, Oregon and California.

NPDES VESSEL INCIDENTAL DISCHARGE PERMIT MORATORIUM

The Commission continues to strongly support legislation to make permanent the moratorium on NPDES Vessel Incidental Discharge Permits for commercial fishing and small passenger fishing vessels regardless of size, and for all commercial-use vessels less than 79 feet in length. This legislation was originally introduced as S. 371, and was rolled into both the Coast Guard Reauthorization legislation and the National Defense Authorization Act (“NDAA”) in the 114th Congress.

S. 371 was not enacted because it became politically intertwined with efforts by large vessel operators to pre-empt State regulation of ballast water discharges in favor of a uniform international standard. Alaska, California, Oregon, and Washington voted in the Commission’s meeting to oppose Federal pre-emption of State ballast water management. Both the NPDES Vessel Incidental Discharge Permit Moratorium language and the Federal pre-emption language were removed from the NDAA in the waning moments of the 114th Congress.

The NPDES Incidental Discharge Permit Moratorium is due to expire at the end of 2017. We again urge the Congress to resolve this issue before expiration of the moratorium.

“REFI LEGISLATION”

Congress enacted the “Revitalizing the Economy of Fisheries in the Pacific Act” (commonly referred to as the “REFI” bill) as part of the Fiscal Year 2015 National Defense Authorization Act. The legislation would allow for the refinancing of the Pacific Coast Groundfish Fishing Capacity Reduction Loan (longer term, reduced repayment fees, and the current low Treasury rate). The federal Office of Management and Budget has ruled that the Congress must appropriate \$10 million to offset the revenues lost to the Treasury from accelerated repayment of principle; and an additional \$300,000 to meet the fiscal set-aside requirements of the Federal Credit Reform Act to secure the new loan refinancing. The REFI Legislation is an important element of the long-term plan to stabilize the West Coast groundfish industry and its dependent coastal communities. The Commission urges the Congress to either enact a waiver of the offset requirement or appropriate the \$10 million so that the refinancing can go forward.

COAST GUARD ALTERNATIVE SAFETY COMPLIANCE PROGRAM

The Congress tasked the US Coast Guard with working with the commercial fishing industry to develop an alternative safety compliance program (“ASCP”) for vessels in excess of twenty-five years of age. The Coast Guard initiated the development of a mandatory alternative safety compliance program in 2016 to mixed results, triggering significant opposition from a wide swath of the commercial industry. On July 20th, 2016, the agency announced that it was discontinuing efforts to develop a mandatory program in favor of a voluntary Enhanced Oversight Program. In doing so, the Coast Guard appears to have reserved the right to resume future development of a mandatory ASCP.

The Commission is supporting the position that the Coast Guard’s Enhanced Oversight Program should remain voluntary on a permanent basis. The Commission supports the introduction and enactment of legislation to retain the voluntary nature of the program.

NOAA’S USE OF COMMERCIAL FISHING VESSELS FOR SCIENTIFIC RESEARCH

The Commission strongly supports NOAA’s current practice of chartering commercial

fishing vessels for scientific research under the current US Coast Guard vessel documentation endorsements. The Coast Guard sent a letter to NOAA in 2016 raising questions about whether a fishing vessel’s safety and inspection endorsement allows the owner of the vessel to engage in scientific research activities. NOAA is reliant on the commercial fishing sector for many of its fish surveys and data collection initiatives. Disqualification of commercial fishing vessels as scientific platforms would have an immediate adverse impact on NOAA’s science mission, and would impose economic harm on commercial fishermen.

The Commission is recommending that Congress encourage NOAA and the Coast Guard to resolve any outstanding issues related to the current policy and vessel chartering process to ensure that critical scientific research can continue without undue additional documentation and inspection burdens being imposed on vessel owners.

MARINE SANCTUARIES AND MONUMENTS

There continues to be concern expressed within the Congress about the use of executive authority to establish marine national monuments or marine sanctuaries. Both President Bush and President Obama have used Antiquities Act authority to establish large segments of the marine environment as National Monuments, with fishing activity either eliminated entirely or severely restricted. The Magnuson-Stevens Act (“MSA”) reauthorization bill passed in the House in 2016 contained a provision which would require the MSA conservation and management regime be used in regulating fishing within National Marine Monuments established unilaterally by the President pursuant to the Antiquities Act.

The eight US Regional Fishery Management Councils sent a letter to the President on June 26, 2016 urging the continuing use of the MSA to regulate fishing activities in any future protected area designation. The Commission supports the resolution issued by the eight Regional Councils. We believe the established and transparent scientific regional management process is the best approach to regulating commercial and recreational fishing activities within protected marine sanctuaries and monuments.



69TH ANNUAL BUSINESS MEETING SUMMARY

Pacific States Marine Fisheries Commission

Embassy Suites Downtown | Portland, Oregon | September 28, 2016

Chair Ed Bowles, *Oregon Commissioner* called the annual meeting to order at 7:30am. In attendance were:

Ed Bowles, *Oregon Commissioner*

Representative Caddy McKeown,
Oregon Commissioner

Jeff Feldner, *Oregon Commissioner*

Charles Swanton, *Alaska Commissioner*

Paul Gronholdt, *Alaska Commissioner - Elect*

Assemblyman Richard Gordon,
California Commissioner

Barbara Emley, *California Commissioner*

Sonke Mastrup,

*California Coordinator representing California
Commissioner Charlton Bonham*

Senator Dan Johnson, *Idaho Commissioner*

Sharon Kiefer, *Idaho Advisor, representing Idaho
Commissioner Virgil Moore*

Michele Culver, *Washington Commissioner*

Representative Brian Blake,
Washington Commissioner

Phil Anderson, *Washington Commissioner*

Chair Bowles: Requested a roll call for states' present. All PSMFC Member States were present.

Washington: Requested a moment to recognize the service and passing of Commissioner Harriet Spanel who had been on the Pacific States Marine Fisheries Commission for the past 25 years.

Chair Bowles asked for any new members to Pacific States Marine Fisheries Commission to be introduced.

Idaho recognized Jim Federicks as an Advisor, Alaska recognized Paul Gronholdt as a Commissioner, Washington recognized Phil

Anderson as a Commissioner and Al Smith as an Advisor, Oregon recognized Caren Braby as the Oregon Coordinator.

Chair Bowles called for Sharon Kiefer to report the Executive Committee's recommendation to approve the FY17 PSMFC budget as presented. The Commission adopted it unanimously.

The Commission adopted the Executive Committee recommended to approve the 2015 Annual Business Meeting minutes unanimously. In addition, it was noted that the Committee reviewed and accepted PSMFC's independent audit for the period ending June 30, 2016.

Chair Bowles wanted to review the resolution process that was discussed in the State caucuses on Tuesday. All the states appreciate the technical approach to voting, but there is still confusion on how the issue process carries forward relative to the resolutions already on the books.

Washington commented, sometimes in the past the Commission reaffirmed issues to help sharpen emphasis to PSMFC staff the importance of a particular issue.

Randy Fisher, PSMFC Executive Director confirmed, that to reaffirm an act continue you in the direction that the Commission want staff to take. Now, in some instances if there is a change we either bring it here or we would just drop it. For this particular year there's eight that are reaffirm, we can either take those as a block or we can move right through them because it reaffirming something you have already told us to do in the past.

The Commission asked Randy and PSMFC Staff to develop a process to track the resolutions Chair Bowles made an additional request for Randy to flag those resolutions that are no longer relevant and the Commission can vote on those, in a batch to save time in the Business Meeting. Those resolutions can be included in the Executive Committee pre-meeting work and would come as a recommendation to save time at the business meeting.

Chair Bowles asked Randy to go thru the resolutions that are reaffirmations and could be discussed about in a block.

I. Expand lab capacity for seafood safety testing

Adopted Language: The West Coast suffers from limited capacity to detect seafood toxins at a time when demand for testing is growing. Explore and recommend options to include funding for facilities and testing procedures.

II. Mitigate Whale Entanglements

Adopted Language: PSMFC commits to work with States, Feds, Fishermen and NGO's to minimize and reduce whale entanglements.

III. Vessel Incidental Discharge Act S.371/373

Adopted Language: Reaffirmation of resolution IV from 2015. (support for permanent NPDES Incidental Discharge Permit Moratorium as stated in S. 371). Oppose S. 373 (Vessel Incidental Discharge Act {VIDA} and VIDA language in Title XXXVI Ballast Water of H.R. 4909 (National Defense Authorization Act – NDAA – of 2017).

IV. Fishery Disaster Insurance

Adopted Language: Pacific States to explore options associated with a fishery insurance program for fishery disasters.

V. Funding for the processing of chinook genetic samples

Adopted Language: The Commission supports the processing of genetic samples taken in 2016 specifically confined to the Kusokwin River.

VI. Use of Commercial Vessels for Scientific Research

Adopted Language: The Commission supports the continued use of commercial fishing vessels for scientific research under their current USCG vessel documentation endorsements.

VII. Ocean Acidification/Harmful Algae Blooms

Adopted Language: Commission supports finding new funding sources to augment coast-wide research and monitoring of changing ocean conditions.

VIII. Refinance of the Pacific Coast Ground Fishing capacity reduction loan

Adopted Language: Commission reaffirms issue 8. Re-affirmation of 2015 Resolution.

IX. Recovering America's Wildlife Act of 2016

Adopted Language: The Commission isn't taking a position on this. Direct Brad Gilman and Rick Marks to track the bill and let the Commission know of activities associated with it.

X. Marine Sanctuaries and Monuments

Adopted Language: The Commission supports the Regional Fishery Management Councils Resolution dated June 27, 2016 expressing support for the role of the MSA support relative to taking precedence over sanctuary or monument designations.

XI. Coast Guard Alternative Safety Compliance Program

Adopted Language: The Commission supports making this program a voluntary enhanced oversight program on a permanent basis, with an emphasis on voluntary.

XII. Affirming PSMFC's position on NMFS budget priorities

Adopted Language: The Commission supports prioritizing funding for base activities associated with managing fisheries including stock assessments, monitoring, sampling, in-season management activities and post season evaluation of management strategies. The Commission supports identifying new funding to address ecosystem management plan development and implementation and activities such as NMFS Climate strategy, the NMFS Ecosystem based fishery management roadmap and the regional action plans to implement the climate strategy.

XIII. Fishery Independent Surveys for Stock Assessments

Adopted Language: Place higher priority on and funding for fishery-independent monitoring surveys in nearshore and untrawlable habitats that are constraining and currently unassessed in collaboration with state partners.

XIV. Mitchell Act Funding

Adopted Language: Reaffirm the position that PSMFC supports full-funding for Mitchell Act programs.

XV. Federal Mitigation Responsibilities

Adopted Language: Re-affirmation of the federal mitigation responsibilities associated with dams and the importance of hatcheries and their full funding as a mitigation tool. Additional funding needed for infrastructure, consultation and reform.

XVI. Mitchell Act Hatchery Funding

Adopted Language: The Commission supports sufficient funding to Mitchell Act Hatcheries, including those below Bonneville Dam, for maintenance, fish production and mass marking activities that have been level funded since 1996.

XVII. Support of continuation of NOAA Funding for Habitat Conservation and Restoration

Adopted Language: Commission staff should continue to support ongoing funding progress as identified by the Commission. Commission indicated individual states should look for opportunities to include monitoring and evaluation in species recovery grants.

XVIII. Reaffirm support of Resolution 5 of 2015. State Authority to manage the West Coast Dungeness Crab Fishery

Adopted Language: Reaffirm support of Resolution 5 of 2015. State Authority to manage the West Coast Dungeness Crab Fishery.

XIX. Observer Program

Adopted Language: Commission should explore options including MSA aspects as well as NOAA Administrative options to allow the states to be more cost effective with federal partners in the mandatory observer program.

Chair Bowles: The meeting was adjourned after expressing thank you to Randy and PSMFC staff for a successful meeting and would see everyone in San Diego next year.

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 the Pacific Coast marine fisheries resources.

The Pacific States Marine Fisheries Commission is pleased to present the 2016 Award to:



ROD MOORE

Before moving to the West Coast, Rod served on Alaska's US Representative Don Young's staff for many years in Washington, D.C. Rod moved to Portland, Oregon and became Executive Director of the West Coast Seafood Processors Association (WCSPA) in 1994. For 21 years, he led the WCSPA through some of the most challenging times on the West Coast, such as the groundfish disaster (and subsequent rebound), the salmon disasters in the mid-2000s, and growing pains with the sardine fishery. He kept his finger on the pulse of national fisheries issues as well, and made himself known nationally as an industry leader. Rod also served on the Groundfish Advisory Subpanel (including as the Chair for several years) and spent six years as a Council Member on the Pacific Fishery Management Council addressing challenging issues such as developing and implementing the groundfish trawl catch share program. He served as a PSMFC advisor to Oregon many years. Through all of this, Rod frequently possessed an almost crystal ball-like ability to anticipate potential pitfalls in management strategies and fisheries regulations and he had the leadership to take steps to avoid them. Now, in official retirement, Rod plans to serve on ODFW's Salmon Restoration and Enhancement Board and sample his way through the wonderful bounty of Pacific Northwest beverages.



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 the program is provided by an annual grant from National Marine Fisheries Service (NMFS) to the Pacific States Marine Fisheries Commission (PSMFC). These funds support the 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 those data upon request using custom programming services and online tools. Information is aggregated from the ADFG Division of Commercial Fisheries, Commercial Fisheries Entry Commission, NMFS Alaska Region, Alaska Fisheries Science Center (AFSC), North Pacific Fishery Management Council (NPFMC) and PSMFC. 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 which are used to identify and quantify impacts related to changes in fisheries management. These include species, area, gear, vessel, processor, community, fleet and fishery participants by season.

STAFF

AKFIN is comprised of a small cohesive team of five located in Anchorage at the NPFMC office, Seattle at the AFSC and Portland at the PSMFC's head office. Four staff are funded by the AKFIN grant and one by other NMFS sponsored projects.

2016 Highlights Include:

AKFIN ONLINE REPORTING AND ANALYTICAL TOOL DEVELOPMENT

- AKFIN Answers is an online reporting tool that provides authorized stock assessors, social scientists and economists with direct access to the program'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. Users performed over 15,000 Answers queries in 2016.
- Oracle Application Express (APEX) is a rapid web application development tool for the Oracle database. AKFIN has used this platform to develop a web based reporting tool for public and authorized users. The system provides easy navigation of various categories of reports and allows users to quickly filter and download data in common formats. The application is available through the AKFIN website, or directly at (reports.psmfc.org/akfin/).
- In 2014 AKFIN, in cooperation with the NPFMC staff, developed a web-based application to allow council staff, committee members and stakeholders to track and prioritize research projects of interest to the NPFMC. AKFIN continues to maintain and enhance the application, which is available at (research.psmfc.org).

SUMMARY OF DATA SERVICES PROVIDED

- Staff programmed and delivered over 400 data products of varying complexity, each taking anywhere from a few hours to multiple days to complete.
- Approximately 130 data requests completed in support of over 20 distinct NPFMC issues.

- Developed a web-based application to provide on-demand validation of Gulf of Alaska Trawl Economic Data Report (EDR) submissions.
- Comprehensive data support for annual crab and groundfish economic SAFE reporting.
- AKFIN provided programming and analysis services to PSMFC for identifying and calculating Yukon and Kuskokwim River fish processors that were eligible for relief payments as part of the 2012 Salmon Disaster Program.
- AKFIN developed a package in R that automates custom plot production calculating catch share metrics value for different fisheries programs and sectors. This package was developed for AFSC economists and the automated figures will be added in annual SAFE reports. The package eliminates the tedious manual calculations and figure plotting in MS Excel performed for annual SAFE catch share metrics.
- Provided data and programming support for the following national data requests:
 - Annual data call for the Fisheries of the US.
 - Fisheries One-stop Shop (FOSS) – A single data report that summarizes data by species that are used to source an NMFS ST online reporting system.
 - National Bycatch Report – (http://www.nmfs.noaa.gov/sfa/fisheries_eco/bycatch/nationalreport.html).
 - Annual data call for the US Coast Guard to support vessel safety inspections.
 - Catch Share and Non-Catch Share Performance Indicators.

Aquatic Nuisance Species Program

Aquatic nuisance (or invasive) species (ANS or AIS) 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 the region's waters. These species may occur in inland, estuarine and marine waters and can threaten ecological processes and natural resources. In addition to adversely affecting activities dependent on waters of the United States, invasive species can adversely affect individuals and their health. One important criterion that the Pacific States Marine Fisheries Commission (PSMFC) uses to judge a species as a nuisance is whether it can harm commercial and recreationally important fisheries.

Highlights in 2016 for the Commission's Aquatic Nuisance Species Program include:

RAPID RESPONSE PLANNING

With funding from Bonneville Power Administration (BPA) and U.S. Fish and Wildlife Service (USFWS), PSMFC continued to lead the effort for zebra and quagga (dreissenid) mussel rapid response planning in the Columbia River Basin. The plan can be viewed at <http://www.westernais.org/crb-plan>. Related to the rapid response plan is the eradication of a dreissenid mussel population if discovered in the Columbia River Basin. Ensuring that best management practices are implemented throughout the sequence of control actions for a dreissenid introduction will maximize cost-effectiveness of actions, minimize impacts to non-target organisms and the environment, and result in a coordinated, effective response that achieves the goal of controlling the introduction, where it is possible. In 2014, PSMFC developed "Best Management Practices and Effects Analysis" and "Decision Matrix" tools to help in the response to a mussel control action. See <http://www.westernais.org/rapid-response-work-group> and refer to "Regional Response Planning Documents." In 2016, PSMFC sponsored a Rapid Response Table - Top

exercise May 10-12, 2016 at Jackson Lake, Wyoming. The exercise addressed containment of a theoretical dreissenid mussel infestation in Jackson Lake, WY. Further information on PSMFC rapid response exercises can be found at <http://www.westernais.org/statefederal-rapid-response-plansexercises>.

VULNERABILITY ASSESSMENT

PSMFC has also led the preparations of the region's hydro and fish facilities for a potential dreissenid mussel invasion. Vulnerability assessments itemize and inspect all hydropower facility structures and components that come into contact with raw water, and determine the degree to which dreissenid mussels could impair the performance of the structures and their components. Understanding these factors in advance of an introduction can best prepare the facility to both prevent and deal with an introduction. A Vulnerability Assessment Team was formed after the May 15, 2013 regional "Preventing an Invasion" meeting. The team, led by PSMFC ANS program contractor Lisa DeBruyckere, completed "**Strategies To Conduct Vulnerability Assessments for High Priority Columbia River Basin Hydropower and Dam Facilities**" in April of 2014 (updated in January of 2017). This document and other assessment related documents can be accessed at <http://www.westernais.org/va-documents-and-reports>.

WATERCRAFT INSPECTION/ DECONTAMINATION TRAINING

It is generally agreed that the most effective means to prevent the spread of dreissenid mussels is by mandatory inspection stations at key highway points for all recreational watercraft (Note: In 2016 PSMFC added a regional watercraft inspection station viewer @ <http://psmfc.maps.arcgis.com/apps/webappviewer/index.html?id=aa6a6527a26a44ddbff097b99241462e>).

Resource managers have been increasing the capacity of state law enforcement and marine safety personnel to detect and intercept contaminated watercraft. The expansion of these programs has increased the need for the PSMFC Watercraft Inspection Training (WIT) program. WIT began in 2006, with USFWS and BPA funding, to train boating law enforcement

personnel in the western US on the background, biology and impacts of zebra mussels; how to identify high risk watercraft and conduct an inspection of all types of watercraft; how to perform a vessel decontamination; and the legal authority to stop, detain and require decontamination of watercraft suspected of harboring zebra mussels. To date, over 110 WIT training courses have been delivered in 19 western states and Canada to approximately 4,800 individuals representing well over 100 different state, federal, local and tribal agencies and organizations.

Beginning in April 2007, training was divided into two levels. Level I (or basic) trainings are usually a one-day class and consist of an overview on the dreissenid threat, basic mussel biology, distribution, transport vectors, viewing of the “Don’t Move a Mussel Video,” hands on watercraft inspection and a written exam. Level II training is more intensive and is designed for professionals in all fields that expect to be involved in the inspection and decontamination of trailered watercraft and those who wish to become trainers within their state or work group. Level II training is delivered over two days (12 hours) at Lake Mead on the Nevada/Arizona border near Las Vegas and is instructed by Dee Davis. This course focuses on actual field inspection of various types of watercraft which may be contaminated with quagga mussels and the decontamination of those watercraft requiring it. In recent years, Level II trainings have expanded and have been held at Lake Powell, AZ, Lake Pleasant, AZ and Lake Havasu, AZ. In 2015, PSMFC added a Level III Course, which serves as a “trainer training” (Go to www.westernais.org/ and the “Training” tab for further information).

COORDINATION

The ANS program is 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; the Western Regional Panel on Aquatic Nuisance Species; Quagga Zebra Action Plan (QZAP) Committee and the Green Crab Technical Group.

OUTREACH AND EDUCATION

Recreational watercraft are the most likely means by which zebra/quagga mussels will be spread into other western watersheds. PSMFC and cooperating agencies have ANS information and education campaigns that target recreational anglers, boaters, marinas, enforcement personnel and others on the zebra/quagga mussel threat. For the past 14 years, PSMFC has attended sport and commercial fishing shows throughout the region (e.g., Boise, Portland, Seattle, Sacramento) exhibiting its booth and distributing information to those most likely to come into contact with nuisance species. 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 2012, the Commission re-released the video with new information on the impacts of these mussels, as well as updated watercraft decontamination information. The video can be found at <https://westernais.smugmug.com/Videos> and the webpage includes “B Roll” and “Interviews” files from the making of the video.

MONITORING

For the past 13 years, PSMFC has partnered with Portland State University (PSU) in a zebra mussel monitoring program. Beginning in 2010, with funding from BPA and PSMFC, PSU began partnering with the US Army Corps of Engineers to expand monitoring at Corps’ projects in the Columbia River Basin. In 2010, PSMFC, in cooperation with US Geological Survey, also began to host a monitoring database and map for the Columbia River Basin states. By 2014 the monitoring data included Idaho, Washington, Oregon, Montana, Wyoming, Utah and British Columbia. In 2016, PSMFC created a new monitoring website – see <http://www.westernais.org/monitoring>.

WEBSITE

PSMFC renovated its invasive species website in 2014. The new website can be found at <http://www.westernais.org/> and also includes the Pacific Ballast Water Group website, as well as information on Watercraft Inspection Training (WIT), Rapid Response, economic impacts of invasive species particularly zebra and quagga mussels and an archive of state and federal AIS regulations.



California/Idaho Fisheries Support 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 and information available through the CalFish site.

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 and perform lab work. Data collected are incorporated into the management and season setting for salmon fisheries coastwide.

Pacific States Marine Fisheries Commission (PSMFC) worked with California Department of Fish and Wildlife (CDFW) 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 and using the aging data in combination with coded-wire tag recovery data to reconstruct the size of each returning brood year.

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 continued 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**.

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

PSMFC fisheries technicians on the **Upper Sacramento Technical Assistance** projects continued to assist both CDFW and the Western Shasta Resource Conservation District with running video monitoring stations and fish traps, conducting salmon carcass surveys, habitat assessment and collecting biological data.

PSMFC provided 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 continued 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**.

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

PSMFC's assistance contributed to the successful completion of the ninth 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 provided seasonal personnel and services to assist the US Fish and Wildlife Service (USFWS) mark and coded-wire tag juvenile winter-run and late-fall Chinook salmon and steelhead.

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

PSMFC worked with the **Yuba County Water Agency, CDFW**, 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 also worked with the U.S. Army Corps of Engineers to survey, monitor and map **Yuba River Redds** to evaluate the success of their gravel augmentation program.

PSMFC staff assisted the **USFWS Comprehensive Assessment and Monitoring Program** by providing statistical analysis and database development and support of California Central Valley monitoring efforts.

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

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

PSMFC assisted with the installation and implementation of **DIDSON Monitoring Stations** on Southern California streams and assisted with field implementation of the **South Coast Steelhead Monitoring Plan**.

PSMFC will be providing assistance to the **Battle Creek Fish and Ladder Monitoring Program** once several restoration projects are completed.

PSMFC assisted the USFWS and CDFW collect data, monitor and report on **Salmon Redd Dewatering** on the upper mainstem of the Sacramento River.

PSMFC provided personnel assistance for the **Lower Eel and Van Duzen Rivers Salmonid Spatial Structure Project for Coho salmon**.

PSMFC personnel assisted USFWS with their **Rotary Screw Trap Assistance and Monitoring** program to assess the abundance and production of juvenile Chinook and Steelhead on the American River and Stanislaus River.

PSMFC provided staff and technical expertise to conduct **Salmonid Habitat Enhancement and Monitoring** for Trout Unlimited, The Nature Conservancy and CDFW in Pudding and Caspar Creeks.

PSMFC provided administrative, coordination and technical support to the **Pacific Marine and Estuarine Fish Habitat Partnership** and the **California Fish Passage Forum Fish Habitat Partnership**.

PSMFC provided personnel to **Livingston Stone National Fish Hatchery** in Shasta Lake, CA to assist the USFWS with the rearing of additional winter-run chinook salmon.

PSMFC staff will be assisting the USFWS in arranging a tour of the **Elwha River** for Klamath Basin fisheries biologists. They will discuss possible Klamath dam removal issues with staff working on the Elwha, where salmon and steelhead runs are being reestablished in historical habitat following the recent removal of two dams.

PSMFC is collaborating with USFWS, National Marine Fisheries Service (NMFS) and Basin partners to develop an **Integrated Fisheries Restoration and Monitoring Plan for the Klamath Basin**. A subcontractor for the first phase of this project was selected and work on a background synthesis report is underway.

PSMFC is working with USFWS to develop and populate a **California Central Valley Adult Salmon Escapement Database** to store adult salmon data collected for watersheds that include the American River, Clear Creek, Sacramento River mainstem and Stanislaus River, along with the development of several analytical

tools that help to automate data analyses and reporting, and provides tools that ensure that stored data are complete and accurate.

PSMFC provided personnel to assist NMFS in estimating smoltification rates in the Ventura River and two main rearing tributaries by establishing a PIT tag array network for the **Ventura River PIT Tagging Project**.

Collaborating with the National Fish and Wildlife Foundation, PSMFC staff are conducting lifecycle monitoring of **Steelhead in Manzana Creek**.

IDAHO PROJECTS:

PSMFC provided personnel to assist the **Idaho Department of Fish and Game (IDFG) Nampa Research Lab** with their fisheries research, field activities and data management needs.

PSMFC provided personnel, technical and administrative support to implement and conduct the **IDFG Marking and Tagging Program**.

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

PSMFC ALSO PROVIDED:

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

PSMFC provided data stewardship and technical services for the **NMFS Habitat Restoration Project Tracking Database**.

PSMFC staff assisted, through a grant with Washington Department of Fish and Wildlife and the Environmental Protection Agency, to facilitate electronic transfer and sharing of fisheries

data from the **Coordinated Assessments (CA)** project. This funded work was completed and the grant ended in 2016. The CA project continues, and focuses on the key population indicators for implementation of the Federal Columbia River Power System Biological Opinion.

PSMFC also manages a project funded by Bonneville Power Administration to build and update **High Level Indicators** and Sub-basin Dashboards that depict the status of fish populations on the Northwest Power and Conservation Council website.

Cooperative Ageing Project

The **Newport Ageing Lab** is a collaborative effort between the National Oceanic and Atmospheric Administration and Pacific States Marine Fisheries Commission. It was established to production-age marine groundfish structures. The lab is located in Newport, Oregon at the Northwest Fisheries Science Center (NWFSC), Barry Fisher Building. Age structures collected from federal surveys, observer programs and commercial catch are aged by this lab and are used to directly support 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 National Marine Fisheries Service (NMFS) directed at-sea surveys.

In 2016, Newport Ageing Lab personnel:

- Provided age data to support eight US West Coast groundfish stock assessments. Four of these species had never been aged by this lab before.
 - Aged 27,688 otoliths from 13 species of West Coast groundfish including rockfish (black, canary, darkblotched, Pacific Ocean perch, Rougheye, vermillion and yellowtail); flatfish (arrowtooth flounder and petrale sole); roundfish (lingcod, Pacific hake and sablefish) and other (California scorpionfish).
 - Released 13,853 ages from nine groundfish species.
 - Continued to populate the database that was put in 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.
 - Added 20,103 specimen records from 31 different species collected from NWFSC programs. This archive now has 482,698 structures collected from 84 species
- between 1983 and 2016. The sources of these structures are from the following: At-Sea Hake Observer Program, West Coast Groundfish Bottom Trawl Survey, Pot Survey, Acoustic Survey and the Hook and Line Survey.
- Received the following number of age structures from state agencies: 718 otoliths from California (four species); 12,136 otoliths from Oregon (eight species); and 2,365 otoliths from Washington (five species). These structures will ultimately be sent back to the originating agency after they are aged.
 - Continued to age vermillion rockfish as part of a broader collaborative project to compare life history traits between vermillion and sunset rockfish. The age and growth data will be included in a larger research project that is planned for future submission to a peer-reviewed journal. All publications from this collaboration will be cited in future reports as they are released.
 - Continued efforts at weighing otoliths. 22,679 new otolith weights were added to the database in the past year, which now has a total of 97,809 otolith weight records. These weights might be used to develop mathematical relationships to allow weight to be used as a proxy for age. These relationships are being explored by NWFSC scientists.
 - The Age Lab received a micromill and grinder in the fall of 2014. The equipment has been used to mechanically extract a portion of the otolith for subsequent radiometric or chemical analysis. The sample material can be extracted as either powder or as ‘chunks’ (e.g. first year). This will potentially allow for the validation of age estimates on a range of US west coast groundfish species. The lab extracted n=32 cores from both canary and black rockfish for radiocarbon validation. These cores were sent to Woods Hole Oceanographic Institution-National Ocean Sciences Accelerator Mass Spectrometry for analysis. Results will be reported as they become available.
 - The Ageing Lab ended 2016 with six staff (one supervisor and five full time age reading specialists).

Electronic Monitoring and Reporting

CAMERAS WEST COAST

Pacific States Marine Fisheries Commission (PSMFC) launched the **Electronic Monitoring (EM)** program in 2012 in anticipation of the Pacific Fishery Management Council (PFMC) considering EM as a compliance monitoring tool in the newly implemented Pacific Trawl Rationalization Program. The original objective of the EM program was to prove the efficacy of EM as a source of data to document individual accountability of catch and bycatch in the Pacific Trawl Rationalization Program.

After PSMFC successfully proved the efficacy of EM, the PFMC approved four Exempted Fishing Permit (EFP) applications that were implemented in the 2015-2016 fishing years, permitting EM to be used on vessels in the whiting, fixed gear and bottom trawl fleets. These EFPs allow participants to fish using EM as a substitute for an onboard human compliance monitor, although scientific observer coverage is still required on fixed gear and bottom trawl fishing trips for scientific sampling. EM data reviewers at PSMFC

view 100% of fishing activity to report Individual Fishing Quota (IFQ) discards, and results are compared to fisher-reported logbooks (Figure 1). If the comparison shows that there is a 10% or higher difference between EM and the logbook, or one source reports discards and the other source does not, the higher of the two numbers will be reported to the Vessel Account System (VAS) and ultimately debited from the vessel's quota.

The results from the 2015 and 2016 whiting and fixed gear EM EFPs lead to a regulation recommendation by the Council. The Council decided to extend the bottom trawl EM EFPs through 2018 to collect more information on whether or not regulations should be put in place for this fishery in the future as well.

In 2016, PSMFC began two grant projects: Total Catch Accounting in the Fixed Gear fishery and Discard Methods study in the Bottom Trawl fishery. The purpose of the Total Catch Accounting study is to determine if it is feasible to use EM for total catch accounting in order to eliminate the need for a dockside monitor during offload. The purpose of the Discard Methods study is to test new methods for sorting and discarding onboard bottom trawl vessels to see if it would be possible to allow these vessels to discard additional IFQ species that they are currently not allowed to discard.

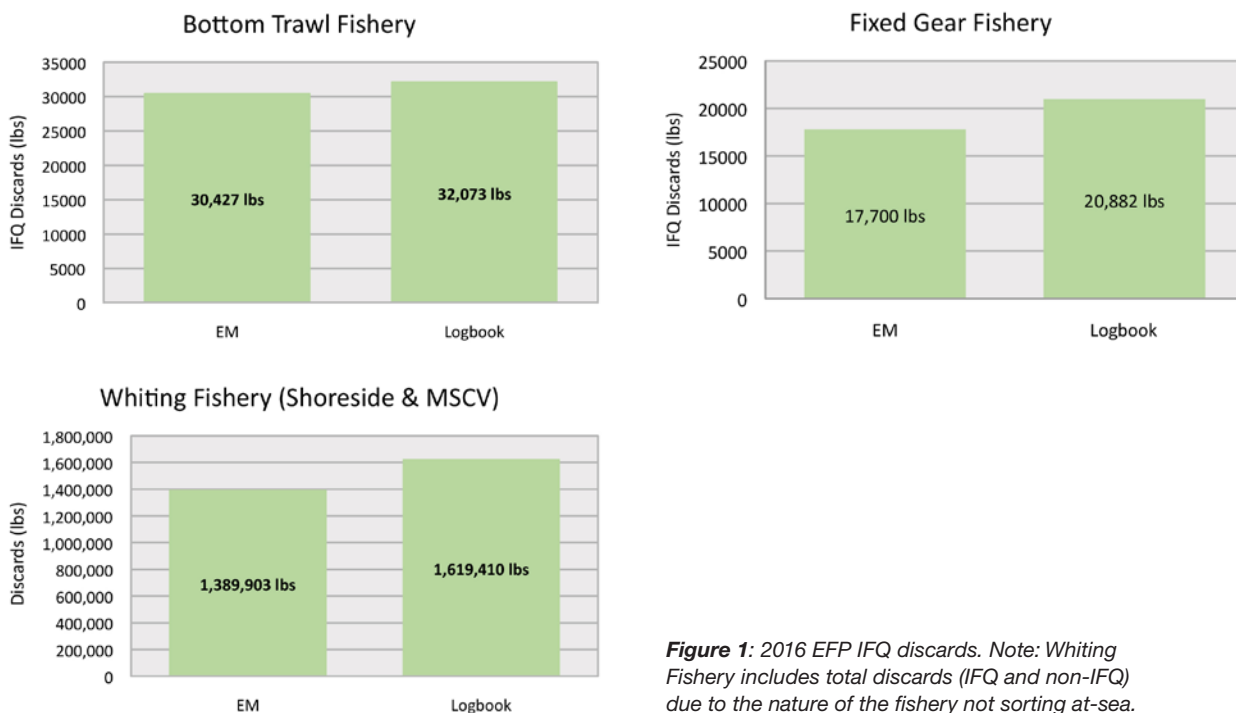


Figure 1: 2016 EFP IFQ discards. Note: Whiting Fishery includes total discards (IFQ and non-IFQ) due to the nature of the fishery not sorting at-sea.

NORTH PACIFIC

The North Pacific Fishery Management Council (NPFMC) and National Marine Fisheries Service (NMFS) are in the process of integrating electronic monitoring (EM) tools into the Observer Program. This program was initiated to enable data collection in the small boat (40-57.5 feet length overall) longline fleet; the deployment of observers on these vessels is more challenging primarily due to space limitations. In 2016, NMFS and NPFMC commenced pre-implementation of EM into the longline fisheries. Once EM is fully integrated into the Observer Program (operational program), data collected using EM will supplement the data collected by observers that is used to manage fisheries, in particular to estimate at-sea discards. In other regions, EM systems are used to collect data for compliance programs; the goal of this program is to collect data for the estimation of catch and subsequent in-season management of fisheries.

The NPFMC Fixed Gear Electronic Monitoring Workgroup (EMWG), an ad hoc committee established in 2014, was directed to work with the fleet to implement a program designed to test the functionality of available electronic monitoring systems. In 2016, under pre-implementation, the group continued to work to address issues as they were identified, thus allowing continued stakeholder input to the final Program structure. The workgroup is comprised of agency staff, commercial fishing industry representatives and EM service providers. Dave Colpo, Senior Program Manager at PSMFC is a member of this Workgroup.

PSMFC is assisting the NMFS and the NPFMC in actively developing options for collecting fishery information by electronic monitoring. As a part of the North Pacific EM program, PSMFC advises, reviews video, subcontracts for installation and field support of EM systems on participating vessels, analyzes the data, and produces reports that have been used to inform next steps of the workgroup and develop recommendations on the regulatory process for NMFS and NPFMC. In addition, PSMFC provides analytic support for this program by developing analytical methods and documentation for the estimation of catch and discard to be used with these new data types.

PSMFC is assisting the NMFS in the ongoing development of hardware and associated software control systems for open source image-based remote monitoring systems. Research efforts are focused on the automation of species identification of catch, enumeration of catch and collection of length measurements. In addition to providing two research staff who collaborate with NMFS researchers, PSMFC subcontracts researchers at the University of Washington who are developing machine learning algorithms that are foundational to the automation protocols.

PRE-IMPLEMENTATION DEPLOYMENT OF EM SYSTEMS IN THE NORTH PACIFIC

Data collected during the 2016 pre-implementation deployments were used by the NMFS, PSMFC and the EMWG to evaluate procedures and adjust the 2017 pre-implementation plan. EM systems were deployed on 25 volunteer longline vessels in 2016. Fishing trips were randomly selected to have fishing activities recorded by the EM systems. EM video records were reviewed for 77 trips; 34 halibut trips (230 sets), 31 sablefish trips (167 sets), and 12 Pacific cod trips (160 hauls). PSMFC staff worked with our NMFS partners to develop and document data collection protocols, data transfer methods and database structures. Additional details of these pre-implementation methods can be found in the Alaska Pre-Implementation Electronic Monitoring Final Report for the 2016 Season (https://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/EM/PSMFCEM2016Report3-16-17.pdf).

Although in 2016 EM deployments were voluntary and the program was in a pre-implementation phase, the deployment of EM has also been incorporated into the NMFS Observer Program Annual Report; the evaluation of monitoring deployment is included in chapter 3: https://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/ObsAnnReport2016PR2017-07.pdf.

Pre-implementation deployments will continue to be conducted in Alaska in 2017 with expected full integration of EM into the Observer Program as a data collection tool in 2018.

Alaska EM program Additional Information:

Final 2016 Pre-Implementation plan: https://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/EM/2016EMPre-impPlanFinal0116.pdf.

Final 2017 Pre-Implementation plan: https://www.npfmc.org/wp-content/PDFdocuments/conservation_issues/Observer/EM/Final2017EMPre-impPlan.pdf.

Estimation methods: <http://npfmc.legistar.com/gateway.aspx?M=F&ID=ca8a30f7-254e-4161-868f-9cd368280392.pdf>.

NMFS Environmental Assessment/ Regulatory Impact Review/Initial Regulatory Flexibility Analysis: <https://npfmc.legistar.com/View.aspx?M=F&ID=4798706&GUID=37D83816-A987-4EED-905C-CE89D3A6AEBB>.

WEST COAST LOGBOOKS

A system for remote data entry of paper logbooks is used by PSMFC groundfish port samplers to electronically capture Groundfish trawl logbooks for California vessels. This system is also used by the EM group at PSMFC Headquarters in Portland, Oregon to electronically capture paper logbooks of vessels using EM in California, Washington and Oregon with data entry occurring within two business days of arrival. As a precautionary measure, this is a linked database to ensure there is no duplication of logbooks. As described in the above “**Cameras**” section, the data from EM logbooks are compared to the data collected by EM video reviewers and the higher-reported IFQ weight is then debited from the vessel’s quota.

WEST COAST ELECTRONIC FISH TICKETS (E-TIX)

Fish tickets are used to document landings by commercial vessels to West Coast ports. Historically, these tickets were collected from fish buyers by the three states using a paper reporting system. Starting in 2008, PSMFC developed and currently maintains an electronic fish ticket system to replace paper tickets. That development was driven by two changes in fisheries management.

As early as 2008 the PFMC was considering the implementation of an individual fishing quota (IFQ) system for the groundfish trawl fishery to replace the Olympic-style fishing management system. PSMFC recognized the need for a system to more quickly capture and report landings data to inform the fishermen of the status of their quota accounts as well as allowing managers to track IFQ landings in-season.

Prior to 2008, the Pacific hake fishery was managed by the West Coast states. Information on in-season landings were managed using state port samplers who faxed landings data from the major ports to a central clearing house where the data were combined to create an estimate of in-season landings. The NMFS does not have port samplers and therefore no easy way to capture these tickets.

The proposed shift to IFQ management as well as the actual shift in Pacific hake management moved PSMFC to develop E-tix. This system is capable of capturing data for all 27 fish tickets in use on the West Coast. As the graphs below illustrate, adoption of e-tix is mixed across the states with Oregon the most committed to adopting e-tix to replace all paper tickets. The figures show the percentage of e-tix versus paper tickets in terms of groundfish pounds and revenue landed as well as counts of fish tickets. Electronic IFQ fish tickets began to be accepted in January 2012, and in 2014 anyone could submit e-tickets voluntarily. In 2016, electronic reporting of fish tickets became mandatory for the Columbia River fisheries in Oregon. Also in 2016, California started moving toward electronic reporting in preparation for voluntary reporting in July 2018, followed by mandatory reporting of all California fish tickets in July 2019.

PFMC passed a motion to require electronic reporting of all fish tickets that include sablefish. The rationale behind this decision was to “improve the timeliness and accuracy of catch data for monitoring harvest relative to applicable tier limits in the [Limited Entry Fixed Gear (LEFG)] Sablefish fishery and trip limits in the LEFG Non-Sablefish fishery and [Open-Access] fishery.” (p. 10-11 of the Fixed Gear Sablefish Environmental Assessment published October 2016). The final rule implementing this requirement was published on November 23, 2016 and is effective January 1, 2017.

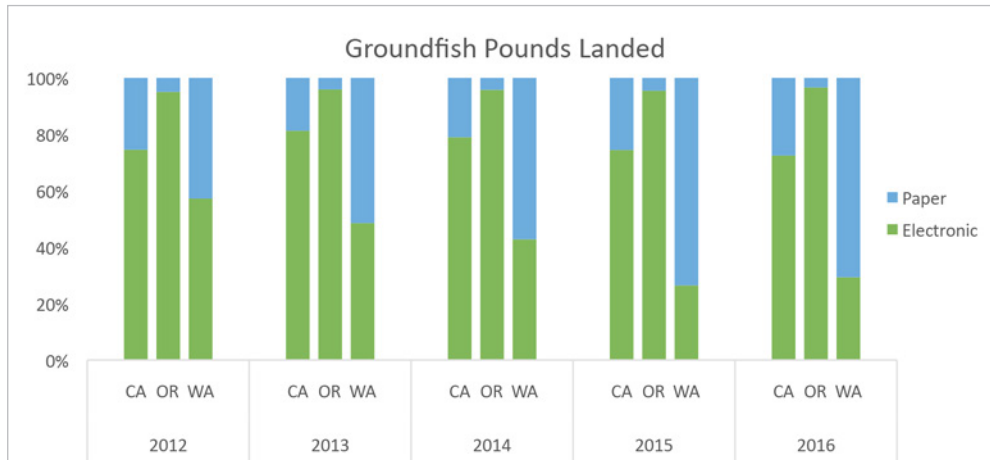


Figure 2: Percent of groundfish pounds (excluding whiting) reported electronically versus paper tickets by year and state for commercial and tribal landings.

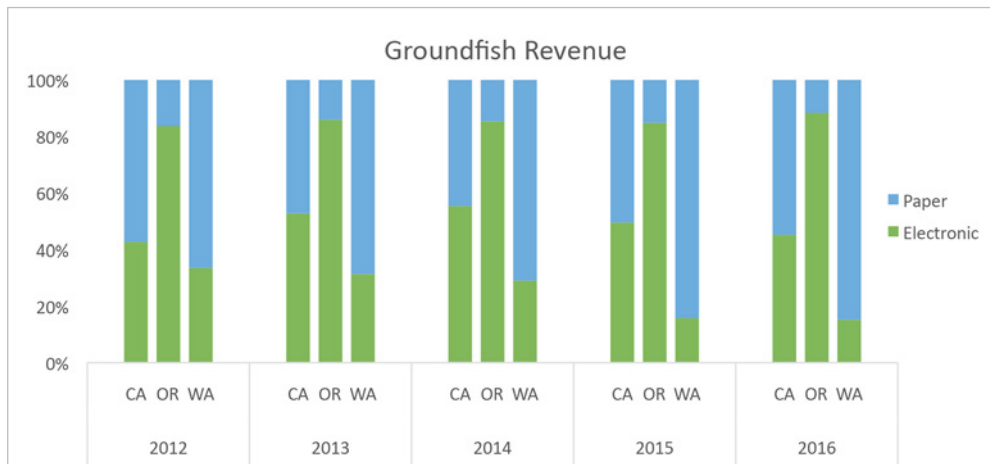


Figure 3: Percent of groundfish revenue (excluding whiting) reported electronically versus paper tickets by year and state for commercial and tribal landings.



Figure 4: Percent of all fish tickets reported electronically versus paper tickets by year and state.



Fisheries Economics Data Program

Alaska Economic Data Report Collection Project

FISHERIES ECONOMICS DATA PROGRAM (EFIN)

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

In 2016, EFIN staff worked on the following:

- **2015 Fuel Report:** An annual summary of collected fuel price data from the prior year was prepared and distributed to survey participants and other interested parties.
- **Fuel Price Collection:** Program staff continued collection and maintenance of the West Coast and Alaska monthly fuel price survey through monthly phone and email contacts.
- **EFIN Web Page:** The program continued to collect data and update the EFIN web page. Updates include Gross Domestic Product data, Consumer Price Index, Producer Price Index, State Labor Data and the Employment Cost Index.

- **Tri-State Crab Website Maintenance:** The program also archived the prior year's website and created a new website for the 2016-2017 season that was updated with reports from California, Washington and Oregon.

ALASKA CRAB RATIONALIZATION ECONOMIC DATA REPORT (EDR) COLLECTION PROGRAM 2016

PSMFC functions as the Independent Third Party Data Collection Agent for the Bering Sea/Aleutian Islands (BSAI) Crab Rationalization Program. The purpose of the economic data collection is to aid the NPFMC and NMFS in assessing the success of this program and to provide data that are used in developing amendments necessary to mitigate unintended consequences of management decisions. 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 (2) the distribution of landings of different harvest share types.

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

At the beginning of this program in 2005, historical EDRs were collected for the years 1998, 2001 and 2004. In each subsequent year, EFIN staff collected data in an annual report. Historical EDRs captured pre-program implementation data for comparison to the economics of harvesting and processing before and after program implementation. The annual reports capture economic data on an annual basis at the conclusion of each calendar year's crab fisheries. The 2015 EDR was collected in June and July 2016. Participation in the

data collection program is mandatory for all participants in the BSAI crab fisheries. All owners and leaseholders of a vessel or processor that harvested, processed or had crab harvested and processed for them in any of the BSAI crab fisheries during 2015 were required to submit an annual report.

EDR online login and passwords were mailed to crab processing plants and vessels and submitted EDRs were collected, tracked and reported to the Restricted Access Management Program (RAM) for permit and quota issuance. They were also reviewed for completeness. The EDR data were entered, archived and submitted to NMFS for analysis.

Alaska Fisheries Information Network (AKFIN) built a database to house data, standardized variables and conducted metric analysis to help describe the data. Reports and forms are being developed to allow permitted researchers to access the data.

AMENDMENT 80 AND GULF OF ALASKA (GOA) TRAWL ECONOMIC DATA REPORTS

Amendment 80 was adopted by the NPFMC in June 2006. The final rule implementing Amendment 80 was published in the Federal Register on September 14, 2007. This action allocates several BSAI non-pollock trawl groundfish species among trawl fishery sectors, and facilitates the formation of harvesting cooperatives in the non-American Fisheries Act (non-AFA) trawl catcher/processor sector. As of January 1, 2015, a new reporting requirement under 50 CFR 679.110 went into effect which changed the EDR for the Amendment 80 Catcher Processor participants and brought participants in the groundfish trawl fisheries in the GOA into the EDR program.

In December 2014, NMFS issued a final rule to implement the GOA Trawl EDR Program to evaluate the economic effects of current and potential future fishery management measures for the GOA trawl fisheries. This data collection program will provide the NPFMC and NMFS with baseline economic information on harvesters, crew, processors and communities active in the GOA trawl fisheries, which will be used to assess the impacts of anticipated future GOA trawl groundfish management measure on stakeholders.

The Council adopted Amendment 80 to meet the following broad goals: (1) improving retention and utilization of fishery resources by the non-AFA trawl catcher/processor fleet by extending the groundfish retention standard to non-AFA trawl catcher/processor vessels of all lengths; (2) allocating fishery resources among BSAI trawl harvesters in consideration of historical 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 for the non-AFA trawl catcher/processors to reduce potential Groundfish Retention Standard 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 limited access program.

The groundfish species in the BSAI areas directly affected by Amendment 80 include: Atka mackerel, Aleutian Islands Pacific Ocean perch, Flathead sole, Pacific cod, Rock sole and Yellowfin sole.

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

PSMFC has been designated by NMFS as the Data Collection Agent for the Amendment 80 program. The first annual Amendment 80 reports were collected in June 2010 for the 2009 calendar year. The first annual GOA Trawl EDR reports were collected in June 2016 for the 2015 calendar year.

In 2016, the 2015 annual EDRs were mailed to catcher/processors, catcher vessels and processors and were collected, tracked and reported to RAM for permit and quota issuance. They were reviewed for completeness. The data were entered, archived and submitted to NMFS for further analysis.

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

AMENDMENT 91 CHINOOK EDR FOR THE AFA POLLOCK FISHERY ECONOMIC DATA REPORTS

Amendment 91 to the BSAI Fishery Management Plan established a hard cap of 60,000 Chinook salmon caught per year for the Bering Sea pollock fishery beginning in 2011, with the additional requirement that annual Chinook bycatch must not exceed 47,591 more than twice in any 7-year period. The bycatch quota is allocated to sectors of the fleet proportional to both the pollock allocation and historic bycatch. The bycatch quota can be allocated by cooperatives to individual vessels and is transferable across the fleet which will improve economic efficiency.

Following the recommendation of Amendment 91 in April 2009, the NPFMC asked the Alaska Fisheries Science Center to develop “a data collection program for the pollock fleet that would provide the information necessary to evaluate the salmon bycatch program to ensure that it is meeting the Council’s intent.” The goal of this project is to collect information on the amount of money vessel operators are paying to acquire salmon bycatch quota and assess the way in which fishing changes as a result of the new restrictions on salmon bycatch. Because there is the potential for large financial impacts to some vessel operators who will have to purchase salmon bycatch quota to harvest their allocation of pollock and who may have to incur additional travel expenses to fish in areas where salmon are less concentrated, an additional goal of this project is to estimate how costs of salmon bycatch avoidance may increase in the pollock fishery. In addition, this data collection effort is aimed at understanding the steps vessel captains undertake to avoid salmon bycatch during the fishing seasons.

PSMFC has been designated by NMFS to be the data collection agent for the Amendment 91 EDR program. The first annual Amendment 91 EDRs were collected in June 2013 for the 2012 calendar year.

In 2016, the 2015 data were collected, tracked and reviewed for completeness. This data collection has a June 1 deadline and is repeated every year for the prior year’s fishery.

A database was built on AKFIN servers to house collected data, standardize variables and conduct metric analysis to help describe the data. Reports and forms are being built to allow researchers access to the data.



Fish Habitat Program

The **Pacific States Marine Fisheries Commission (PSMFC) Fish Habitat Program** works to protect and restore fresh, estuarine and marine habitats that supports salmon and many other fish species of commercial, recreational and ecosystem importance. In 2016, the Habitat Program was supported through funding from the Wallop-Breaux Sport Fish Restoration program managed by the US Fish and Wildlife Service and from National Oceanic and Atmospheric Administration (NOAA) inter-jurisdictional funds.

The Habitat Program supports multi-stakeholder groups working on cooperative, non-regulatory programs and projects to advance habitat conservation and restoration actions, science and policies. Program manager, Fran Recht, works with collaborative groups as well as non-profit and inter-agency groups, attending meetings, serving on committees and boards, and by taking on duties and projects for the groups.

Activities in 2016 included:

PACIFIC MARINE ESTUARINE FISH HABITAT PARTNERSHIP (PMEP)

PSMFC is an active member of PMEP (<http://www.pacificfishhabitat.org/>), one of 20 National Fish Habitat Partnerships. PMEP is a diverse partnership that includes federal, tribal, state and non-governmental members in Washington, Oregon and California.

The partnership is focusing its work on juvenile fish habitat in estuarine and nearshore areas, assuring connectivity between nearshore and tidal wetland areas and maintaining water quality and fresh water inflow into these estuarine and nearshore environments. It advances scientific information about estuaries, eelgrass, and fish use, as well as supporting restoration and conservation projects focused on these topics with funding from the National Fish Habitat Partnership.

Fran Recht was chair of PMEP in 2016 and serves actively with Stan Allen, PSMFC, on the steering committee and various other committees. PSMFC's Van Hare, Brett Holycross and Kate Sherman provide research and Geographic Information System (GIS) services and are working on a PMEP data system. PSMFC also provides fiscal services to the group.

In 2016, PMEP worked to define stressors to estuarine systems, mapped estuary habitats using the national Coastal Marine and Estuarine Ecological Standard systems; funded three habitat restoration projects; set up a PMEP data system to spatially organize the information gathered; began a project to collect information on eelgrass extent and juvenile fish habitat use of eelgrass; began the process to hire a new executive director; and funded projects to analyze, at a west coast scale, historical estuarine loss information.

Many of these projects will come to fruition in 2017, and the information will be readily useable to the public on "DataBasin" in the form of a West Coast Estuaries Explorer.

SEA LEVEL RISE IN ESTUARIES

PSMFC is the manager for the MidCoast Watersheds Council, a pilot project regarding sea level rise impacts on estuaries. The pilot project funded by the Oregon Watershed Enhancement Board (OWEB) is being conducted for 23 of Oregon's estuaries (not including the Columbia). Tidal marshes and swamps are nursery grounds for salmon, crab, sturgeon and a diverse host of other species. However, as sea levels rise and storm surges increase, our tidal wetlands will be inundated more and more of the time and will, over time, not be able to persist in their current locations. If there is higher elevation ground that

Areas currently within tidal wetland elevation range (crosshatched) and future landward migration zones (yellow) up to 4.7 ft SLR

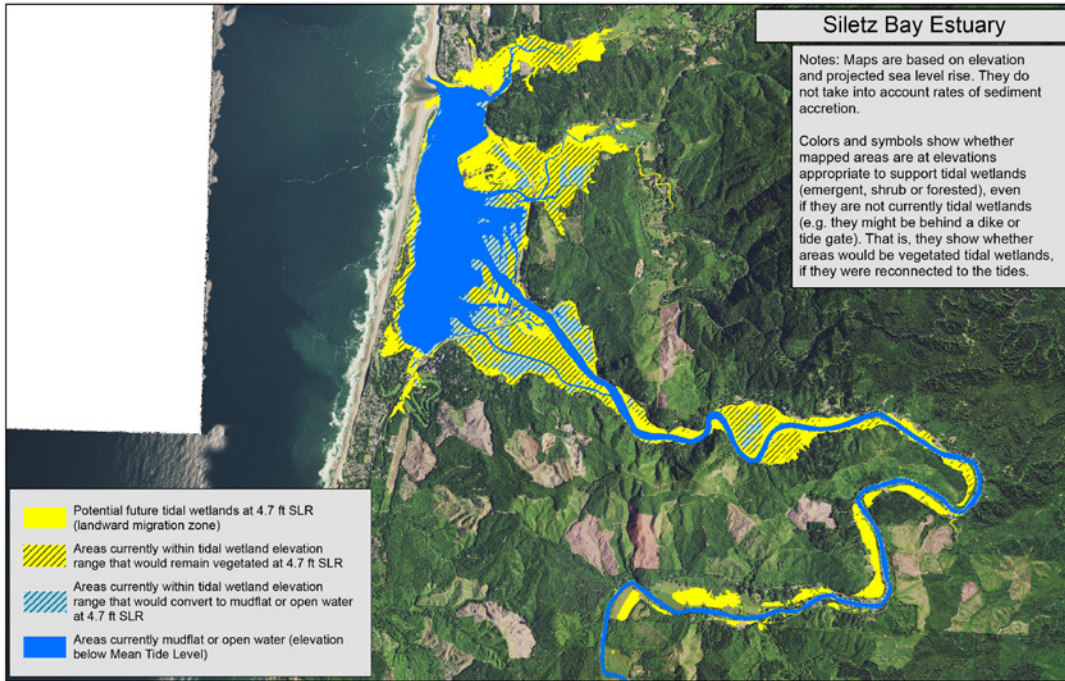


Photo courtesy of MidCoast Watersheds Council

is currently outside the highest of tides, these areas may become our future tidal wetlands. However, with the steep coastal topography in most places, tidal wetland areas may become squeezed.

The project will be completed in 2017, with information provided to watershed councils, land trusts and government planners. Its methodology will also be shared with others to advance such planning in other areas of the region. Information will include maps of tidal wetland areas likely to be lost and gained at various sea level rise scenarios and a prioritization of areas for conservation and restoration focus, if there are willing landowners. GIS data layers will be provided as well.

ESTUARY PLANNING

The Habitat Program also participated in and assisted the Oregon Central Coast Estuary Collaborative in planning and priority setting. This effort led by The Nature Conservancy, has 42 federal, state, agency, tribal governments, academic scientist and non-profit participants. The group works to prioritize and coordinate efforts in the hopes of funding and implementing

larger scale estuary restoration projects, including those that address state, county and city road and rail passage barriers to migrating fish.

WATERSHED RESTORATION PROJECTS

Small Grant Team: The Habitat Program helped watershed councils, soil and water conservation districts and tribal groups put restoration projects ‘on the ground’ by managing the OWEB’s North Coast small grant team. In 2016, it oversaw the grant review and approval process for 10 grants involving over \$93,000 for fish passage, large wood placement, erosion control and riparian planting work.

Watershed Council support: The Habitat Program provided administrative and technical support for groups working on the ground to conserve and restore fish habitat on the Oregon coast. It provided support by direct engagement on the boards, committees and working groups of the non-profit organizations. The program worked with the MidCoast Watersheds Council and the Salmon Drift Creek Watershed Council to assure that high priority projects were designed and put in place. It did this by participating in meetings, conference calls and

email communications; by helping direct the groups' staff. It also reviewed restoration plans and drafted documents and proposals outside of these meetings. Through this work in 2016, over \$400,000 worth of technical assistance and restoration project for new work was secured.

US Forest Service (USFS) Stewardship Group: The Habitat Program also helped advise restoration work through the Alsea Stewardship Group, a multi-party group that works cooperatively with the USFS to put habitat restoration projects on the ground. Under the federal stewardship contracting authority (commonly termed the Wyden Authority), a portion of timber sale receipts from commercial cuts or thinning sales can be re-invested in habitat restoration projects within National Forests and on surrounding private lands that have a direct benefit to the forest watershed and its fish and wildlife. In 2016, it reviewed national forest restoration projects such as road decommissioning for erosion control and large wood placement projects. It also reviewed projects for funding on private lands for riparian planting, invasive plant control and culvert repair for fish passage.

FISH HABITAT RESTORATION- FIELD TOURS

Each year, the Habitat Program helps sponsor watershed tours for restoration practitioners at California's Salmonid Restoration Federation (SRF) conference. In 2016, the conference held in Fortuna, California focused on Salmonid Restoration in Working Watersheds. Field Tours included a Headwaters to Bay - Tour of Arcata's Community-based Urban/Wildland Restoration Program; Lower Nattole River and Estuary - Heli-wood Placement, Riparian Planting, and Off-channel Slough Restoration; Salmon Creek Watershed, from Headwaters Forest Reserve to Humboldt Bay National Wildlife Refuge; Voyage of the Argonauts - Returning Habitat, Economic Prosperity and Navigability to the Eel River Delta; Fish Passage and Tidegates - Projects in the Humboldt Bay and Lower Mad River Watersheds and a Lower Klamath and Strawberry Creek Field Tour.

Each full-day tour was attended by 20-30 restoration practitioners. The tours allowed those working on restoration projects to learn from each other and encourage new participants in these important efforts.



*Arcata Community Based Urban/Wildland Restoration
photo Mark Andre, courtesy SRF*

MARINE DEBRIS

PSMFC continues to serve on the Marine Debris Alliance, set up initially under the West Coast Governors Alliance on Ocean Health. Fran Recht served as co-chair of the steering committee in 2016 and promoted work towards curtailment of land-based and ocean-based debris. In 2016, the group worked with interns to help evaluate and promote NOAA's Marine Debris App on the west coast, surveyed West Coast Source Reduction laws and impacts on marine debris on local beaches and sponsored a webinar on microplastics. Monthly calls allow members of the team to share information on programs and policies. PSMFC also worked successfully to pursue funding for gear studies to reduce whale entanglements in crab pot gear (see below).

WORKSHOP "INNOVATIONS TO REDUCE WHALE ENTANGLEMENT IN POT GEAR"

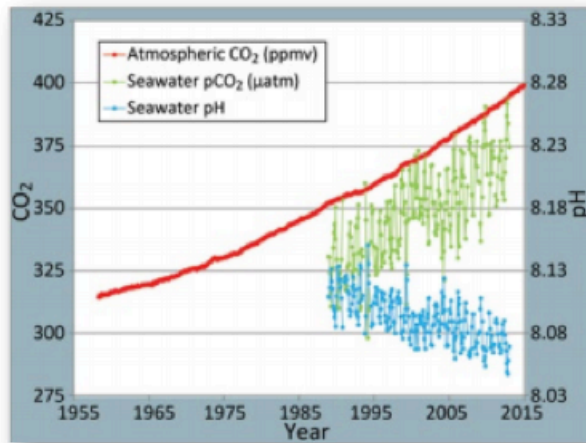
Working in conjunction with the Marine Debris Alliance, PSMFC put together a proposal to NOAA's Bycatch Reduction Engineering Program. The proposal was successful. Work began in 2016 for a workshop to occur in 2017 that will involve west coast fishermen, gear specialists, marine mammal specialists, non-governmental organizations and agency representatives to learn about and discuss innovations that could reduce entanglements of marine mammals, particularly humpback whales in Dungeness crab pot gear. The most promising ideas will then be tested working with willing fishermen and others.

PACIFIC FISHERY MANAGEMENT COUNCIL

Fran Recht serves on the Council’s Habitat Committee which advises the Council on policies and actions affecting the essential fish habitat of managed species. PSMFC’s Dave Hanson also serves on the Council as a non-voting member and parliamentarian as well as chair of the Council’s Legislative Committee. Habitat issues discussed in 2016 included Groundfish Essential Fish Habitat updates; Columbia, Sacramento, and Klamath water and habitat issues; NOAA’s aquaculture policy; mollusk aquaculture expansion in Humboldt Bay; offshore wind energy proposals; fishery specific habitat objectives; fishery ecosystem planning and ocean acidification.

...the average acidity of the surface ocean is expected to double over pre-industrial levels by the end of this century.

Credit: Modified after R.A. Feely, Bulletin of the Meteorological Society, July 2008.



Graphic from the West Coast Ocean Acidification and Hypoxia Science Panel <http://westcoastoah.org/>

Individual Fishing Quota Trawl Rationalization Catch Monitor Program

The **Individual Fishing Quota (IFQ) Catch Monitor Program (CMP)** provides accurate, timely and independent third party verification of catch landed in the IFQ Trawl fishery. Catch monitors (CMs) conduct dockside monitoring at first receivers who land IFQ catch. They verify the sorting, weighing and recording of catch as it is offloaded by first receivers. The CMP was created in 2008 to monitor the whiting fishery and then expanded to include all trawl landings when the IFQ program was implemented in January 2011.

The IFQ trawl fishery has a catch verification system in place to ensure IFQ Groundfish species and in particular, overfished species, as well as Chinook salmon and Pacific halibut, can be adequately monitored and accounted for in season to maintain the integrity of vessel quotas used to manage Groundfish species and trip limits.

During the course of the year, the CMP conducted annual briefings for 43 returning CMs to ensure they have the tools they need to effectively complete their job duties, including a review session as well as a discussion of any applicable changes to Federal regulations and CMP protocol.

The CMP completed two trainings certifying a total of 11 new CMs who are also trained as at-sea observers. In addition to this, the program also trained five new dockside CMs at the request of industry. These individuals work only on shore and monitor deliveries primarily from vessels with Electronic Monitoring Systems. This brings the total of certified CMs for 2016 to 59.

For the 2016 fishing year, debriefings were conducted with each CM in the field. This is to ensure data quality and resolution of any problems that may not yet have been addressed either with regards to CM data quality, first receiver problems or any other concerns that may have been encountered. Program staff completed 56 debriefings during the calendar year for CMs in the field and those leaving the program.

Program staff completed a review of Catch Monitor Plans for 42 IFQ first receivers located from Bellingham to Morro Bay and conducted site visits at 16 of the locations. During these site visits program staff work with fish buyers to ensure they have the ability to comply with Federal regulations and also that offload and safety procedures are clearly outlined in the Catch Monitor Plan and submitted to National Marine Fisheries Service prior to issuance of their annual IFQ First Receiver Site License.

The CMP reviews CM and first receiver data as it enters the data system looking for any anomalies between the data sets. Staff work with the CMs, first receivers and NMFS to resolve data issues in a near real time setting to the extent possible.

The IFQ CMP is comprised of two full time Pacific States Marine Fisheries Commission employees who work solely on this project.



Northern Pikeminnow Sport Reward Program

The **Northern Pikeminnow Sport Reward Program** is a joint effort between the fishery agencies of the states of Washington and Oregon and the Pacific States Marine Fisheries Commission (PSMFC). Funding for the program is provided by the Bonneville Power Administration (BPA). The 2016 season marked the 26th consecutive year of the Sport Reward Fishery program. The Washington Department of Fish and Wildlife (WDFW) operated the sport reward registration/creel check stations throughout portions of the Columbia and Snake rivers and handled all fish checked into the program. Oregon Department of Fish and Wildlife (ODFW) provided fish tagging services, population studies, food habit and reproductive studies, as well as exploitation rate estimates. PSMFC provided fiscal and contractual oversight for all segments of the program and processed all reward vouchers for sport reward anglers. Maintenance of the website (www.pikeminnow.org) is provided by PSMFC. The 2016 season ran from May 1 through September 30.

Highlights of the 2016 Season include:

A season total of 225,350 fish were harvested in the sport reward fishery.

Vouchers for 223,419 fish of the 225,350 total catch were submitted for payment with rewards totaling \$1,784,727. This total reward payout was the largest since the program began in the early 90s. Because of the large catches, program staff requested and received an additional \$300,000 in funding from BPA and the Northwest Power and Conservation Council to complete payments for the 2016 season. In addition, the Northern Pikeminnow Dam Angling program was ended on August 15, 2016 to save funding in support of the Sport Reward payment needs.

Rewards were paid at \$5 for each of the first 25 fish caught by an angler during the season; \$6 for each fish caught in the 26-200 range; and \$8 for each fish caught by an angler above 200 fish.

A total of 1,619 anglers who registered were successful in catching one or more fish in 2016. The top Pikeminnow angler for 2016 caught 14,019 fish and was paid \$119,341 for his efforts.

A total of 228 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. A payment of \$500 was then made for each tagged fish. Vouchers for 227 (of the 228 total tagged fish caught) were submitted for payment with rewards totaling \$113,500.

A total of 174 tag-loss fish were paid a bonus reward of \$100. The total season tag-loss bonus totaled \$17,400.

System-wide exploitation of Northern Pikeminnow during the Sport Reward fishery was 12.1 percent (95 percent confidence interval; 9.7-14.5 percent). Again this year we met the goal of an annual exploitation of between 10 and 20 percent. Using the model of Friesen and Ward (1999), the estimated 2016 predation levels were 29 percent (range: 16-44 percent) lower than pre-program levels.

PSMFC staff continued the maintenance and upgrading of the Northern Pikeminnow Sport Reward Program's website (www.pikeminnow.org) including regular updates of top-20-angler catch and payment numbers and enhanced visual graphics.

Vaunt Marketing promoted the program and assisted in obtaining and securing regular promotion of the Northern Pikeminnow Sport Reward Program on NBC Outdoor GPS, ESPN Radio Outdoorline in Seattle and Northwestern Outdoors Radio. Expanded use of print media advertising and participation in numerous outdoor shows across the Northwest were all part of our successful effort to improve catch and participation in the 2016 season.

North Pacific Observer Program

NORTH PACIFIC OBSERVER PROGRAM OPERATIONAL AND ANALYTIC SUPPORT

The National Marine Fisheries Service (NMFS) Alaska Fisheries Science Center's Fisheries Monitoring and Analysis Division oversees the **North Pacific Observer Program (Observer Program)** which monitors groundfish fishing activities in the US Exclusive Economic Zone off the coast of Alaska. The role of the observers and the information they collect in the course of their official duties is central to the management of sustainable groundfish fisheries in the North Pacific. Fishery observers collect data that are used for quota monitoring, stock assessments, ecosystem investigations, documentation of incidental injury and mortality of marine mammals and various research investigations.

Pacific States Marine Fisheries Commission (PSMFC) works with Observer Program staff to support observer data collection activities in the Alaskan commercial groundfish fisheries in order to provide data of the highest quality possible given the logistical constraints of sampling in an industrial setting. This project supports 13 positions that augment NMFS Observer Program training, debriefing and operational staffing. In addition, this project funds a full-time statistician and database application developer. Both the statistician and application developer work primarily on Alaska fisheries projects but are also available to other projects, such as electronic monitoring, research or administrative projects.

In 2016 PSMFC helped Observer Program trainers as they prepared observers for deployment by assisting with training classes, briefing sessions and safety-emphasized water exercises. Eight three-week training classes for new observers were conducted in addition to 21 annual briefings for returning observers. PSMFC and Observer Program in-season adviser staff worked together to provide oversight to observers during their deployments, both at-sea on fishing vessels and while deployed to shoreside processing facilities. PSMFC staff are an active part of the debriefing team; approximately half of the 846 observers

returning from their at-sea deployments in 2016 were debriefed by PSMFC staff. Throughout, PSMFC supported the Observer Program staff by assisting over 400 observers with safety and sampling gear issue and check-in, maintenance of the safety and sampling gear and procurement of replacement safety and sampling gear.

PSMFC provided IT support to the Observer Program by maintaining and updating existing database and web applications and developing new database and web applications as requested. PSMFC analytic support included developing and evaluating (sampling methods and catch estimation routines, analyzing sampling results, providing analytic and statistical consulting) and providing outreach to observers.

In addition, PSMFC is currently working with the NMFS Alaska Regional Office and the Observer Program to evaluate the procedures used to estimate total catch and discard for Alaskan groundfish fisheries and devise new estimation routines that incorporate statistically valid variance estimates into the estimation process. In 2016, statistical estimators of variance were derived for catch and discards of groundfish in federally managed Alaskan fisheries and presented to the North Pacific Fisheries Management Council at their June meeting.



West Coast Groundfish Observer Program

WEST COAST GROUND FISH OBSERVER PROGRAM

The **West Coast Groundfish Observer Program (WCGOP)** continued its efforts to collect data to supporting the management of the West Coast groundfish fisheries during 2016 by working collaboratively with NOAA Fisheries. 2016 was the fifteenth year the program has deployed observers in a variety of West Coast groundfish fisheries. The program remains flexible and prepared to provide the data needed to support the management and science needs of West Coast groundfish and other protected species. Observers collect scientific, management and other data through measurements of selected portions of the catch and fishing gear; on-board interviews with vessel captains and crew; observations of fishing operations; and collection of biological samples. In addition, a variety of other information is collected by observers on protected species and species of concern, including seabirds, marine mammals and sea turtles.

In 2016, Pacific States Marine Fisheries Commission (PSMFC) worked with National Oceanic Atmospheric Administration (NOAA) Fisheries to administer three 3-week trainings to prepare observers to collect data in the field. A total of 69 observers were trained in 2016, 10 of whom were for the catch share fisheries not including the at-sea hake fisheries and 12 for the Non-Catch Share fisheries (NCS). The At-Sea Hake Observer Program (ASHOP) component (Catcher Processors and Motherships)

conducted three trainings that prepared 47 observers for deployment. The catch share observer training is coordinated with the catch monitor program as nearly every observer is also trained to serve as a catch monitor by PSMFC's catch monitor program which provides dockside monitoring of catch share trip offloads. In addition, observer collected discard data for the catch share fishery is combined with landing data from the catch monitoring program in the NOAA Fisheries Vessel Account System which tracks quota utilization for the catch share fishery.

PSMFC debriefers assure observer data quality through review of observer data and periodic in person meetings with observers during the year. NCS observer effort is coordinated by a PSMFC field coordinator who manages observer resources to meet the coverage goals established for each fishery.

In addition, PSMFC staff worked to procure and manage observer gear to equip observers to carry out their duties. This gear includes safety and sampling gear. PSMFC manages the gear, computers and software used by the observers to complete sampling activities and access the NOAA observer database to enter their data and report activities. PSMFC is assisting NOAA Fisheries with the development of electronic data.

In 2016, WCGOP observers spent 5,961 days at sea: 3,019 in the catch share fisheries (excluding hake and Exempted Fishing Permit (EFP) trips), 91 days on at-sea hake vessels, 245 in the shoreside hake fishery, 221 on various EFP trips, 596 on Limited entry trips, and 1,789 on Open-Access vessels. For the ASHOP component of the program in 2016, there were 2,508 sea days (two observers per vessel) on catcher processors and Motherships. In 2016, PSMFC had 12 full-time staff working for the program (10 with WCGOP, 2 with ASHOP), including debriefers, coordinators, a gear technician, a data analyst and a program manager.



Pacific Fisheries Information Network

The **Pacific Fisheries Information Network (PacFIN)** provides timely and accurate data essential for effective fisheries management. The nation's first regional fisheries data network, PacFIN is a joint federal and state data collection and information management project. It is funded by a grant from the National Marine Fisheries Service (NMFS). Cooperative agency and industry partners supply data from fisheries off the coasts of Washington, Oregon, California and British Columbia. These statistics are recorded in the PacFIN central database, which includes fish-ticket and vessel registration data from state fishery agencies in Washington, Oregon and California and species-composition and catch-by-area proportions from port sampling and trawl logbook data systems. NMFS supplies the central database with limited-entry permit data and daily summaries for the West Coast at-sea fishery developed from tow-by-tow observations. The Network combines the collected information in order to provide accurate estimates of commercial catch and value for the West Coast. This regional data source allows state and federal fisheries agencies to manage regional fisheries and fishery resources more effectively and enables research by industry, non-governmental organizations and universities.

In 2016 the PacFIN office updated the central database with regular datafeeds from nine data sources and responded to various requests for information. PacFIN reports were generated daily and uploaded to the Pacific States Marine Fisheries Commission (PSMFC) and PacFIN website.

Following are highlights of PacFIN central office activities in 2016:

PACFIN DATABASE MIGRATION

The PacFIN database was migrated to a new server during this period. After extensive testing of all software and file systems in a test environment, the production PacFIN database began operation on the new server on June 1.

INTERNAL SYSTEM UPGRADES

Internal system upgrades were performed. These activities 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 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 worked with clients to establish new accounts, grant table access and assist with data retrievals from the PacFIN server environment.

SOFTWARE DEVELOPMENT SUPPORT

Contracted services were retained for software development and varied programming support.

DATABASE REDEVELOPMENT

The redevelopment of Biological Data Systems (BDS) and Groundfish Trawl Logbook (LBK) data systems in the new production environment continued during this period, including the coordination of enhanced data structure and delivery systems with the source agencies, creation of new support tables in the PacFIN database and imports of electronic logbook data from the California Department of Fish and Wildlife (CDFW). Once the data element revisions are complete for all 3 agencies, new coastwide tables will be established for user access.

WEB SITE ENHANCEMENTS

The PacFIN web site continues to expand in content and scope of reporting including the addition of restricted access confidential Apex Reporting System reports.

APEX REPORTING SYSTEM DEVELOPMENT

The Apex Reporting System on the PacFIN web site has expanded to incorporate a suite of password protected confidential reports designed for various applications, including federal Office of Law Enforcement (OLE) vessel and port summary landings, Regional Fishery Management Organizations (RFMO) active vessel and permit monitoring reports, Highly Migratory Species (HMS) landings, permits and logbook compliance reports and Coastal Pelagic Species (CPS) landings data. Through the reconciliation of state fish ticket data, state and federal vessel registration data and National Permit System (NPS) permit and vessel agreement data, these reports are intended to provide scientists and fisheries managers with fast and convenient access to view and download inter-agency data.

PACFIN ANSWERS TOOL DEVELOPMENT

Development of Oracle Business Intelligence software to query the PacFIN database continued during this period. Oracle Answers software was used to develop various user-specific queries and build customized user dashboards for generating specific reports and data sets on demand.

GMT SCORECARDS IN ANSWERS

Pacific Fishery Management Council (PFMC) Fisheries Management Plan (FMP) Groundfish Species “scorecard” report development with Oracle Answers software continues to expand, using varied data sources, including PacFIN’s Comprehensive Fish Ticket dataset, PacFIN’s Comprehensive NPAC dataset (at-sea whiting), Recreational Fisheries (RecFIN) and the West Coast Groundfish Observer Program (WCGOP).

IN-SEASON REPORTING REDEVELOPMENT

The Quota Species Monitoring (QSM) sub-system has been under review with analysis and testing of new design options, including the incorporation of electronic fish ticket (eticket)

data to improve on the current methodology of weekly estimates from port samplers as a component of the Best Estimate Report (BER) in-season management tool. It is expected that the 2017 installation of the QSM will be supported by one or more of these new design component(s).

PACFIN WORKGROUPS

PacFIN workgroups active during this period included: Highly Migratory Species (HMS), working in support of Apex report development as previously annotated; Groundfish Management Team (GMT), working to plan and implement in-season reporting protocols; and PacFIN Data Management, coordinating data collection, delivery and validation operations between the PacFIN central office and all data sources.

REPORT FROM GROUND FISH CATCH MONITORING AND DATA SYSTEMS IN CALIFORNIA

The program monitors and provides California commercial groundfish data for effective fisheries management. Fisheries Technicians enter all non-IFQ landings of commercial groundfish into eTIX within two days of receiving the landing receipt. They sample commercial groundfish landings to determine species compositions of landings and collect biological data on size, sex and reproductive condition of those species. They key that data into a statewide groundfish sampling program database. They also key groundfish trawl logs into eLogbook. The data analyst and managers generate monthly and annual estimates of species, age, length and sex composition from the statewide groundfish sampling program and submit the data to PacFIN. Considerable effort must be expended to satisfy in season and between-season management needs dictated by the Groundfish Fishery Management Plan.

MEETINGS AND SEMINARS

PacFIN staff meetings were conducted weekly. Work group meetings with PacFIN partners were conducted by teleconference as needed. The Annual PacFIN meeting was held on October 26th and 27th in Portland, Oregon.



Columbia Basin PIT Tag Information System

The **Columbia Basin PIT Tag Information System (PTAGIS)** is a coordination and data management project of the Pacific States Marine Fisheries Commission (PSMFC). PTAGIS develops and maintains software used to collect and contribute PIT tag data; manages and makes those data available for download and reporting via the PTAGIS website; and operates and maintains large scale PIT tag detection sites throughout the Columbia Basin. This project is an important prerequisite component of all PIT Tag research conducted for the Bonneville Power Administration (BPA) Fish and Wildlife Program.

PTAGIS develops and maintains software for entering/collecting both tagging and detection data. Tagging data is collected when fish are first marked with PIT tags or recaptured after having been previously PIT-tagged. Detection data is collected when PIT-tagged fish pass through automated antenna systems, called interrogation sites, installed in facilities or streams. The production release of new P4 tagging software in 2016 was a significant milestone for the program. This software combined with recent database enhancements make data collection efforts more efficient and allows linking to other research such as genetic and coded-wire studies. Staff plans a series of training sessions to be conducted in 2017 to promote adoption and provide guidance for upgrading from legacy software, which will remain in use until the majority of users are able to migrate.

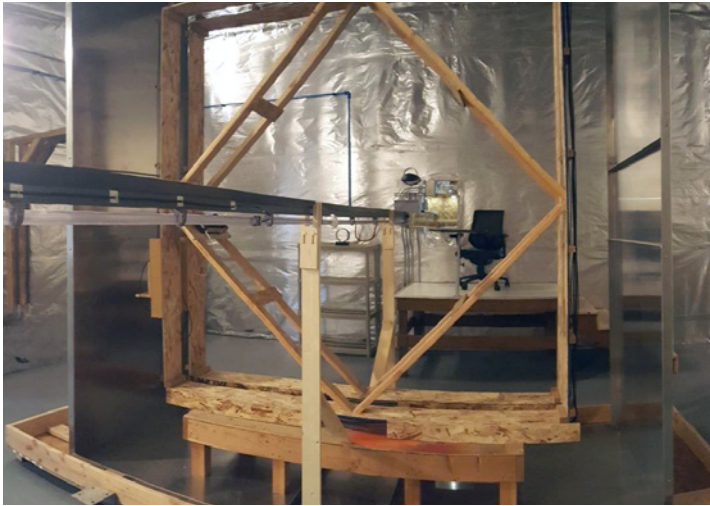
Researchers from 34 organizations contributed over 2.49 million fish marked with a PIT tag to the PTAGIS database in 2016 with a cumulative total approaching 43 million records over the

lifetime of the program. The 326 interrogation sites contributing data to PTAGIS detected 934 thousand uniquely tagged fish this year. One fish can generate many interrogation records as it passes through multiple PIT tag antennas at one or more detection sites; 13.8 million detections were reported to PTAGIS in 2016 totaling 207 million detections since 1987. To give additional scope to the overall data management efforts in 2016: PTAGIS processed 399 thousand data files with 117.3 million database rows updated or inserted; 490 users executed 356 thousand queries resulting in 6.2 billion rows of data returned.

PTAGIS Operations and Maintenance (O&M) staff, based out of Kennewick, Washington, provide direct O&M of 29 large scale interrogation sites throughout the Columbia Basin, primarily at main stem dam locations. This involves daily monitoring and regular onsite visits to maintain the detection equipment that provides the majority of 207 million observation events available in the database system. PTAGIS also maintains the Separation by Code systems at eight locations which can be used by researchers to selectively segregate individual PIT-tagged fish from other tagged and non-tagged fish. The detection and diversion efficiencies at these sites remained very high throughout the year.

PTAGIS O&M staff participate in the design, planning and installation of new interrogation sites and detection technology. New interrogation sites in the ladders at John Day Dam are online but require manual operation until the construction is fully completed by the Corps of Engineers next year. The design team for the Lower Granite Spillway Detection Project reached two major milestones: The flat plate antennas and the transceivers that power them have proceeded beyond the design phase and are now being prototyped and tested. The schedule for installation of this system is winter of 2018 - 2019.

PTAGIS O&M staff also completed the Bonneville Corner Collector (BCC) Simulator system in the Kennewick lab to emulate the largest antenna (the 17'x17' antenna at the BCC) at ½ scale, allowing tag and transceiver testing within a controlled and automated environment. This system will be heavily utilized to evaluate PIT tags submitted from various vendors in support of the next BPA procurement contract.



*Antenna of BCC Simulator in Kennewick Lab;
photo by Alan Brower, PSMFC*



*Lower Granite Spillway Detection Project;
photo by Mark Leonard, PSMFC*

Radio interference from the US Navy, Dixon California facility did not materialize in 2016 as it did in late 2015. This interference had a significant impact on all PIT tag antennas throughout the region. A letter of concern sent to the Navy from the PIT Tag Steering Committee and PTAGIS may have helped to resolve this.

In 2016, PTAGIS continued to provide high quality data collection, validation, management and reporting services, while meeting several large milestones in the release of new tagging software, installation of new interrogation sites at John Day Dam, and passing the design phase and entering the prototype and testing phase for the Lower Granite Spillway Detection project. Hundreds of users from dozens of fisheries organizations utilized PTAGIS on a daily basis to collect, contribute, and retrieve PIT tag data for salmonid and other fish species of interest in the Columbia River basin.



Recreational Fisheries Information Network

The **Recreational Fisheries Information Network/Program (RecFIN)** continued in 2016. The Pacific States Marine Fisheries Commission (PSMFC) works cooperatively with the National Marine Fisheries Service (NMFS) and state fish and wildlife agencies from California, Oregon and Washington to maintain robust and accurate recreational fishery data collection and data base programs for the Pacific Coast. The four goals of RecFIN are:

- Develop and implement a State/Federal cooperative program for a coast-wide 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.
- 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: The Oregon Recreational Boat Survey; the Oregon Shore and Estuary Boats Survey, currently inactive due to funding shortage; the Washington Ocean Sampling Program, the Washington Puget Sound Boat Survey and the California Recreational Fisheries Survey (CRFS). These programs are partially

funded by NMFS and supplemented with state agency funding in all three states. The survey is spread out over approximately 800 fishing access points coast-wide in the three states. Of these sites, approximately 57 percent are in California, 10 percent in Oregon and 33 percent in Washington.

2016 Highlights include:

The state of California, with partial funding from PSMFC, was responsible for the collection of recreational finfish harvest from six geographical districts through the CRFS program. Almost 95,000 angler trips were sampled in 2016 from four distinct fishing modes– (private and rental boats, party and charter boats, man-made structures and beaches and banks) and three water areas (ocean offshore, nearshore and inland marine/estuarine). Of the catch that was retained, CRFS staff observed and identified over 275,000 finfish and invertebrates.

PSMFC provided partial funding for recreational fishery sampling in Oregon and Washington through RecFIN. Sampling was conducted by the state fish and wildlife agencies in both states. Approximately 35-40 percent of all ocean boat angler trips were sampled in both Oregon and Washington in 2016, generally from March through October.

Sampling programs in all three states conducted almost 300,000 angler trip interviews with over 1,000,000 individual specimens examined. Nearly 140,000 biological samples were taken coastwide. Estimates of total catch reveal over 7 million individual fish and invertebrates of 241 different species were retained by anglers in Oregon, Washington and California.

Catch, effort and biological sampling data for all three states can be found in the RecFIN database (www.recfin.org) maintained by PSMFC. Detailed explanations of the sampling methodology and estimation statistics of the various sampling programs can also be found on the website. In 2016, PSMFC staff continued their efforts to convert the RecFIN database from a Statistical Analysis System (SAS) format to Microsoft Structural Query Language (MS-SQL) relational database. Major progress on this project is envisioned through a collaborative effort with PSMFC staff in the

Pacific Fisheries Information Network and Alaska Fisheries Information Network (PacFIN and AKFIN) programs. Rollout of the new database is expected early in 2017.

Electronic collection and storage of recreational groundfish harvest data was a growing priority in 2016. PSMFC, the Timmons Group and Oregon Department of Fish and Wildlife (ODFW) continued their collaborative efforts to develop and test an Internet Operating System (IOS) based mobile data collection application for use by recreational samplers of the Oregon Charter boat fleet. Full field implementation of the application was done on over 100 ride along sampling trips by biological staff from ODFW. The mobile application, one of the first of its kind in the country, is proving to be very effective and efficient in gathering recreational angler catch data at sea.

Education of marine recreational anglers regarding the need for increased use of barotrauma reduction devices and accurate angler identification of harvested rockfish was a priority for fishery managers in 2016. With funding from several different National Oceanic and Atmospheric Administration grants, PSMFC staff worked with state and federal managers and private fishing organizations to develop and distribute a number of education and outreach materials to anglers along the Pacific Coast. Over 14,000 laminated rockfish ID sheets and nearly 3,500 rockfish descending devices were made available to anglers.



Lingcod; photo Vicky Okimura, courtesy of Washington Department of Fish and Wildlife



Regional Mark Processing Center

The **Regional Mark Processing Center (RMPC)** serves federal, state, tribal and private fisheries agencies on the 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 US Fish and Wildlife Service and the Bonneville Power Administration (BPA). Over 60 million coded wire tagged fish are now released coast-wide every year, mostly from publicly funded fish hatcheries, with approximately 1,200 different tag codes.

DATABASE SOFTWARE CHANGE

2016 was the first full year of using PostgreSQL open source database software for running the RMIS. This has been very successful and the new system is operating flawlessly. The change has also decreased costs and made good use of the available disk space on the PSMFC virtual servers.

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 data sets. This is an ongoing project as data uploading errors are identified and corrected. The staff continues to work 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 causes of the errors and correct them. Also substantial effort was put into adding Global Positioning System (GPS) coordinates (latitudes and longitudes) for land-based release and recovery locations. GPS coordinates for the US locations were completed. Canadian locations will be completed in the future. This provides the ability to map the data.

MISSING RECOVERY DATA

Missing freshwater tag 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.

GEOGRAPHIC INFORMATION SYSTEMS (GIS) MAPPING OF RELEASE AND RECOVERY LOCATIONS

The mapping tool for viewing maps of specific CWT codes as points on a map that show the hatchery, release location and subsequent recovery locations was updated and enhanced for use in PostgreSQL. This is available for release queries in RMIS. Latitude/Longitude of all release and recovery locations for the United States have been entered in the database having been identified using GIS mapping tools. This is an ongoing project to enhance the mapping of CWT release locations and recovery locations.



photo by George Nandor

Region and Basin maps are available at: <http://www.rmpec.org/rmpec-domain-region-basin-maps.html>

ANNUAL MEETING OF THE REGIONAL COMMITTEE ON MARKING AND TAGGING

The 2016 Mark Meeting was held April 26 and 27, 2016, in Boise, Idaho and was hosted by the Idaho Department of Fish and Game (IDFG). The meeting minutes and presentations are available at: <http://www.rmpec.org/annual-mark-meeting-minutes.html>. Agenda items included updates of the RMPC activities, status of CWT data and updated RMPC publications. A discussion on the issue of half-length tags being misidentified in the database causing confusion with full-length tag data. There were also updates on Pacific Salmon Commission (PSC) Data Sharing Committee and the Data Standards Work Group activities and the PSC Selective Fishery Evaluation Committee. Northwest Marine Technology provided updates on some of their products, including a quad counter, a sub-sampling detector gate and other items.

In addition, a number of timely reports were presented to the Mark Committee to increase regional awareness of the various marking issues facing the fisheries agencies on the West Coast. Some of the key reports are listed below:

- Update on mass marking, selective fisheries and agency tagging levels for 2016.

- Agency presentations on the use of coring machines in their tag labs to help in the tag extraction process.
- Recording errors with half-length tags.
- Agency Updates: See meeting minutes on-line.

REGIONAL COORDINATION

RMPC staff participated in PSC committees and regional science and management teams to assist with coordinating CWT activities and providing CWT data. The RMPC continues working closely with IDFG in providing PSMFC staff to assist with their hatchery data under a contract with the Lower Snake River Compensation Plan. The RMPC also works with the Oregon and Washington Departments of Fish and Wildlife (ODFW and WDFW) to implement the CWT recovery program in sampling sport, commercial and tribal fisheries for salmon and steelhead carrying tags under a BPA-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. PSMFC staff also assisted research biologists in the region in acquiring the CWT data they need for a variety of projects.

CODED WIRE TAG DATA

Work continued full time on expediting the processing of new data sets (CWT releases, recoveries, catch/sample, etc.) as they were supplied by the various reporting agencies.

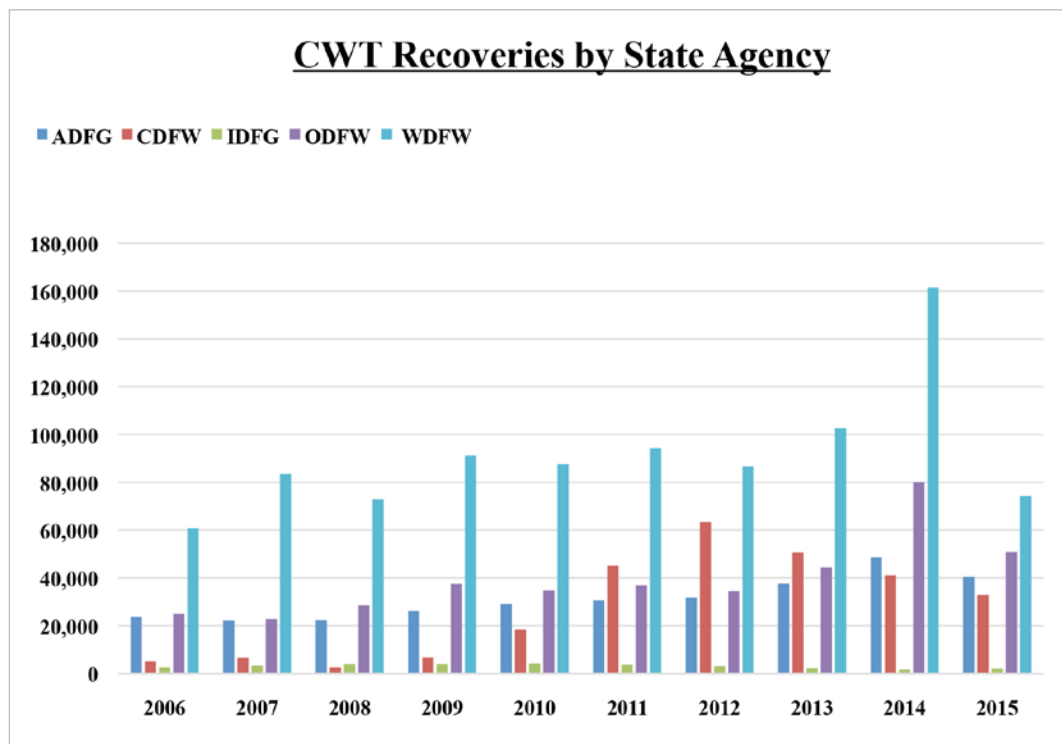
Number of new data rows in RMIS tables added during calendar year 2016:

Releases:	3,094 rows
Recoveries:	324,106 rows
Catch/Sample:	6,363 rows
Locations:	302 rows

Use of the RMIS database remains strong in the fisheries community. It is of interest that 634 different people logged-in to RMIS in 2016. Many of those people logged-in multiple times, with 437 people logging-in more than once and 168 people logging-in ten or more times over the year. One power user has logged-in 890 times since registering on the RMIS site.

SPECIALIZED DATA REQUESTS

Throughout the year, specialized requests were received and processed for all CWT recoveries for specific sets of tag codes. These “brood reports” summarized tag recoveries across all fisheries, agencies and recovery years. In addition, numerous data users were assisted in retrieving “raw” recovery records. These data subsets were then processed by the respective data users in a variety of ways to build their own in-house PC databases and generate customized reports, etc.



Note the increase in CWT recoveries by CDFW (California Fish & Wildlife) beginning in 2010, due to implementation of constant fractional marking (25%) of all fall chinook releases.



StreamNet

StreamNet provides access to regional fish data by maintaining a coordinated, standardized, web-based distributed information network. The need for regionally coordinated and readily accessible salmon and steelhead data has been identified by the Northwest Power and Conservation Council, the Bonneville Power Administration (BPA) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service. StreamNet works cooperatively with the agencies that create

the data by supporting technical staff inside these agencies and by leading or coordinating a number of initiatives to implement regional approaches to data management.

During 2016 StreamNet continued to help lead the Coordinated Assessments (CA) project. CA focuses on the key indicators and metrics for salmon and steelhead populations identified as priorities for reporting progress on implementation of the Federal Columbia River Power System Biological Opinion (BiOp). In 2016 BPA requested that StreamNet help to gather as much data as possible for certain populations they determined were priorities, and StreamNet assisted in this effort.

States and tribes continued to provide available data for these and other indicators to StreamNet in 2016, with an emphasis on the BPA priority populations. The following table shows the data flow for all populations, including Endangered Species Act - listed populations as identified by the Technical Recovery Teams (TRT); Staff at Pacific States Marine Fisheries Commission and subcontracting agencies also continued implementation of the BPA secure data repository initiative, and StreamNet maintained

						
US Fish and Wildlife Service	Idaho Department of Fish and Game	Oregon Department of Fish and Wildlife	Montana Fish, Wildlife, and Parks	Washington Department of Fish and Wildlife	The Confederated Tribes of the Colville Reservation	Columbia River Inter-Tribal Fish Commission
StreamNet is funded by:		In support of:		A Fisheries Data Project of:		
						
Bonneville Power Administration		Northwest Power and Conservation Council		The Pacific States Marine Fisheries Commission		

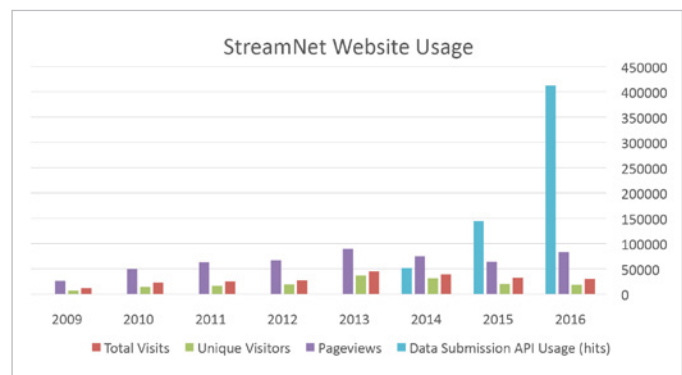
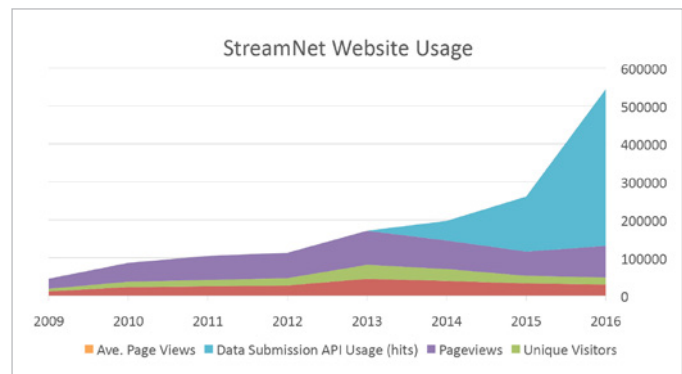
**PUBLISHABLE COORDINATED ASSESSMENTS
DECEMBER 30, 2016**

High Level Indicator	Agency	Populations Reported (includes partial & multiple popfit)	Years of Valid data	TRT Populations Reported	TRT Pop. Years with HLIs	% of 213 TRT Populations
Natural Origin Spawner Abundance	ODFW	72	2,027	47	1,517	22.1%
	IDFG	24	1,162	24	1,087	11.3%
	WDFW	64	1,825	64	795	30.0%
	CCT	1	11	1	11	0.5%
	All Agencies	155	5,025	130	3,410	61.0%
Recruits per Spawner	ODFW	42	1,642	21	1,202	9.9%
	IDFG	18	931	18	820	8.5%
	WDFW	26	272	26	271	12.2%
	CCT	1	2	1	2	0.5%
	All Agencies	86	2,847	65	2,295	30.5%
Smolt to Adult Ratios	CRITFC	25	366	4	33	1.9%
	ODFW	4	62	4	56	1.9%
	WDFW	3	24	3	24	1.4%
	CCT	1	7	1	7	0.5%
	All Agencies	33	459	12	120	5.6%
Juvenile Outmigrants	WDFW	18	268	18	261	8.5%
	IDFG	8	134	8	130	3.8%
	ODFW	5	91	5	84	2.3%
	CCT	1	9	1	9	0.5%
	All Agencies	32	502	32	484	15.0%
Presmolt Abundance	ODFW	4	73	4	58	1.9%
	WDFW	2	20	2	20	0.9%
	All Agencies	6	93	6	78	2.8%
All HLIs	All Agencies		8,926		7,525	

Population totals for All Agencies may be less than column sum due to shared pops.
 Table sums 213 TRT Populations in 'Interior Columbia' & 'Willamette/Lower Columbia' Recovery Domains.
 Total HLIs Reported for NOSA includes both HLIs if reported. TRT Pop. Years with HLIs only counts 1 year if either or both HLIs are reported.

the Data Store as a Repository for any BPA projects without available secure repositories. Staff provided leadership and support for a second workshop on hand held technology for fish data projects, in collaboration with the Western Forestry Association, the Pacific Northwest Aquatic Monitoring Partnership and Sitka Technologies. StreamNet partner staff participated in or presented findings at this workshop.

A wide variety of data types were disseminated through the StreamNet website in 2016 (www.streamnet.org). Overall use of the site has been relatively stable over the last few years, except that automated data exchange via Application Programming Interface (API) has increased dramatically. This is an encouraging trend in that it indicates that StreamNet partners are building networks to exchange information efficiently and that data users are building automated systems to utilize that data.



**PACIFIC STATES MARINE
FISHERIES COMMISSION**

**FINANCIAL STATEMENTS AND
SUPPLEMENTARY INFORMATION**

YEAR ENDED JUNE 30, 2016

**PACIFIC STATES MARINE FISHERIES COMMISSION
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**PACIFIC STATES MARINE FISHERIES COMMISSION
BOARD OF COMMISSIONERS
JUNE 30, 2016**

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INDEPENDENT AUDITORS' REPORT

Board of Commissioners
Pacific States Marine Fisheries Commission
Portland, Oregon

Report on the Financial Statements

We have audited the accompanying financial statements of the commission-wide governmental activities, each major governmental fund, and the aggregate remaining fund information of Pacific States Marine Fisheries Commission, as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the entity's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the auditing 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 audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.



(2)

Board of Commissioners
Pacific States Marine Fisheries Commission

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the commission-wide governmental activities, each major governmental fund, and the aggregate remaining fund information of Pacific States Marine Fisheries Commission as of June 30, 2016, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 5 through 9 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.

Other Information

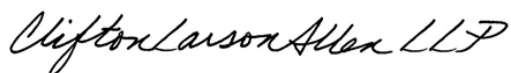
Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Pacific States Marine Fisheries Commission's basic financial statements. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, and is 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. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Board of Commissioners
Pacific States Marine Fisheries Commission

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated September 25, 2016, on our consideration of Pacific States Marine Fisheries Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and 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 result of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Pacific States Marine Fisheries Commission's internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Bellevue, Washington
September 25, 2016

**PACIFIC STATES MARINE FISHERIES COMMISSION
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2016**

This discussion and analysis of the Pacific States Marine Fisheries Commission's (the Commission) financial performance provides an overview of the Commission's financial activities for the year ended June 30, 2016. Please read it in conjunction with the accompanying basic financial statements and notes to the financial statements.

Overview of the Financial Statements

This discussion and analysis is an introduction to the Commission's basic financial statements, which comprise three components: 1) Commission-wide financial statements, 2) governmental fund financial statements, and 3) notes to the basic financial statements. This report also contains other supplementary information in addition to the basic financial statements.

Commission-Wide Financial Statements (Reporting the Commission as a Whole)

The Commission-wide financial statements are designed to be similar to private sector businesses in that all Commission activities are consolidated. These statements combine fund financial resources with capital assets and long-term obligations.

The statement of net position presents information on all the Commission's assets and liabilities, with the difference between the two reported as net position. Over time, changes in net position may serve as a useful indicator of whether the financial position of the Commission is improving or deteriorating. Assets and liabilities are generally measured using current values. One notable exception is capital assets, which are stated at historical cost less an allowance for depreciation.

The statement of activities and change in net position presents information showing how the Commission's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying events giving rise to the change occur, regardless of when cash is received or paid.

This report also includes two schedules that reconcile the amounts reported in the governmental fund financial statements (modified accrual accounting) with activities on the Commission-wide statements (accrual accounting).

The following summarizes the impact of transitioning from modified accrual to accrual accounting:

- Capital assets used in Commission activities are not reported on governmental fund statements.
- Unless due and payable, long-term liabilities such as capital lease obligations, notes payable, and others, only appear as liabilities in the Commission-wide statements.
- Capital outlay spending results in capital assets on the Commission-wide statements and are depreciated over their estimated useful lives, but are reported as expenditures on the governmental fund statements.
- Repayment of debt principal decreases liabilities on the Commission-wide statements, but is reported as an expenditure on the governmental fund statements.
- Gains and losses from disposal of capital assets are reported on the Commission-wide statements, but the total proceeds from such disposals are reported as other financing sources on the governmental fund statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2016**

Overview of the Financial Statements (Continued)

Fund Financial Statements (Reporting the Commission's Major Funds)

The fund financial statements provide information about the major individual funds. A fund is a fiscal and accounting entity with a self-balancing set of accounts that the Commission uses to keep track of specific sources of funding and spending for a particular purpose.

The Commission's basic services are reported in the funds, which focus on how money flows into and out of those funds and the balances left at year-end that are available for future spending. The fund financial statements provide a short-term view of the Commission's general operations and the basic services it provides. Fund information helps determine whether there are more or fewer financial resources that can be spent in the near future to finance the Commission's programs.

These funds are reported using modified accrual accounting, which measures cash and all other financial assets that can readily be converted to cash. The Commission's funds include the General, Grants and Contracts, and Proprietary funds.

Notes to the Basic Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the Commission-wide and fund financial statements. The notes to the financial statements are a required part of the basic financial statements.

Commission-Wide Condensed Financial Information

The following table reflects the condensed statement of net position at June 30:

	2016	2015
ASSETS		
Other Assets	\$ 20,957,086	\$ 21,787,443
Capital Assets	1,054,189	1,018,194
Total Assets	\$ 22,011,275	\$ 22,805,637
LIABILITIES		
Current Liabilities	\$ 9,147,279	\$ 10,904,557
Long-Term Liabilities	2,885,727	1,715,598
Total Liabilities	12,033,006	12,620,155
NET POSITION		
Invested in Capital Assets, Net of Related Debt	1,022,567	1,006,801
Unrestricted	8,955,702	9,178,681
Total Net Position	9,978,269	10,185,482
Total Liabilities and Net Position	\$ 22,011,275	\$ 22,805,637

The Commission's net position, referred to as unrestricted, may be used to meet the ongoing obligations of the Commission. The remaining net position reflects investment in capital assets used to provide services to programs; consequently, these assets are not available for future spending.

**PACIFIC STATES MARINE FISHERIES COMMISSION
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2016**

Commission-Wide Condensed Financial Information (Continued)

The Commission has managed several short-term salmon disaster programs over the last decade. The 2016 decrease in other assets and current liabilities was primarily due to Alaska Chinook Salmon Disaster program claims accrued at the end of fiscal year 2015 and liquidated in 2016. The program incurred only minimal new expenditures in 2016.

The following condensed financial information was derived from the Commission-wide statement of activities and change in net position and reflects how the Commission's net position changed during the fiscal year.

	<u>2016</u>	<u>2015</u>
REVENUE		
Grants and Contracts	\$ 56,209,049	\$ 63,114,592
General Revenue	1,228,411	205,606
Total Revenue	<u>57,437,460</u>	<u>63,320,198</u>
EXPENSES		
Fisheries Related Programs	57,612,678	63,457,859
Other Expenses	31,995	1,087
Total Expenses	<u>57,644,673</u>	<u>63,458,946</u>
CHANGE IN NET POSITION	(207,213)	(138,748)
Net Position - Beginning of Year	<u>10,185,482</u>	<u>10,324,230</u>
NET POSITION - END OF YEAR	<u>\$ 9,978,269</u>	<u>\$ 10,185,482</u>

The net position decreased by \$207,213 during the current fiscal year in comparison with a decrease in the prior year of \$138,748.

A 2016 decrease in revenues and expenditures related the Alaska Chinook Salmon Disaster program, in the amount of approximately \$12M, was partially offset by expansion of the Vessel Monitoring program (VMS) for replacement monitoring units and new fisheries with VMS requirements plus supplemental funding for the Fisheries Information Network (FIN) programs. The Commission has managed several salmon disaster programs during the past decade. These programs are of a short duration and create fluctuations in year-to-year comparisons. The overall decrease in program income had a minimal effect on net position, because the majority of the related costs were not subject to indirect cost recovery.

On August 1, 2015, the Commission entered into a purchase agreement with Northwest Marine Technology, Inc. to purchase four AutoFish Systems for \$2,252,000. At the same time, the Commission entered into a lease-purchase option memorandum of understanding with Idaho Department of Fish and Game (IDFG) for the four AutoFish Systems for \$2,252,000. The payments to Northwest Marine Technology, Inc. match exactly the payments to be received from IDFG. The AutoFish Systems were recorded as an addition to capital assets as a result of the purchase and then recorded as a deletion as a result of the lease-purchase agreement with IDFG. The remaining balance of the lease receivable consists of payments plus interest of 4.25% due to the Commission annually by December 1. General revenue includes the lease payment received from IDFG.

(7)

**PACIFIC STATES MARINE FISHERIES COMMISSION
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2016**

Commission-Wide Condensed Financial Information (Continued)

2016 indirect rates were established based upon actual 2014 expenditures. During fiscal year 2014 the Commission added a new indirect cost center, Geographic Information System (GIS). The 2014 indirect pool did not capture full year costs, and accordingly, the 2016 indirect rates were understated. This under recovery resulted in a net position decrease. Unrecovered costs will be recovered in the 2018 indirect rate calculation.

Financial Analysis of the Commission's Funds

General Fund and Grants and Contracts Fund

The focus of the Commission's funds is to provide information on near-term inflows, outflows, and balances of spendable resources. Such information is useful in assessing the Commission's financing requirements. In particular, the unrestricted fund balance may serve as a useful measure of the Commission's net resources available for spending at the end of the fiscal year.

As the Commission completed the year, its general fund reported an unrestricted fund balance of \$8,955,702 as of June 30, 2016. This amount constitutes the unreserved fund balance, which is available for appropriation for the general purposes of the fund. The excess revenues of the special revenue fund (grants and contracts) are transferred to the general fund at the end of the year resulting in a zero fund balance at the end of the year. The Commission has no legal requirement for a budget, though budget estimates are prepared for the general fund. Certain contracts and grants have budget requirements, which must be monitored; however, these budgets are not program wide. Accordingly, budgetary information has not been included in the basic financial statements.

Proprietary Fund

The proprietary fund reported a cash balance at June 30, 2016, of \$2,221,939 for future payouts of vacation and sick leave liabilities to employees upon termination or retirement. During the fiscal year ended June 30, 2016, the cash balance increased by \$178,516 as the result of a change to accruals for sick leave.

Capital Assets and Long-Term Debt

Capital Assets

The Commission's investment in capital assets, net of accumulated depreciation, amounted to \$1,054,189 and includes a broad range of assets (see the table below). Depreciation charges for this fiscal year totaled \$488,093.

	2016	2015
Computers	\$ 272,069	\$ 208,934
Furniture and Office Equipment	24,234	17,421
Leasehold Improvements	76,207	97,466
Field and Scientific Equipment	477,738	479,623
Truck/Boat	203,941	214,750
Total	<u>\$ 1,054,189</u>	<u>\$ 1,018,194</u>

The additions to capital assets totaled \$2,785,098 for the year ended June 30, 2016. There are no planned future acquisitions of any significance.

**PACIFIC STATES MARINE FISHERIES COMMISSION
MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED JUNE 30, 2016**

Capital Assets and Long-Term Debt (Continued)

Long-Term Debt

The Commission acquired outstanding debt of \$33,945 during fiscal year 2016 related to a contract for a boat. They also acquired \$2,252,000 in debt as part of the purchase of the AutoFish System. This debt is offset by the Lease Receivable on the same AutoFish System with Idaho Fish and Game. The Commission has encountered no problems in obtaining financing as needed.

Economic Expectations

The Commission receives the majority of its revenue from the administration of contracts and grants related to fisheries resources management. The Commission expects stable funding in these services. The Commission's prudent use of resources continues to position it well in providing services to its customers and member states of Alaska, California, Idaho, Oregon, and Washington.

Requests for Information

This financial report is designed to provide a general overview of the Pacific States Marine Fisheries Commission's finances for all those with an interest in the Commission's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to the Department of Finance, Accounting Division, 205 SE Spokane Street, Suite 100, Portland, Oregon 97202-6413.

**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF NET POSITION
JUNE 30, 2016**

	Governmental Activities
ASSETS	
CURRENT ASSETS	
Cash and Cash Equivalents	\$ 9,798,700
Receivables:	
Grants and Contracts	6,541,188
Other	3,204,560
Lease Receivable, Current Portion	300,637
Prepaid Expenses	179,378
Total Current Assets	20,024,463
NONCURRENT ASSETS	
Capital Assets, Net of Accumulated Depreciation	1,054,189
Lease Receivable, Less Current Portion	932,623
Total Noncurrent Assets	1,986,812
 Total Assets	 22,011,275
LIABILITIES AND NET POSITION	
CURRENT LIABILITIES	
Accounts Payable	6,221,731
Payroll Liabilities	1,771,977
Compensated Absences, Current Portion	284,800
Capital Lease Obligation, Current Portion	11,100
Long-Term Debt, Current Portion	305,194
Unearned Rent	321,866
Unearned Revenues	230,611
Total Current Liabilities	9,147,279
LONG-TERM LIABILITIES (Due in More than One Year)	2,885,727
Total Liabilities	12,033,006
NET POSITION	
Investment in Capital Assets, Net of Related Debt	1,022,567
Unrestricted	8,955,702
Total Net Position	\$ 9,978,269

See accompanying Notes to Financial Statements.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF ACTIVITIES AND CHANGE IN NET POSITION
YEAR ENDED JUNE 30, 2016**

	<u>Governmental Activities</u>
PROGRAM REVENUES	
Grants and Contracts	\$ 56,209,049
PROGRAM EXPENSES	
Fisheries Management:	
Materials and Services	31,197,742
Personal Services	24,058,506
Salmon Disaster Relief	130,672
Sport Rewards	1,734,909
Capital Outlay Not Capitalized	2,756
Interest Expense	31,995
Depreciation	488,093
Total Program Expenses	<u>57,644,673</u>
NET PROGRAM REVENUES	(1,435,624)
GENERAL REVENUES	
State Dues	106,000
Lease Income	1,018,740
Interest and Other Income	103,671
Total General Revenues	<u>1,228,411</u>
CHANGE IN NET POSITION	(207,213)
Net Position - Beginning of Year	<u>10,185,482</u>
NET POSITION - END OF YEAR	<u><u>\$ 9,978,269</u></u>

See accompanying Notes to Financial Statements.

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PACIFIC STATES MARINE FISHERIES COMMISSION
BALANCE SHEET – GOVERNMENTAL FUNDS
JUNE 30, 2016

	General	Grants and Contracts	Total
ASSETS			
Cash and Cash Equivalents	\$ 7,576,761	\$ -	\$ 7,576,761
Due from Other Funds	6,541,188	230,611	6,771,799
Receivables:			
Grants and Contracts	-	6,541,188	6,541,188
Lease	1,233,260	-	1,233,260
Other	3,204,560	-	3,204,560
Prepaid Expenses	179,378	-	179,378
	<u>179,378</u>	<u>-</u>	<u>179,378</u>
Total Assets	<u>\$ 18,735,147</u>	<u>\$ 6,771,799</u>	<u>\$ 25,506,946</u>
LIABILITIES, DEFERRED INFLOWS, AND FUND BALANCES			
Due to Other Funds	\$ 230,611	\$ 6,541,188	\$ 6,771,799
Accounts Payable	6,221,731	-	6,221,731
Payroll Liabilities	1,771,977	-	1,771,977
Unearned Rent	321,866	-	321,866
Unearned Revenues	-	230,611	230,611
Total Liabilities	<u>8,546,185</u>	<u>6,771,799</u>	<u>15,317,984</u>
Deferred Items - Unavailable Revenue from Leases	<u>1,233,260</u>	<u>-</u>	<u>1,233,260</u>
Nonspendable Fund Balances	179,378	-	179,378
Fund Balances, Unassigned	<u>8,776,324</u>	<u>-</u>	<u>8,776,324</u>
Total Fund Balances	<u>8,955,702</u>	<u>-</u>	<u>8,955,702</u>
	<u>\$ 18,735,147</u>	<u>\$ 6,771,799</u>	<u>\$ 25,506,946</u>

See accompanying Notes to Financial Statements.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
RECONCILIATION OF THE GOVERNMENTAL FUNDS BALANCE SHEET TO THE
STATEMENT OF NET POSITION
JUNE 30, 2016**

Fund Balances - Governmental Funds	\$ 8,955,702
Amounts reported for governmental activities in the statement of net position are different because:	
Capital assets used in governmental activities are not financial resources and, therefore, are not reported in governmental funds:	
Capital Assets	4,469,913
Less: Accumulated Depreciation	<u>(3,415,724)</u>
Total	1,054,189
Deferred item from lease revenue not reported on the statement of net position.	1,233,260
Long-term debt obligations are not due and payable in the current period and, therefore, are not reported in the governmental funds	<u>(1,264,882)</u>
Net Position	<u><u>\$ 9,978,269</u></u>

See accompanying Notes to Financial Statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGE IN
FUND BALANCES – GOVERNMENTAL FUNDS
YEAR ENDED JUNE 30, 2016**

	General	Grants and Contracts	Total
REVENUES			
Grants and Contracts	\$ -	\$ 57,227,789	\$ 57,227,789
State Dues	106,000	-	106,000
Lease Income	1,018,740	-	1,018,740
Interest and Other Income	103,671	-	103,671
Total Revenues	<u>1,228,411</u>	<u>57,227,789</u>	<u>58,456,200</u>
EXPENDITURES			
Current:			
Personal Services	2,669,694	21,388,812	24,058,506
Materials and Services	1,184,401	30,004,331	31,188,732
Salmon Disaster Relief	-	130,672	130,672
Sport Rewards	-	1,734,909	1,734,909
Capital Outlay	2,348,106	439,748	2,787,854
Debt Service:			
Principal	1,018,740	13,716	1,032,456
Interest	31,018	977	31,995
Total Expenditures	<u>7,251,959</u>	<u>53,713,165</u>	<u>60,965,124</u>
EXCESS (DEFICIENCY) OF REVENUES OVER EXPENDITURES	(6,023,548)	3,514,624	(2,508,924)
OTHER FINANCING SOURCES (USES)			
Proceeds from Capital Leases	-	33,945	33,945
Proceeds from Debt	2,252,000	-	2,252,000
Indirect Cost/Administration Transfers In	3,548,569	-	3,548,569
Indirect Cost/Administration Transfers Out	-	(3,548,569)	(3,548,569)
Total Other Financing Sources (Uses)	<u>5,800,569</u>	<u>(3,514,624)</u>	<u>2,285,945</u>
EXCESS OF REVENUES AND OTHER SOURCES (USES) OVER EXPENDITURES AND OTHER SOURCES (USES)	(222,979)	-	(222,979)
Fund Balance - Beginning of Year	<u>9,178,681</u>	<u>-</u>	<u>9,178,681</u>
FUND BALANCE - END OF YEAR	<u>\$ 8,955,702</u>	<u>\$ -</u>	<u>\$ 8,955,702</u>

See accompanying Notes to Financial Statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
RECONCILIATION OF THE GOVERNMENTAL FUNDS STATEMENT OF REVENUES,
EXPENDITURES, AND CHANGE IN FUND BALANCES TO THE STATEMENT OF
ACTIVITIES AND CHANGE IN NET POSITION
YEAR ENDED JUNE 30, 2016**

Net Change in Fund Balances - Total Governmental Funds \$ (222,979)

Amounts reported for governmental activities in the statement of revenues, expenditures, and change in fund balances are different because:

Governmental funds report capital outlays as expenditures. However, in the statement of revenues, expenditures, and change in fund balances, the cost of those assets is capitalized and depreciated over their estimated useful lives.

Capital Outlay	2,787,854
Less: Capital Outlay Not Capitalized	(2,756)
Less: Current Year Depreciation	<u>(488,093)</u>
Total	2,297,005

The loss on the sale of assets is reported in the Commission-wide statements but not in the fund statements (9,010)

Collection of lease receivable is revenue in the governmental funds, but the collection of the lease receivable reduces noncurrent assets in the statement of net position and the amount representing interest is included as revenue in the statement of revenues, expenditures, and change in fund balances:

Lease Receivable Receipts	(1,018,740)
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Repayment of capital lease principal is an expenditure in the governmental funds, but the repayment of principal reduces long-term liabilities in the statement of net position and the amount representing interest is included as an expense in the statement of revenues, expenditures, and change in fund balances:

Change in Capital Lease Obligations	(33,945)
Capital Lease Payments	<u>6,880</u>
Total	(27,065)

Repayment of long-term debt principal is an expenditure in the governmental funds, but the repayment of principal reduces long-term liabilities in the statement of net position and the amount representing interest is included as an expense in the statement of revenues, expenditures, and change in fund balances:

Proceeds from Long-Term Debt Obligations	(2,252,000)
Long-Term Debt Payments	<u>1,025,576</u>
Total	<u>(1,226,424)</u>

Change in Net Position	<u><u>\$ (207,213)</u></u>
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See accompanying Notes to Financial Statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF NET POSITION – PROPRIETARY FUNDS
JUNE 30, 2016**

	Governmental Activities- Internal Service Fund Type <hr/> Compensated Absences
ASSETS	
Cash and Cash Equivalents	\$ 2,221,939
LIABILITIES	
Accrued Compensated Absences	<hr/> 2,221,939
NET POSITION	
Unrestricted	<hr/> <hr/> \$ -

See accompanying Notes to Financial Statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF REVENUES, EXPENSES, AND CHANGE IN NET POSITION –
PROPRIETARY FUNDS
YEAR ENDED JUNE 30, 2016**

	Governmental Activities- Internal Service Fund Type <hr/> Compensated Absences
OPERATING REVENUES	
Charges for Services	\$ 289,524
OPERATING EXPENSES	
Compensated Absences Expense	<hr/> 289,524
OPERATING INCOME	-
Net Position - Beginning of Year	<hr/> -
NET POSITION - END OF YEAR	<hr/> <hr/> \$ -

See accompanying Notes to Financial Statements.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
STATEMENT OF CASH FLOWS – PROPRIETARY FUNDS
YEAR ENDED JUNE 30, 2016**

	Governmental Activities- Internal Service Fund Type <u>Compensated Absences</u>
CASH FLOWS FROM OPERATING ACTIVITIES	
Charges for Services	\$ 289,524
Cash Paid to Employees for Services	<u>(111,008)</u>
Net Cash Provided by Operating Activities	<u>178,516</u>
NET CHANGE IN CASH AND CASH EQUIVALENTS	178,516
Cash and Cash Equivalents - Beginning of Year	<u>2,043,423</u>
CASH AND CASH EQUIVALENTS - END OF YEAR	<u><u>\$ 2,221,939</u></u>
RECONCILIATION OF OPERATING INCOME TO NET CASH PROVIDED BY OPERATING ACTIVITIES	
Operating Income	\$ -
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:	
Changes in Assets and Liabilities:	
Increase in Compensated Absences	<u>178,516</u>
Net Cash Provided by Operating Activities	<u><u>\$ 178,516</u></u>

See accompanying Notes to Financial Statements.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Nature of Operations

The Pacific States Marine Fisheries Commission (the Commission) was authorized in 1947 by an Act of the Congress of the United States of America granting consent and approval to an interstate compact. The Commission is composed of five member states: Alaska, California, Idaho, Oregon, and Washington. While the Commission has no regulatory or management authority, it was created to provide collective participation by states to work on mutual problems of fisheries resource management. The Commission's principal offices are located in Portland, Oregon.

Financial Reporting Entity

The Commission is a quasi-governmental corporation governed by a 15-member board. As required by accounting principles generally accepted in the United States of America, these basic financial statements present the Commission (the primary government) and any component units. Component units, as established by Governmental Accounting Standards Board (GASB) Statement No. 14, are separate organizations that are included in the Commission's reporting entity because of the significance of their operational or financial relationships with the Commission. The Commission has no reportable component units.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Basis of Accounting and Measurement Focus

The accounts of the Commission are organized on the basis of funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenues, and expenditures or expenses, as appropriate. Governmental resources are allocated to and accounted for in individual funds based upon the purpose for which they are to be spent and the means by which spending activities are controlled.

Commission-Wide Financial Statements

The Commission-wide financial statements include the statement of net position and statement of activities and change in net position. These statements present summaries of governmental activities for the Commission.

These statements are presented on an "economic resources" measurement focus and the accrual basis of accounting. Accordingly, all of the Commission's assets and liabilities, including capital assets and long-term liabilities are included in the accompanying statement of net position. The statement of activities and change in net position presents changes in net position. Under the accrual basis of accounting, revenues are recognized in the period in which they are earned, while expenses are recognized in the period in which the liability is incurred.

**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Commission-Wide Financial Statements (Continued)

Grants and contracts revenue are considered program revenues by the Commission.

Certain eliminations have been made as prescribed by GASB Statement No. 34 in regard to interfund activities, payables, and receivables. All interfund balances in the statement of net position have been eliminated.

Governmental Fund Financial Statements

Governmental fund financial statements include a balance sheet and a statement of revenues, expenditures, and change in fund balances for the following governmental funds:

General Fund – This fund accounts for all financial resources and uses which are not included in the special revenue fund. Resources of the general fund are typically not restricted for use within specific projects. The fund’s principal revenue sources are indirect costs charged to the special revenue fund and state contributions.

Special Revenue Fund (Grants and Contracts) – This fund accounts for revenue and expenditures restricted for specific projects or programs. The fund’s principal revenue sources are grants and contracts from various federal and member state agencies.

All governmental funds are accounted for on a spending or current financial resources measurement focus and the modified accrual basis of accounting. Accordingly, only current assets and current liabilities are included on the fund balance sheet. The statements of revenues, expenditures, and change in fund balances presents increases (revenues and other financing sources) and decreases (expenditures and other financing uses) in net current position.

Under the modified accrual basis of accounting, revenues are recognized in the accounting period in which they become both measurable and available to finance expenditures of the current period. Accordingly, revenues are recorded when received in cash, except that revenues subject to accrual (generally 60 days after year-end) are recognized when due. Most revenue sources have been treated as susceptible to accrual by the Commission as the amounts due are known at year-end. Interest revenue and some other miscellaneous revenues are not susceptible to accrual because they are usually not measurable until received in cash. Expenditures are recorded in the accounting period in which the related fund liability is incurred.

Unavailable revenues arise when potential revenues do not meet both the “measurable” and “available” criteria for recognition in the current period. Unearned revenues also arise when the Commission receives resources before it has a legal claim to them, as when grant monies are received prior to incurring qualifying expenditures. In subsequent periods, when both revenue recognition criteria are met or when the government has a legal claim to the resources, the unearned revenue is removed from the balance sheet and revenue is recognized.

Reconciliation of the governmental fund financial statements to the Commission-wide financial statements is provided to explain the differences created by the integrated approach of GASB Statement No. 34.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Proprietary Funds

Proprietary funds account for the operations that are financed and operated in a manner similar to private business, where the determination of operating income, change in net position, financial position, and cash flows is necessary. These funds utilize the accrual basis of accounting.

Internal Service Fund

Internal service funds are used to account for goods and services provided by one department or agency to other departments or agencies of the Commission on a cost reimbursement basis. The internal service fund includes the compensated absences balance of the Commission.

Fund Equity

GASB issued Statement No. 54, *Fund Balance Reporting and Governmental Fund Type Definitions* (GASB No. 54) effective for reporting periods after June 15, 2011. The reporting standard establishes a hierarchy for fund balance classifications and the constraints imposed on the uses of those resources.

GASB No. 54 provides for two major types of fund balances, which are nonspendable and spendable. Nonspendable fund balances are balances that cannot be spent because they are not expected to be converted to cash or they are legally or contractually required to remain intact. Examples of this classification are prepaid items, inventories, and principal (corpus) of an endowment fund.

In addition to the nonspendable fund balance, GASB No. 54 has provided a hierarchy of spendable fund balances, based on a hierarchy of spending constraints.

- Restricted – fund balances that are constrained by external parties, constitutional provisions enabling legislation.
- Committed – fund balances that contain self-imposed constraints of the Commission from its highest level of decision-making authority.
- Assigned – fund balances that contain self-imposed restraints of the Commission to be used for a particular purpose.
- Unassigned – fund balances of the Commission that are not constrained for any particular purpose.

When an expenditure is incurred for purposes for which both restricted and unrestricted fund balances are available, it is the Commission's policy to use restricted first, then unrestricted fund balances. When an expenditure is incurred for purposes for which committed, assigned, and unassigned amounts are available, it is the Commission's policy to use committed first, then assigned, and finally unassigned amounts.

Budgets

The Commission has no legal requirement for a budget, though budget estimates are prepared for the general fund. Certain contracts and grants have budget requirements which must be monitored; however, these budgets are not program-wide. Accordingly, budgetary information has not been included in the basic financial statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Grants

Unreimbursed grant expenditures due from grantor agencies are recorded in the Commission-wide financial statements as receivables and revenues. Cash received from grantor agencies in excess of related grant expenditures is recorded as a liability, unearned revenues, in the statement of net position.

Capital Assets, Including Equipment Leased Under Capital Leases

Capital assets are recorded at original cost or estimated original cost in the statement of net position. Acquisitions of general capital assets are recorded as expenditures at the major program levels in governmental fund types at the time of purchase. Maintenance, repairs, and equipment replacements of a routine nature are charged to expenditures as incurred and are not capitalized. Upon disposal of capital assets, the related cost or estimated cost and any proceeds from such disposal are accounted for as other financing sources. At their inception, capitalized leases are recorded as capital assets at the net present value of future minimum lease payments to be made.

The portion of the payment applicable to principal, determined by using interest rates implicit in the lease, is reported as a reduction of the capitalized lease obligation.

Depreciation is recorded in the statement of activities and change in net position. The statement of net position reflects the cost of capital assets net of depreciation and is computed on the straight-line basis over the following estimated useful lives. Assets acquired by capital lease are amortized over their estimated useful lives using the straight-line basis. Amortization is included in depreciation expense in these financial statements.

Buildings and Improvements	30 Years
Computers, Furniture, Office, and Field Equipment	3 - 10 Years

Capital assets include assets which were purchased with funds from various federal and state agencies. Those funding agencies retain residual interests in certain assets, which are exercised upon disposal.

Cash and Investments

The Commission maintains its cash either in bank deposit accounts that are insured by the Federal Deposit Insurance Corporation (FDIC) up to a limit of \$250,000 per depositor or in certain noninterest bearing accounts that are fully insured by the FDIC. The Commission had \$10,156,224 in cash that was exposed to uninsured deposit risk at June 30, 2016. To reduce its overall exposure, the Commission holds its funds in banks that participate in the Oregon Public Funds Collateralization Program. This program provides additional protection for public funds in Oregon, but does not guarantee the funds fully. The Commission has not experienced any losses in such accounts, and believes it is not exposed to any significant credit risk on cash.

PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Grants and Contracts Receivable

The majority of receivables are comprised of claims for reimbursement of costs under various federal and state grant programs. The Commission considers all receivables to be substantially collectible. Accordingly, no allowance for doubtful accounts has been established.

Accrued Compensated Absences

Vacation pay is vested when earned. Employees earn annual leave based on length of service to the Commission. Unpaid vested vacation and 50% of vested sick pay that is expected to be paid with current resources is shown as accrued compensated absences payable on the statement of net position and recorded as expenditures when earned.

Unearned Rent

The Commission recognized escalating rent provisions on straight-line basis over the lease term.

Retirement Plans

Commission employees meeting eligibility requirements are participants in a defined contribution pension plan. Contributions to this plan are made on a current basis as required by the plan and are charged to expenditures as the related liabilities are incurred.

Employees of the Commission are also allowed to participate in a Northwest Plan Services, Inc. IRC 457 Plan. The plan permits employees to voluntarily defer a portion of their compensation. The Commission makes no contributions to this plan. Northwest Plan Services, Inc., as the plan administrator, retains custody and fiduciary responsibility for all funds deposited into the plan.

Post-Employment Health Plan

The Commission sponsors a Post-Employment Health Plan (PEHP), which helps participants pay for certain qualified medical expenses after their retirement or termination. Once an employee has qualified to be in the pension plan they can participate in the PEHP. The PEHP has two individual accounts: 1) Universal Reimbursement Account in which the Commission contributes a fixed amount (\$10) each month for each eligible participant; and 2) Insurance Premium Reimbursement Account which is funded at termination or retirement with a portion of accrued sick leave. To be eligible for the second account, the employee must be 100% vested in the Commission Pension Plan and have accrued sick leave at termination. Employees are responsible for directing their PEHP contributions among the various funds selected by the plan administrator. The participant's account is passed on to a spouse and/or dependents if the participant were to die. As of June 30, 2016, there were 365 participants in the plan, and the Commission contributed \$43,754 into the plan.

Interfund Transactions

Activity between funds represent short-term receivables or payables in the normal course of the Commission's operations or are reimbursements for administrative expenses that are outstanding at the end of the fiscal year. All outstanding balances are reported as either due to or due from other funds in the fund financial statements.

**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 2 CASH AND INVESTMENTS

The Commission maintains a cash pool that is available for use by all funds. Each fund type's portion of this pool is reported on the statement of net position as cash and investments.

Cash and investments (recorded at cost) consisted of the following at June 30, 2016:

Deposits with Financial Institutions:	
Demand Deposits	\$ 3,546,931
Money Market	210,877
Savings	6,040,892
Total Cash and Cash Equivalents	<u>\$ 9,798,700</u>

Custodial Credit Risk – Deposits. Custodial credit risk is the risk that in the event of a bank failure, the Commission's deposits may not be returned to it. The Commission does not have a deposit policy for custodial credit risk. To reduce its overall exposure, the Commission holds its funds in banks that participate in the Oregon Public Funds Collateralization Program. This program provides additional protection for public funds in Oregon, but does not guarantee the funds fully. The Commission has not experienced any losses in such accounts, and believes it is not exposed to any significant credit risk on cash. The Commission's bank balance was exposed to custodial credit risk as follows at June 30, 2016:

Uninsured and Uncollateralized	\$ 10,156,224
Uninsured and Collateral Held by Pledging Bank's Trust	
Department not in the Commission's Name	-
Total	<u>\$ 10,156,224</u>

NOTE 3 LEASE RECEIVABLE

On August 1, 2015, the Commission entered into a purchase agreement with Northwest Marine Technology, Inc. to purchase four AutoFish Systems for \$2,252,000. At the same time, the Commission entered into a lease-purchase option memorandum of understanding with Idaho Department of Fish and Game (IDFG) for the four AutoFish Systems for \$2,252,000. The payments to Northwest Marine Technology, Inc. match exactly the payments to be received from IDFG. The AutoFish Systems were recorded as an addition to capital assets as a result of the purchase and then recorded as a deletion as a result of the lease-purchase agreement with IDFG. The remaining balance of the lease receivable consists of payments plus interest of 4.25% due to the Commission annually by December 1. Scheduled payments are as follows:

<u>Year Ending June 30,</u>	<u>Amount</u>
2017	\$ 300,637
2018	686,977
2019	245,646
Total	<u>\$ 1,233,260</u>

PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016

NOTE 4 CAPITAL ASSETS

Capital asset activity was as follows at June 30, 2016:

	Balance June 30, 2015	Additions	Deletions	Balance June 30, 2016
Capital Assets:				
Computers	\$ 990,205	\$ 207,518	\$ -	\$ 1,197,723
Furniture and Office Equipment	151,583	12,805	-	164,388
Leasehold Improvements	410,164	-	-	410,164
Field and Scientific Equipment	1,810,563	2,426,725	2,275,875	1,961,413
Truck/Boat	623,964	138,050	25,789	736,225
Total Capital Assets	<u>3,986,479</u>	<u>2,785,098</u>	<u>2,301,664</u>	<u>4,469,913</u>
Accumulated Depreciation:				
Computers	781,271	144,383	-	925,654
Furniture and Office Equipment	134,162	5,992	-	140,154
Leasehold Improvements	312,698	21,259	-	333,957
Field and Scientific Equipment	1,330,940	171,623	18,888	1,483,675
Truck/Boat	409,214	144,836	21,766	532,284
Total Accumulated Depreciation	<u>2,968,285</u>	<u>488,093</u>	<u>40,654</u>	<u>3,415,724</u>
Total Assets	<u>\$ 1,018,194</u>	<u>\$ 2,297,005</u>	<u>\$ 2,261,010</u>	<u>\$ 1,054,189</u>

NOTE 5 LONG-TERM LIABILITIES**Compensated Absences**

The following is a schedule of the compensated absences as of June 30, 2016:

Balance - Beginning	\$ 2,043,423
Incurred	289,524
Retired	(111,008)
Balance - Ending	<u>\$ 2,221,939</u>
Due Within One Year	<u>\$ 284,800</u>
Long-Term Portion	<u>\$ 1,937,139</u>

PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016

NOTE 5 LONG-TERM LIABILITIES (CONTINUED)

Capital Lease Obligation

The following is a schedule of the capital lease obligations as of June 30, 2016:

Balance - Beginning	\$	-
Additions		33,945
Payments		(6,880)
Balance - Ending	<u>\$</u>	<u>27,065</u>

The total interest incurred for the year ended June 30, 2016 was \$977.

Minimum future lease payments are as follows:

<u>Year Ending June 30,</u>	<u>Amount</u>
2017	\$ 12,245
2018	12,245
2019	<u>4,322</u>
Total Minimum Lease Payments	28,812
Less: Amounts Representing Interest	<u>1,747</u>
Present Value of Minimum Lease Payments	27,065
Less: Current Portion	<u>11,100</u>
Total Long-Term Portion	<u>\$ 15,965</u>

Long-Term Debt

The following is a schedule of the long-term debt as of June 30, 2016:

Balance - Beginning	\$	11,393
Additions		2,252,000
Payments		(1,025,576)
Balance - Ending	<u>\$</u>	<u>1,237,817</u>

Long-term debt consisted of the following at June 30, 2016:

<u>Description</u>	<u>Security</u>	<u>Amount</u>
U.S. Bank Equipment Finance, Monthly Installments of \$566.64, with Interest at 5.9%; Maturing February 2017	2014 Jeep Latitude	\$ 4,557
NW Marine, Down Payment of \$581,950 at Lease Inception and Scheduled Payments with Interest at 4.25% due on December 30th of each year. Remaining scheduled payments are: \$300,637 for fiscal year 2017, \$686,977 for 2018, and 245,646 for 2019.		<u>1,233,260</u>
Total Debt		1,237,817
Less: Current Portion		(305,194)
Total Long-Term Debt		<u>\$ 932,623</u>

**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 5 LONG-TERM LIABILITIES (CONTINUED)**Long-Term Debt (Continued)**

Scheduled principal payments of the long-term debt are as follows:

<u>Year Ending June 30,</u>	<u>Amount</u>
2017	\$ 305,194
2018	686,977
2019	245,646
Total	<u>\$ 1,237,817</u>

NOTE 6 PENSION PLAN

The Commission sponsors the Pacific States Marine Fisheries Commission Employees Pension Plan (the Plan), which is a defined contribution pension plan.

A defined contribution pension plan provides pension benefits in return for services rendered, provides an individual account for each participant, and specifies how contributions to the individual's account are to be determined instead of specifying the amount of benefits the individual is to receive. Under a defined contribution pension plan, the benefits a participant will receive depend solely on the amount contributed to the participant's account, the returns earned on investments on those contributions, and forfeitures of other participant's benefits that may be allocated to such participant's account.

Employees must meet eligibility requirements based upon hours and length of service to participate in the Plan. The Commission is required to contribute an amount equal to 14% of the eligible employee's gross earnings. Vesting is based on a schedule that provides 100% vesting at the end of five years of qualified employment. An employee who leaves the employment of the Commission is entitled to his or her vested interest in the Plan.

Forfeitures are used to reduce future contributions. For the year ended June 30, 2016, the Commission contributed \$1,804,118 to the Plan, net of forfeitures. There were 335 participants in the Plan at June 30, 2016.

NOTE 7 RISK MANAGEMENT

The Commission is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The Commission purchases commercial insurance to minimize its exposure to these risks. Settled claims have not exceeded this commercial coverage for any of the past three years.

**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2016**

NOTE 8 COMMITMENTS AND CONTINGENCIES

As discussed in Note 1, the Commission holds capital assets for which granting agencies, principally federal agencies, have residual interests. The granting agencies, at their discretion upon disposition of these assets, are entitled to possession of the assets or the proceeds from their sale.

Substantially all amounts received or receivable from grantor agencies are subject to audit and adjustment by grantor agencies, principally the federal government. Any disallowed claims, including amounts already collected, may constitute a liability of the applicable funds. The amount, if any, of expenditures which may be disallowed by the grantor cannot be determined at this time, although the Commission's management expects such amounts, if any, to be immaterial.

NOTE 9 OPERATING LEASES

The Commission, as lessee, leases office space, vehicles, and equipment under various operating leases. The total amount expended under such leases was \$624,058 for the year ended June 30, 2016.

Future minimum lease payments for the noncancellable leases with initial or remaining lease terms of one year or more are as follows:

<u>Year Ending June 30,</u>	<u>Amount</u>
2017	\$ 568,398
2018	577,103
2019	486,736
2020	471,596
2021	478,756
Thereafter	1,635,764
Total	<u>\$ 4,218,353</u>



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**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL
 REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT
 OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH
 GOVERNMENT AUDITING STANDARDS**

Board of Commissioners
 Pacific States Marine Fisheries Commission
 Portland, Oregon

We have audited, in accordance with the 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, the financial statements of the governmental activities, each major fund, and the aggregate remaining fund information of Pacific States Marine Fisheries Commission (the Commission), as of and for the year ended June 30, 2016, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated September 25, 2016.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Commission's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of the Commission's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Board of Commissioners
Pacific States Marine Fisheries Commission

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Commission's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.



CliftonLarsonAllen LLP

Bellevue, Washington
September 25, 2016



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**INDEPENDENT AUDITORS' REPORT ON COMPLIANCE FOR EACH MAJOR
 FEDERAL PROGRAM AND REPORT ON INTERNAL CONTROL OVER
 COMPLIANCE REQUIRED BY THE UNIFORM GUIDANCE**

Board of Commissioners
 Pacific States Marine Fisheries Commission
 Portland, Oregon

Report on Compliance for Each Major Federal Program

We have audited Pacific States Marine Fisheries Commission's compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on each of Pacific States Marine Fisheries Commission's major federal programs for the year ended June 30, 2016. Pacific States Marine Fisheries Commission's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for each of Pacific States Marine Fisheries Commission's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about Pacific States Marine Fisheries Commission's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of Pacific States Marine Fisheries Commission's compliance.

Opinion on Each Major Federal Program

In our opinion, Pacific States Marine Fisheries Commission complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2016.



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Board of Commissioners
Pacific States Marine Fisheries Commission

Report on Internal Control Over Compliance

Management of Pacific States Marine Fisheries Commission is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered Pacific States Marine Fisheries Commission's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of Pacific States Marine Fisheries Commission's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



CliftonLarsonAllen LLP

Bellevue, Washington
September 25, 2016

**PACIFIC STATES MARINE FISHERIES COMMISSION
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
YEAR ENDED JUNE 30, 2016**

Federal Grantor/Program or Cluster Title	Federal CFDA Number	Pass Through Organization (From)	Pass Through Identifying Number	Total Federal Expenditures	Passed through (to) Subrecipient
Department of Agriculture					
National Fish and Wildlife Foundation	10.683	Direct		\$ 18,879	\$ 14,076
	10.683 Total			18,879	14,076
Total US Department of Agriculture					
Department of Commerce (NOAA)					
Interjurisdictional Fisheries Act of 1986	11.407	Direct		569,793	366,808
	11.407 Total			569,793	366,808
Fisheries Development and Utilization Research and Development Grants and Cooperative Agreements Program	11.427	Direct		78,175	-
	11.427 Total			78,175	-
Columbia River Fisheries Development Program	11.436	Direct		1,056,112	961,270
	11.436 Total			1,056,112	961,270
Pacific Fisheries Data Program	11.437	Direct		26,251,343	6,786,779
	11.437 Total			26,251,343	6,786,779
Pacific Coast Salmon Recovery_Pacific Salmon Treaty Program	11.438	California Department of Fish and Wildlife	P1110524	34,892	-
	11.438	California Department of Fish and Wildlife	P1210327	512,091	-
	11.438	California Department of Fish and Wildlife	P1210328	127,286	-
	11.438	California Department of Fish and Wildlife	P1210516	38,891	-
	11.438	California Department of Fish and Wildlife	P1250012	208,376	-
	11.438	California Department of Fish and Wildlife	P1310501	54,244	-
	11.438	California Department of Fish and Wildlife	P1310520	62,464	-
	11.438	California Department of Fish and Wildlife	P1596008	7,887	-
	11.438	California Department of Fish and Wildlife	P1550011	460	-
	11.438 Total			1,046,591	-
Marine Mammal Data Program	11.439	Direct		254,335	118,826
	11.439 Total			254,335	118,826
Regional Fishery Management Councils	11.441	Pacific Fishery Management Council	5-15	19,657	-
	11.441	Pacific Fishery Management Council	5-16	17,181	-
	11.441	North Pacific Fishery Management Council	2015-4	22,967	-
	11.441	North Pacific Fishery Management Council	2016-4	19,408	-
	11.441 Total			79,213	-
Unallied Industry Projects	11.452	Direct		758,357	592,059
	11.452 Total			758,357	592,059
Unallied Science Program	11.472	Direct		331,136	-
	11.472 Total			331,136	-
Total US Department of Commerce				30,425,055	8,825,742

See accompanying Notes to Schedule of Expenditures of Federal Awards.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS (CONTINUED)
YEAR ENDED JUNE 30, 2016**

<u>Federal Grantor/Program or Cluster Title</u>	<u>Federal CFDA Number</u>	<u>Pass Through Organization (From)</u>	<u>Pass Through Identifying Number</u>	<u>Total Federal Expenditures</u>	<u>Passed through (to) Subrecipient</u>
<u>Department of the Interior</u>					
Fish, Wildlife and Plant Conservation Resource Management	15.231	Direct		\$ 10,000	\$ -
	15.231 Total			<u>10,000</u>	<u>-</u>
Central Valley Project Improvement Act, Title XXXIV	15.512	Direct		1,730,344	-
	15.512 Total			<u>1,730,344</u>	<u>-</u>
Sport Fish Restoration Program	15.605	Oregon Department of Fish and Wildlife	38614	53,871	-
	15.605	Oregon Department of Fish and Wildlife	41015	138,049	-
	15.605	California Department of Fish and Wildlife	P1540008	232,122	-
	15.605	Direct		223,171	-
	15.605 Total			<u>647,213</u>	<u>-</u>
Fish and Wildlife Management Assistance	15.608			779,354	91,043
	15.608 Total			<u>779,354</u>	<u>91,043</u>
Central Valley Project Improvement (CVPI) Anadromous Fish Restoration Program (AFRP)	15.648	Direct		250,224	-
	15.648 Total			<u>250,224</u>	<u>-</u>
Lower Snake River Compensation Plan	15.661	Direct		750,416	-
	15.661 Total			<u>750,416</u>	<u>-</u>
National Fish and Wildlife Foundation	15.663	Direct		8,482	6,324
	15.663 Total			<u>8,482</u>	<u>6,324</u>
Total US Department of the Interior				<u>4,176,033</u>	<u>97,367</u>
<u>Environmental Protection Agency-Office of Environmental Information</u>					
Environmental Information Exchange Network Grant Program and Related Assistance	66.608	Washington Department of Fish and Wildlife	13-2095	67,149	30,000
	66.608 Total			<u>67,149</u>	<u>30,000</u>
Total Environmental Protection Agency-Office of Environmental Information				<u>67,149</u>	<u>30,000</u>
<u>Department of Energy</u>					
Bonneville Power Administration - Environment, Fish and Wildlife	81.999	Direct		14,174,967	4,997,352
Bonneville Power Administration - Environment, Fish and Wildlife	81.999	Oregon Department of Fish and Wildlife	14-02020	44,414	-
Bonneville Power Administration - Environment, Fish and Wildlife	81.999	Columbia RiverInter-Tribal Fish Commission	V1505	29,725	-
Bonneville Power Administration - Environment, Fish and Wildlife	81.999	Columbia RiverInter-Tribal Fish Commission	V1607	8,972	-
	81.999 Total			<u>14,258,078</u>	<u>4,997,352</u>
Total Department of Energy				<u>14,258,078</u>	<u>4,997,352</u>
TOTAL FEDERAL ASSISTANCE - ALL AWARDS				<u>\$ 48,945,194</u>	<u>\$ 13,964,537</u>

See accompanying Notes to Schedule of Expenditures of Federal Awards.

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**PACIFIC STATES MARINE FISHERIES COMMISSION
NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
JUNE 30, 2016**

NOTE 1 BASIS OF PRESENTATION

The accompanying schedule of expenditures of federal awards (the “Schedule”) includes the federal award activity of Pacific States Marine Fisheries Commission under programs of the federal government for the year ended June 30, 2016. The information in this Schedule is presented in accordance with the requirements of 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance)*. Because the Schedule presents only a selected portion of the operations of Pacific States Marine Fisheries Commission, it is not intended to and does not present the financial position, changes in net assets, or cash flows of Pacific States Marine Fisheries Commission.

NOTE 2 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Expenditures

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement. Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years. Pacific States Marine Fisheries Commission has elected not to use the 10% de minimis indirect cost rate as allowed under the Uniform Guidance.

Pass-through Entities

Pass-through entity identifying numbers are presented where available.

**PACIFIC STATES MARINE FISHERIES COMMISSION
SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED JUNE 30, 2016**

Section I – Summary of Auditors’ Results

Financial Statements

Type of auditors’ report issued:	<u>Unmodified</u>	
Internal control over financial reporting:		
Material weakness(es) identified?	_____ yes	_____ <u>X</u> _____ no
Significant deficiency(ies) identified that are not considered to be material weakness(es)?	_____ yes	_____ <u>X</u> _____ none reported
Noncompliance material to financial statements noted?	_____ yes	_____ <u>X</u> _____ no

Federal Awards

Internal control over major programs:		
Material weakness(es) identified?	_____ yes	_____ <u>X</u> _____ no
Significant deficiency(ies) identified that are not considered to be material weakness(es)?	_____ yes	_____ <u>X</u> _____ none reported
Type of auditors’ report issued on compliance for for major programs?	<u>Unmodified</u>	
Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	_____ yes	_____ <u>X</u> _____ no

Identification of major programs:

<u>CFDA Number(s)</u>	<u>Name of Federal Program or Cluster</u>
11.437	Pacific Fisheries Data Program
15.512	Central Valley Project Improvement Grant, Title XXXIV

Dollar threshold used to distinguish between type A and type B programs:	_____ <u>\$1,468,356</u> _____
Auditee qualified as low-risk auditee?	_____ <u>X</u> _____ yes _____ no

**PACIFIC STATES MARINE FISHERIES COMMISSION
SCHEDULE OF FINDINGS AND QUESTIONED COSTS (CONTINUED)
YEAR ENDED JUNE 30, 2016**

Section II – Financial Statement Findings

Our audit did not disclose any matters required to be reported in accordance with *Government Auditing Standards*.

Section III – Findings and Questioned Costs – Major Federal Programs

Our audit did not disclose any matters required to be reported in accordance with 2 CFR 200.516(a).

**PACIFIC STATES MARINE FISHERIES COMMISSION
SUMMARY SCHEDULE OF PRIOR YEAR AUDIT FINDINGS
YEAR ENDED JUNE 30, 2016**

Section IV – Prior Year Findings

2015 – 001

During this year's testing of timecards for supervisory review and approval, we determined that corrective action was implemented. No similar findings were noted during the current year audit.



HEADQUARTERS STAFF 2016

Randy Fisher, *Executive Director*

Pam Kahut, *Fiscal Manager*

Shannon McKewon, *Human Resources Manager*

— PROGRAM MANAGERS —

Stan Allen, *Senior Program Manager*

Fisheries/Habitat Assistance Programs

Dave Colpo, *Senior Program Manager*

Commercial Fisheries Data Programs

Stephen Phillips, *Senior Program Manager*

Aquatic Nuisance Species Programs

Steve Williams, *Senior Program Manager*

Recreational Fisheries Information Network

Northern Pikeminnow Sport Reward Management Program

