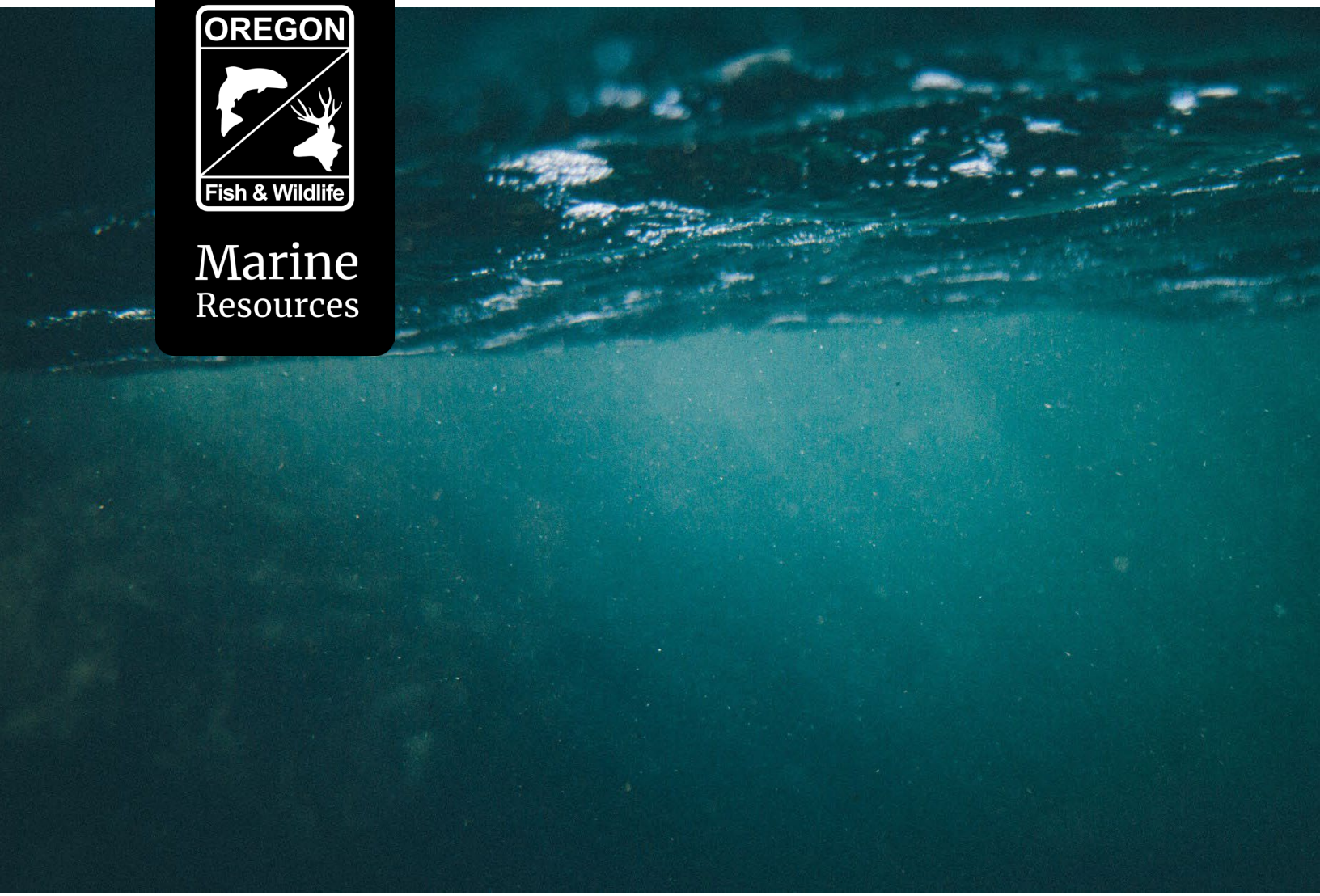

April 2026

OREGON'S GROUNDFISH INVESTIGATIONS IN 2025

Marine Resources Program
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Contents

1. Executive Summary

The Marine Resources Program (MRP) works with Oregon communities to sustain ocean and estuary resources for today and for future generations. The MRP is a part of Fish Division at the Oregon Department of Fish and Wildlife (ODFW) and organized into three sections, including Fisheries Management, Data and Technical Services, and Resource Assessment and Management. Organization within MRP did not change substantially in 2025. Budgets and staffing levels for the MRP have been largely stable over the last decade. While there were state budget cuts in 2025, the MRP largely escaped their effects, losing only two positions. However, there continues to be substantial uncertainty in federal funding, which would affect most programs at the MRP and have major impacts to the MRP's ability to manage and conduct research on Oregon's groundfish species.

The 2026 ODFW report to the GTC details all groundfish research, monitoring and management activities in the 2025 calendar year and anticipated work in 2026. These include a description of fisheries survey and monitoring programs, research and monitoring in Oregon's marine reserves, brief descriptions of current stock assessments and research projects, and state and federal management of groundfish species. Groundfish species predominant in the nearshore or species of conservation interest are the focus of the majority of MRP's groundfish research. The MRP also continues to focus on development of non-extractive survey methods, such as video landers and planning a second statewide visual-hydroacoustic survey. MRP staff continue to be substantially involved in federal groundfish management and stock assessment development in 2026.

2. Surveys and Monitoring

This section contains information on surveys and monitoring that took place in 2025.

Recreational Fisheries Monitoring

Sampling of the ocean boat sport fishery by MRP's Ocean Recreational Boat Survey (ORBS) continued in 2025. Unlike the recent trends of hiring and employment issues, a surplus of candidates applied for ORBS positions in 2025. Every position was filled, as eleven Oregon ports were sampled by 33 ORBS dockside samplers. Ports sampled include; Astoria, Garibaldi, Pacific City, Depoe Bay, Newport, Florence, Winchester Bay, Charleston, Bandon, Gold Beach, and Brookings.

Since 2005, major ports are sampled year-round (Charleston beginning November 2018) and minor ports are sampled during the peak summer-fall seasons. We continue to estimate catch and effort during unsampled time periods in minor ports based on the relationship of effort relative to major ports observed during summer-fall periods when most ports are sampled and catch rates are borrowed from when the unsampled port was sampled. Pacific halibut, lingcod, multiple species of rockfish, cabezon and kelp greenling are the most commonly landed species.

The ORBS program continued collecting information on species composition of landed groundfish species at Oregon coastal ports during 2025, along with biological data such as lengths and weights of landed fish. Since 2003, as part of a related marine fish ageing research project, lingcod fin rays and otoliths from multiple species of nearshore groundfish (including rockfishes, greenlings and cabezon) were gathered. Starting in 2001, selected sport charter vessels were sampled using ride-

along at-sea observers for discard species composition, discard rates and sizes, location, depth and catch per angler (the Ocean Recreational Fishery Survey, or ORFS). ORFS sampling was suspended in 2020 and 2021 due to COVID safety protocols, though ride-alongs resumed in 2022. Beginning in 2003, the recreational harvest of multiple groundfish species is monitored in-season for catch limit tracking purposes and beginning in 2015, a projection tool was developed to predict year-end attainment.

Other ODFW recreational monitoring activities in 2025 included participating in the U.S. West Coast Recreational Fish International Network (RecFIN) process, data analysis, public outreach and education, and public input processes to discuss changes to the management of groundfish and Pacific halibut fisheries for 2025 and 2026.

Commercial Fisheries Monitoring

Commercial fisheries monitoring data from commercial groundfish landings are collected throughout the year and analyzed by ODFW to provide current information on groundfish fisheries and the status of the groundfish stocks off Oregon's coast. This information contributes to fisheries management decisions, stock assessments, in-season adjustments to fisheries, and economic analyses.

Commercial fishery data, including logbooks, fish tickets, and biological data, are uploaded to the Pacific Fisheries Information Network (PacFIN) on a regular basis and are used for in-season monitoring and as a primary commercial data source for federal stock assessment. In 2025, preparations continued to add fixed gear fishery logbooks to the PacFIN clearing house. Species composition sampling of rockfish and biological sampling of commercially landed groundfish continued in 2025 for commercial trawl, fixed gear, and hook and line landings in Oregon's ports. Throughout 2025, adequate sampling of all sectors was accomplished. Most of the landings were monitored at the ports of Astoria, Newport, Charleston, Port Orford and Brookings, with additional sampling occurring routinely at Garibaldi, Pacific City, Depoe Bay, Bandon, and Gold Beach. Sampling capacity has decreased on the south coast with the project losing one permanent position in Charleston and one seasonal position in Brookings. However, the loss of positions has not caused an immediate impact on coverage because landings by larger vessels on the south coast have decreased substantially compared to recent years. Biological data including length, weight, age (from collected age structures: otoliths, vertebrae, and fin rays), sex, and maturational status continued to be collected from landings of major commercial groundfish species. In 2025, commercial sampling staff were focused on contributing to on-going studies including a lingcod aging validation study, sample collection and processing of Pacific dogfish age structures (spines), and ovary sampling for histological studies and fecundity estimates by the FRAM group. In addition, multiple project staff participated in NOAA's west coast trawl and Hook and Line surveys.

Ecological Monitoring and Research in Oregon's Marine Reserves

Ecological monitoring includes sampling by MRP Nearshore Ecology Program staff as well as collaborative efforts with local industry and academic institutions. Sampling was conducted both in the reserves and comparison areas outside of the reserves where fishing remains open. The marine reserve ecological monitoring team successfully conducted the following subtidal,

intertidal, and oceanographic monitoring and research in 2025:

- ROV surveys – Remotely operated vehicle (ROV) video surveys were carried out at the Redfish Rocks Marine Reserve and comparison areas in May 2025 in collaboration with the ODFW Marine Habitat team. Thirty-four dives were conducted using two different ROVs, a large DOE Phantom ROV and a smaller BlueRobotics BlueROV, both carrying stereo camera systems to acquire fish size data.

- Hook-and-line and longline surveys – In 2025, hook-and-line surveys were carried out during eight sampling days at Cape Falcon Marine Reserve and comparison areas by contracting with a local charter boat and recruiting volunteers to fish for science in the reserve and comparison areas. Volunteer anglers and volunteer bio assistants donated 768 hours working on the fishing vessel to catch 603 fish from six different species. A combined hook-and-line and longline survey was carried out on nine sampling days at the Redfish Rocks Marine Reserve. Longline surveys are carried out on a commercial longline vessel and due to safety and deck space concerns these surveys are carried out only using ODFW staff and commercial captain and deckhands. During the hook-and-line component of these surveys, which is carried out while the longline soaks, 700 fish from 11 species were caught. Data gathered during these surveys was added to the ongoing long-term data set going back to 2011. Hook and line data from this monitoring and WDFW's rod and reel survey were combined to develop an index of abundance for yellowtail rockfish that was included in the 2025 federal groundfish assessment.

- SCUBA dive surveys – In collaboration with the Oregon Coast Aquarium and Oregon State University, the ODFW Marine Reserves team gathered data on fish, invertebrates, algae, and other benthic habitat communities relying on scientific divers carrying out underwater visual surveys. In 2025, SCUBA surveys were carried out at the Cascade Head (four sampling days in spring) and Otter Rock Marine Reserves (four sampling days in fall) and their comparison areas. A total of 146 transect were surveyed focusing on invertebrates, kelp, benthic cover, and fish. Of those, 76 focused on benthic cover, algae, and invertebrates at the Cascade Head Marine Reserve and comparison site, while 40 transects were carried out at the Otter Rock Marine Reserve and comparison site for benthic cover, algae, and invertebrates. An additional 30 transects surveyed for fish at the Otter Rock Marine Reserve and comparison site.

- Oceanographic data collection - Staff deployed oceanographic moorings at the Cape Falcon, Cascade Head, Otter Rock, and Redfish Rocks Marine Reserves and nearby comparison areas in 2025, collecting data from the early spring to late fall season. Sensors gathered data on temperature and dissolved oxygen. Oregon State University collaborator Jack Barth and colleagues continued oceanographic monitoring at the Cape Perpetua Marine Reserve for temperature, dissolved oxygen, chlorophyll *a,* and salinity, with funding from ODFW Marine Reserves.

- Juvenile fish settlement work - Juvenile fish settlement at the Otter Rock and Redfish Rocks Marine Reserves as well as two nearby comparison areas was monitored in collaboration with Oregon State University. In 2025, a total of 16 moorings were deployed

to collect juvenile fish samples from Standard Monitoring Units for the Recruitment of Fishes (SMURFs), using a BINCKE net on a bi-weekly basis. Juvenile fish settlement time series data for yellowtail rockfish was used in the 2025 groundfish stock assessment through a collaboration between ODFW, OSU and NOAA – NWFSC.

- Intertidal surveys - Intertidal surveys were carried out at the Cascade Head and Otter Rock Marine Reserves in collaboration with Oregon State University and community volunteers. Data are used to track mussel beds and their sea star predators through time. Health of sea stars was assessed, and the extent of mussel beds was measured. Similar to past years, less than 1% of sea stars showed signs of sea star wasting disease.

2025 Black Rockfish Acoustic-Video Survey

The Oregon Department of Fish and Wildlife (ODFW) conducted an updated coastwide acoustic–visual survey for black rockfish in 2025. This effort revisited and expanded upon the initial 2021 survey to refine fishery-independent abundance and biomass estimates for semi-pelagic rockfish species. The 2025 survey utilized a Simrad EK80 echosounder, an upgrade from earlier equipment, improving acoustic data resolution and target discrimination. A new drop-camera system was deployed, providing higher-quality visual verification of species and size composition. No hook-and-line sampling occurred in 2025 due to funding limitations. Data processing is ongoing and anticipated to be used in the next federal assessment of black rockfish.

Species Assessment and Monitoring (SAMs)

Inspired by the Groundfish Synopses workflow and reports developed by DFO (Anderson et al. 2019), in 2024, the ODFW started developing Species Assessment and Monitoring (SAM) reports to more efficiently utilize their fishery-dependent and fishery-independent data to monitor species of management or conservation interest between federal assessment cycles. A pilot project is underway to develop three SAM packages for 1) data extraction/tidying, 2) analysis/plotting and 3) report assembly. This pilot aims to produce SAM reports for three groundfish species with a variety of available data, including cabezon, kelp greenling and China rockfish. These species were selected for the pilot project primarily because they will be delegated to Oregon for state management in 2026. Data for these reports come from a variety of data sources commonly utilized for federal stock assessments, including catch and biological data, fishery-dependent and -independent indices of abundance, and potentially select logbook data. Code and other documentation will be available on GitHub as it develops. ODFW staff hope to have draft SAM reports for the pilot project species by mid-year 2026.

Southern Oregon (Charleston) Light-Trap Program

Over more than two decades, the Charleston light-trap program has built one of the longest and most ecologically informative time-series on Dungeness crab megalopae recruitment along the U.S. West Coast. Since its inception, the project has tracked daily settlement pulses, documented major oceanographic drivers such as El Niño, the Pacific Decadal Oscillation, spring transition timing, and

increasingly frequent marine heat waves, and demonstrated how these forces shape year-class strength and ultimately commercial landings four years later. The 2025 season continued this tradition of high-resolution monitoring, despite data gaps associated with student turnover, and reaffirmed long-standing patterns: very low megalopae returns were again associated with strong El Niño conditions, even though the PDO was unusually negative. The accumulated dataset now spans 24 years and has revealed shifts in how climate variability affects larval supply, with some historical relationships weakening as marine heat waves become more common.

Dungeness crab megalopae occupy a critical position in the nearshore food web. As newly competent larvae returning from the plankton, megalopae serve as prey for many juvenile and adult marine fishes as well as other invertebrate predators. Their abundance therefore represents not just a signal of future crab recruitment, but also a seasonal index of forage availability for multiple species that rely on small, energy-rich prey during spring and summer. Because the Charleston time series captures fine-scale variability in megalopae supply—ranging from just a few thousand individuals in poor years to millions in strong years—it provides managers and researchers with a sensitive indicator of changing forage conditions in nearshore ecosystems. These data help contextualize predator foraging success, recruitment variability, and broader ecosystem responses to shifting oceanographic regimes.

3. Research

This section details groundfish research activities at the MRP in 2025.

Yelloweye Rockfish Habitat Modeling (Ongoing)

This research is in partnership with Morgan Johnson and Susan Piacenza at Oregon State University. Since Oregon's rockfish fishery collapsed in 2002, Yelloweye Rockfish's (*Sebastes ruberrimus*) ecological and economic functions have remained severely depressed and are constraining other healthy fisheries. Yelloweye's true population size has remained elusive due to the complexity of their preferred habitat, steep rocky reefs, and inability of trawl surveys to access this habitat. Without accurate abundance estimates, the ODFW and PFMC cannot effectively regulate fishing industries or support functioning ecosystems. ODFW is addressing this issue by mapping the distribution and abundance of Yelloweye Rockfish across Oregon's territorial seas, using remote camera sensing technology that can survey rocky reefs without disturbing the habitat or removing sensitive species. This effort may inform a future Yelloweye Rockfish benchmark assessment by providing spatially explicit fisheries-independent abundance indices for untrawlable habitat.

To map the abundance of Yelloweye, we are building a predictive species distribution model (SDM) by coupling video camera derived abundance with oceanographic and habitat data. The video lander data used in this study was collected by ODFW from 2011 to 2014 on Stonewall Bank inside and around the Yelloweye Rockfish Conservation Area. Environmental parameters included in the model, including bathymetry, substrate type, Chlorophyll-a concentration, temperature, and frontal gradients, have been collated from multiple public databases such as NOAA's Coast Watch database (via ERDDAP), UC Santa Cruz's Regional Ocean Modeling System, and the BOEM Multibeam survey. To combine video observations and remotely sensed environmental parameters in a spatially explicit SDM, we are using the R package sdmTMB to fit generalized linear mixed models. After rigorous model selection and cross-validation to ensure strong

predictive accuracy, we have six top performing models that include some of the above parameters. Results from these models show a large relative increase in the predicted Yelloweye abundance on Stonewall Bank from 2011 to 2014. 2011 had an estimated 1.6 million fish and 2014 had an estimated 11 million fish, over 130 km^2 area. Roughly, this would look like ~ 8 fish per 30ft by 30ft square, inhabiting the reef. The next steps in this project are to apply this survey and modeling method to other untrawlable habitats around the state so that we can build an index of abundance substantial enough to inform future stock assessments. We will also be conducting additional video lander surveys around Stonewall Bank in 2027 aboard OSU's R/V Elakha to collect more data for model validation and future predictive models, including joint-SDMs with multiple rocky reef species. To help with future survey planning and additional model validation, we will also be conducting fishing community surveys and use Local Ecological Knowledge for building comparison maps.

While methods to conduct species distribution models are well established, applying *in situ* video lander data is an emerging application in marine ecosystems. The extension of remote camera surveys represents an important step forward in improving our knowledge of spatial ecology and resource abundance for marine species. Results of this research may be used to better manage Yelloweye Rockfish rebuilding efforts, guide Oregon fishers in better managing their quota in the mixed stock groundfish fishery, and to guide future monitoring efforts in rocky reefs off Oregon's coast.

Black Rockfish Age Structure (Ongoing)

This research is in partnership with Madison Bargas and Cheryl Barnes at Oregon State University. Black rockfish (Sebastes melanops) are a recreationally and commercially valuable species that support numerous coastal communities from Alaska to California. Recent stock assessments, however, suggest that relative spawning output is at or below management targets. Although these models are sensitive to changes in life history parameters, the lack of fine-scale spatial information required assumptions that some traits, such as growth and maturity, do not vary in time or space. We are testing this assumption by assessing latitudinal variation in growth and maturation rates of black rockfish in the Gulf of Alaska and California Current, spanning four well-established biogeographic breaks within the California Current (Cape Flattery, Columbia River, Cape Blanco, and Point Arena). We work with fishery stakeholders, including angling groups, charter companies, and agency scientists, to collect and analyze age and maturity information, using the break - and - burn technique and histological methods. Since life history traits tend to vary with sea surface temperature, prey availability, and a myriad of other ecological variables, these estimates can improve state-specific biomass estimates, which can have profound impacts on local communities. Our results suggest that growth estimates for females in Alaska, Washington, Oregon, and northern California showed no significant difference, suggesting similarities in growth patterns in these regions, where growth estimates in central California differed significantly. This work's results will provide spatially explicit growth and maturity estimates for use in future stock assessment models.

Dogfish Movement and Catchability (Ongoing)

This research is in partnership with Alex McInturf, Cheryl Barnes, James Sulikowski and Taylor Chapple (Oregon State University), Ian Taylor and Jim Hastie (NOAA-NWFSC), and Cindy Tribuzio

(NOAA-AFSC). For the last decade, NOAA has been increasingly interested in improving stock assessments for the Pacific Spiny dogfish (hereafter, "dogfish"; Squalus suckleyi). The dogfish is a small but important upper trophic level shark species common in the eastern North Pacific Ocean and is managed as four stocks from Baja California to the Bering Sea: Pacific Coast Stock (PCS), the British Columbia stock, the Bering Sea/Aleutian Islands Shark Complex, and the Gulf of Alaska (GOA) Shark Complex. Of these, PCS dogfish specifically have been subjected to intense fishing pressure in both directed and bycatch fisheries and available data suggest a continued worrying decline in their numbers. However, it is uncertain if this decline is due to a reduction in the incidental capture rates or a result of uncertainty in assessment parameters; specifically, dogfish survey catchability. This uncertainty was highlighted in the most recent stock assessment and is largely driven by a lack of data on dogfish movement, because the methods currently used to assess dogfish may be highly influenced by the seasonal and spatial overlap of dogfish and survey efforts. Therefore, we are employing a combination of acoustic and satellite tags to estimate the characteristics (horizontal and vertical) and predictors of PCS dogfish movements in Oregon and the broader Northeast Pacific. Our results, specifically absent in previous assessments, can improve estimation of survey catchability in the next stock assessment, which will then be used to inform management decisions for targeted and bycatch fisheries in Oregon. If warranted, these data also provide information that could reduce fishery/stock interactions by determining the conditions under which there may be high overlap.

Our research team spent 12 days on the water along the Oregon and Washington coasts fishing for spiny dogfish in 2025, which mostly consisted of independent longline and hook-and-line efforts. As during the previous year, we observed that dogfish were successfully captured in large numbers during the late fall and early winter months off of Newport, Oregon. Contrary to the existing paradigm that dogfish exhibit strong sex segregation, our catches here were comprised of nearly equal males and females. We also found moderate to large numbers of dogfish throughout the the summer in Willapa Bay, Washington, primarily large females. Based on our ultrasound data, we continued to note that all females were pregnant in both Willapa Bay and Oregon. During these efforts, we deployed an additional 29 satellite tags (for a total n=76), as well as 11 acoustic tags between the Puget Sound and Willapa Bay, Washington.

We also began to recover data from tags that had popped from the animals after various deployment periods following tagging in Year 1 (n=47). We are still in the process of developing a custom geolocation algorithm to estimate the geographic locations from satellite tag data. However, based on the satellite tag pop-off location, we noted that the movement of animals varied widely, with some remaining in Oregon/Washington for several months and others traveling to Alaska, British Columbia, and California. Using acoustic receiver data from Willapa Bay and the Puget Sound, we have also observed a seasonal presence in coastal bays and estuaries for at least some demographics (i.e. mature females) that appears to correlate with specific sea surface temperatures. Finally, we are now developing a new component of the project to identify patterns of gestational stage by season and location for pregnant females.

Effectiveness of Quantitative Stereo Landers during Day and Night (Ongoing)

Development and adaptation of fishery-independent survey methods for Oregon's nearshore

demersal fish populations is an ongoing priority for ODFW. In addition to acoustic, hook-and-line, and tagging studies, ODFW has also used remote underwater vehicles such as ROVs and landers. Due to their relatively low cost and ease of use, landers are widely used and an accepted source of data for fisheries management around the world. However, as with any survey tool, questions regarding survey efficacy and data utility remain. The primary expenditure of many surveys goes to chartering a research vessel and includes the time traveling to/from the port or being tied to the dock at night. In 2018 we initiated a study that sought to address this inefficiency in lander studies by testing whether increasing the number of hours a day the survey significantly impacts species composition or count. If there is no significant difference, lander surveys may potentially be less costly to conduct, potentially increasing our ability to conduct fishery-independent surveys on a greater number of species, or over a larger survey area. Additionally, this study aims to address a topic of ongoing debate in the scientific literature; whether to process abundance estimate data from video landers using the MaxN approach (maximum number of each species observed per video), or whether to generate a mean abundance of fish observed throughout the video.

The data collection phase of this project is complete. Beginning March 2018 and ending April of 2019, two calibrated stereo-video landers were deployed at total of 316 times. Deployments were conducted in predetermined sampling grids, spaced sufficiently to avoid spatial autocorrelation. Beginning five hours before sunset, landers were deployed at 40-60 locations at each grid. The landers were deployed again at the same locations after sunset. Day/night sampling was repeated five times and included both shallow and deep sampling grids to account for potential influence of ambient light at shallower depths. Video review of the 316 videos was completed in January of 2025. Initial results from the shallow depth bin indicate a significant difference in both species composition and count during the daytime lander drops than those conducted after sunset. Further analysis of these trends is ongoing, as is analysis comparing the trends in abundance indices for rockfish generated with MaxN and mean MaxN video review methodology.

Effect of Hypoxia on Groundfish CPUE in the Recreational Fleet (In Review)

Coastal deoxygenation is increasing in eastern boundary current systems, including the California Current, where hypoxic events are becoming more common and prolonged. This study examined how bottom dissolved oxygen (DO) influences catch-per-unit-effort (CPUE) and species encounter rates in Oregon's nearshore recreational groundfish fishery. By integrating daily DO measurements from the OOI Oregon Inshore Mooring (2018–2022, excluding 2020) with trip-level recreational catch data, the authors quantified relationships between DO, species availability, and fishing success across eight key groundfish species. Hypoxia (DO < 61 μmol/kg) occurred on 36.8% of sampled days, with strong interannual variability.

Overall, both CPUE and the number of species encountered per trip declined under hypoxic conditions, but species-specific patterns were heterogeneous. Blue/deacon rockfish, China rockfish, kelp greenling, and lingcod exhibited increasing CPUE with higher DO, suggesting reduced catchability or availability during hypoxic events. In contrast, cabezon and quillback rockfish were caught more frequently or in higher numbers during low-oxygen periods, consistent with physiological or behavioral tolerance to hypoxia. Model comparisons showed that although DO was not always the single best predictor, it was consistently competitive (ΔAICc < 2) across species,

indicating that oxygen availability is an important driver of observed catch dynamics.

These findings have implications for management of multi-species recreational fisheries, particularly given ongoing climate-driven intensification of hypoxia. Species benefitting from or resilient to hypoxia (e.g., cabezon, quillback rockfish) are already constraining stocks in Oregon, and shifts in relative catchability may unintentionally increase harvest pressure on vulnerable species. Because many nearshore groundfish assessments rely heavily on fisheries-dependent data, incorporating DO metrics into abundance indices may improve stock assessment accuracy. The study highlights the need for species-specific management approaches and expanded monitoring of nearshore oxygen conditions to support adaptive, climate-ready fisheries.

Updating Surface Mortality Rates for Mortality Credits (Ongoing)

Fish encountered by a fishery and discarded at sea are released either due to catch restrictions or simply because the fish is undesirable to that fisher. Unfortunately for all rockfish species, interaction with fisheries often results in barotrauma, the physical response to rapidly being brought to the surface that results in expansion of their swimbladder, often leading to significant injuries such as damage to their internal organs, connective tissue and gills. Over the past 20 years, research into the impact of discards from hook-and-line fisheries has led to a wealth of knowledge about the anatomical and physiological impacts of barotrauma and the associated survival of released rockfish. Additionally, this research has been the foundation of a management tool used by the Pacific Fisheries Management Council (PFMC) known as 'Discard Mortality Rates'. Discard Mortality Rates are defined as the proportion of fish who will survive catch/release from a fishery and are applied by species (or species group), depth bin, and by whether the fish was released at the surface or at the seafloor via a rockfish descending device. Despite the breadth of research in this area over the last two decades, data gaps in discard mortality values exist for many species/depth bin combinations for both surface and bottom released fish. In 2023, the fisheries research team was asked to help fill the data gaps for two species of concern, black rockfish and quillback rockfish. The data gap for quillback rockfish was low sample size for surface released fish in every depth bin. On the other hand, of the four depth bins, the sample size for black rockfish was relatively high in the two shallowest bins but low for the two highest depth bins. Our aim was to increase the sample size of surface released black and quillback rockfish in the depth bins with the smallest sample sizes to potentially refine Discard Mortality Rates.

In the spring of 2023, we conducted six days of hook-and-line fishing in depths representing all four depth bins used by the PFMC to define surface release mortality rates (range: 0-10 fm, 11-20 fm, 21-30 fm, and >30 fm). Fish were caught on terminal tackle commonly used by recreational hook-and-line fisheries in the area. After being caught, fish were measured, assigned a barotrauma score, and released at the surface into a floating pen. If the fish swam down on its own within five minutes of being released it was considered to 'survive'. Any fish still at the surface after five minutes was considered a mortality. Overall, all encountered quillback (n=12, across 11 – 30fm) survived, which differs significantly from the current surface release mortality rates for quillback rockfish in the two middle depth bins. However, due to the low encounter rate of quillback in our study, we'd suggest increasing our sample size to improve confidence in these results. Further, quillback rockfish were not encountered in either the shallowest or deepest depth bin, a finding that is

supported by recreational catch data. Black rockfish were not encountered in the deepest depth bin, which is also reflected in the recreational catch data. Of the remaining three depth bins, black rockfish surface release mortality rates aligned with the rates set by the PFMC for all but the shallowest depth bin (0-10 fm). Our results show that in depths of 10 fathoms or less, all black rockfish were able to successfully submerge on their own in under 20 seconds of being released. A summary of the results of this study are forthcoming and will be published internally as an ODFW Information Report.

Oregon Marine Reserves Biodiversity Assessment (Ongoing)

This research is being conducted in partnership with collaborators at Oregon State University and the Oregon Department of Fish and Wildlife's Marine Habitat Project to evaluate patterns of biodiversity within Oregon's marine reserves. After over a decade of protection, the extent to which marine reserves are influencing species diversity, particularly for long-lived taxa such as rockfishes (*Sebastes* spp.), remains incompletely resolved. Addressing this gap is critical for understanding reserve performance and informing adaptive management strategies along the Oregon coast.

To assess biodiversity patterns, we are synthesizing fisheries-independent survey data collected across multiple reserves using standardized survey methods, including hook-and-line, remotely operated vehicle video and SCUBA diver-based observations. These data are being analyzed using coverage-based rarefaction and extrapolation approaches implemented through the R package iNEXT, allowing for robust comparisons of species richness and diversity across sites with unequal sampling effort. By integrating assemblage-level metrics with taxonomic and functional group classifications, including multiple rockfish species and associated reef taxa, we are quantifying how biodiversity responds to protection status, habitat variables, and spatial variation across reserves.

Preliminary analyses indicate that species diversity is higher in Marine Reserves than in nearby comparison areas that were selected to be as close to possible to reserve sites in depth and habitat. Ongoing work is focused on refining these comparisons with Bayesian hierarchical models (multi-species N-mixture models) across spatial scales and incorporating environmental covariates to better isolate reserve effects from underlying habitat differences.

This project contributes to a growing body of work evaluating the ecological outcomes of marine protected areas. By applying modern biodiversity estimation techniques to long-term monitoring datasets, this research provides a more nuanced understanding of how protection influences not only species abundance but community structure and ecological function. Results will support ongoing monitoring efforts, inform reserve design and evaluation, and contribute to broader discussions on the role of marine reserves in sustaining biodiversity and fisheries along the U.S. West Coast.

4. Stock Assessments and Management by Species/Group

This section includes groundfish stock assessments and management actions that were completed in 2025 by the ODFW.

Multi-Species

Federal management

A major item discussed by the Pacific Fishery Management Council was an evaluation of which stocks should remain in the Pacific Coast Groundfish Fishery Management Plan (FMP) based on federal jurisdiction and the Magnuson-Stevens Fishery Conservation and Management Act's National Standards. 27 stocks were determined to not be in need of federal conservation and management and will be removed from the FMP. Another 12 stocks will be changed to Ecosystem Component Species, which will not be actively managed within the FMP. An additional nine nearshore stocks were left for further discussion in 2026. The stocks that are to remain in the FMP will have their area defined in later FMP amendments if they are not yet defined. The timeline for removal or status change for the stocks that were determined to no longer be in need of federal conservation and management is still uncertain. It will likely not occur until quarter three of 2026 or later.

Fixed-Gear Nearshore Commercial Fishery

Nearshore rockfish compose the majority of landings in the commercial nearshore fishery. In Oregon, this fishery became a limited-entry permit-based program in 2004 following the rapid development of the open access nearshore fishery in the late 1990s. The commercial nearshore fishery targets groundfish, with separate management groups for Black Rockfish, Blue and Deacon Rockfish, Cabezon, Greenling, and Oregon's "Other Nearshore Rockfish" complex. The fishery is primarily composed of small vessels (25 ft. average) fishing in waters less than 30 fathoms. Fishing occurs mainly with hook and line jig and bottom longline gear types. Most active permit holders are located on the southern Oregon coast, resulting in most of the catch landed in Port Orford, Gold Beach and Brookings. Black Rockfish continue to comprise the majority of landings. The fishery supplies mainly live fish markets but also provide fresh fish products.

Landings are regulated through bimonthly trip limits, minimum size limits, and annual harvest guidelines (HG). Of note, the 2023 PFMC assessment for black rockfish off Oregon (Cope et al. 2023), first implemented for management in 2025, found that while healthy, the exploitable biomass was considerably smaller than previous assessments. This led to a 33% reduction in the black rockfish HG from 2024 to 2025, and a corresponding reduction of 33% in bimonthly trip limits. For all other target species, HGs declined slightly due to "staleness" penalties based on age of assessment, and fishing down of healthy stocks to target levels. These changes were small enough, and fishery attainment low enough, that changes to bimonthly trip limits were not needed. In 2025, landings from commercial nearshore fishing, logbook compliance, economic data, and biological data were published in the 2024 Commercial Nearshore Fishery Data Update (Vestfals and Ruzzi 2025). Updates for the 2025 commercial nearshore fishery will be published in 2026.

Weekly updates on landings and model projections allow MRP staff to effectively manage the fishery in-season. In 2025, overall effort (number of fishing trips) was about average through May,

but then began to drop below average and ended the year slightly above the historical minimum. Due to this low effort and decreased bimonthly trip limits, projections of black rockfish landings made throughout the year showed the fishery being very close to the HG of 82.4 metric tons by the end of the year, and no in-season adjustments to bimonthly trip limits were made. Blue and Deacon Rockfish landings in 2025 were at or above the historical average for the entire year, setting a new historical maximum for the third year in a row. The Bue and Deacon Rockfish HG of 14.8 metric tons was exceeded by 2% from landings alone at the end of the year. However, Blue and Deacon Rockfish trip limits were not adjusted as the recreational fishery significantly under-attained the recreational HG and total mortality remained well below the Annual Catch Limit for the stock. Landings of Other Nearshore Rockfish, which had an HG of 15.4 metric tons, were near the historical average until June, after which they remained fell below average through the end of the year. Trip limits in Periods 4 – 6 were increased from 450 to 650 pounds per period to allow for greater opportunity for reaching the Other Nearshore Rockfish commercial HG. End of the year attainment of the state HGs, not including discard mortality, was 93% for Black Rockfish, 102% for Blue and Deacon Rockfish, and 48% for Other Nearshore Rockfish. Discard mortality is also counted against HGs, but the NMFS West Coast Groundfish Observer Program ended observing state managed fisheries starting in 2025 and ODFW has not yet determined a method for estimating discard mortality in the absence of observer data. For Greenling and Cabezon management specifics see the Other Groundfish section, below.

Vestfals, C.D. and. S.P. Ruzzi (2025). The Oregon Commercial Nearshore Fishery Data Update: 2024. ODFW Science Bulletin 2025.

Stock Assessments

Assessment summaries ("one-pagers") for recent federal assessments for select Oregon stocks have been developed as a reference for ODFW staff and the general public. These include assessments for quillback rockfish (2021), black rockfish (2023), canary rockfish (2023), petrale sole (2023), shortspine thornyhead (2023), and sablefish (2025). Additional summaries are in development for yellowtail rockfish (2025) and widow rockfish (2025).

Data products for stock assessments from ODFW include standardized catch estimates and biological sampling that are housed in the West coast data repositories for commercial and recreational fisheries (PacFIN and RecFIN, respectively) but also include other products only available directly from ODFW. For this assessment cycle (2025/2026), historical catch reconstructions for commercial and recreational fisheries were provided. Fishery-dependent indices from the recreational fishery were also developed, along with special projects (non-standard) biological samples. ODFW contributed data to all six benchmark federal assessments and two update assessments in 2025.

Hagfish

Management

The commercial hagfish fishery is open year-round. Two types of trap gear have typically been used, a 55-gallon drum and five-gallon bucket. Each of these contains escape holes to increase the size selectivity of the commercial fishery. After five years of declining landings attributable to market factors and declining participation, in 2025 there were no targeted landings of hagfish in Oregon.

Of the three vessels that participated in the fishery in 2024, one partially sunk during a non-fishing trip in 2024 and was a total loss, one only occasionally targets hagfish for bait, and the third is thought to be abandoned. No hagfish management actions were taken by ODFW in 2025.

Pacific Whiting

Management

The United States and Canada agreed upon a 2025 coastwide total allowable catch (TAC) of 328,973 mt, which was adjusted to 400,000 mt with carryover from 2024. Of this coastwide TAC, the United States' portion was 234,045 mt, which was then adjusted to 295,520 mt from carryover. The U.S. caught 81% of their catch target and Canada caught 3.7% of their catch target for a total coastwide catch of 239,385 mt. U.S. total landings were comparable to 2023, but 3,913 mt were landed in Canada, which is the lowest since 1966 (the first year on record).

Rockfish

Production Aging

ODFW has historically focused on production aging of nearshore groundfish for inclusion in stock assessments, but no nearshore species were included in the Groundfish Management Team's list of species to be assessed in 2025. We continued estimating ages for Oregon's component of the rougheye/blackspotted complex (a slope species) and produced 516 break-and-bake estimates for a subsample of randomly selected fish from catch years 2017 and 2024, all from the commercial fishery. Otolith weights were taken from 400 fish captured in 2024 and data provided to NWFSC for FT-NIRS (Fourier transform near-infrared spectroscopy) model building for age estimation. In addition to those randomly selected samples, we also aged an additional 120 non-random commercial samples for which maturity data was available as part of the FRAM maturity project.

ODFW routinely performs double reads on 20% of all otoliths to generate an internal index of precision, defined as the reproducibility of repeated measurements on a given structure. Precision estimates lend insight on the ease of aging a structure, assess the reproducibility of an individual's age determinations, or compare the skill level of one ager relative to that of others. ODFW employs a single reader to age commercially and recreationally important groundfish; therefore, double reads are used to determine the precision of a single reader. Double reads were made on 80 samples each from catch years 2017 and 2024, with average percent error (APE) values of 4.34 and 3.79, respectively. Given the long-lived nature of this species and the inherent difficulty in ageing it, our APE value is considered acceptable.

Other Aging Activities

The last time Pacific spiny dogfish were assessed was in 2021, and that assessment used a relatively small set of ages from fish captured during the 2010 West Coast Groundfish Bottom Trawl Survey. In anticipation of a possible 2027 assessment, we prepared 909 dorsal fin spines collected from 2008-2022 for aging. Preparation included boiling the spines, manually removing tissue, and drying them so that the banding pattern was visible on the structure. These structures were passed on to agers at the NWFSC who have been trained to age this species.

Stock Assessments

ODFW participated in multiple federally led stock assessments through the Pacific Fishery Management Council in 2025. Benchmark assessments include yellowtail rockfish and rougheye/blackspotted rockfish, for which ODFW staff were members of the Stock Assessment team (STAT).

Data products for stock assessments from ODFW include standardized catch estimates and biological sampling that are housed in the West coast data repositories for commercial and recreational fisheries (PacFIN and RecFIN, respectively) but also include other products only available directly from ODFW. For this assessment cycle (2025/2026), historical catch reconstructions for commercial and recreational fisheries were provided. Fishery-dependent indices from the recreational fishery were also developed, along with special projects (non-standard) biological samples. ODFW contributed data to all six benchmark federal assessments and two update assessments in 2024 and 2025.

Management - Recreational Fishery

The fishery season structure and regulations, such as daily bag limits (with species specific sub-bag limits) and depth restrictions, are set pre-season to balance impacts to a number of species, as what reduces impacts on one species may increase impacts to the other. In-season actions are then utilized when necessary to reduce risk of exceeding any allocation or quota.

For 2025, in-season changes were required. Black rockfish (*S. melanops*) remains the dominant species caught in the recreational ocean boat fishery. The black rockfish federal harvest limit decreased from 477 mt in 2024 to 344 mt in 2025. For the recreational fishery, the 2025 harvest limit was 261 mt. In response to the lower catch limits, the general marine species bag limit was set at four fish per angler for the first six months (Jan-Jun) with an increase to a five-fish bag limit beginning on July 1. In-season action was then needed to reduce the risk of exceeding the harvest limit, as catches of black rockfish peaked in July. The bag limit was reduced through state temporary rules back down to a four-fish bag limit on August 18 with a further reduction to a three-fish bag limit on September 18. The nearshore rockfish complex was the only species (or group of species) that exceeded their Oregon recreational specific harvest guideline in 2025, though other fisheries north of 40° 10′ N. lat. underutilized the nearshore rockfish complex, allowing retention of nearshore rockfish in the Oregon recreational fishery through the calendar year.

Additionally, there were two prohibited species of rockfish in 2025; yelloweye rockfish and quillback rockfish. To remain within the yelloweye rockfish impact cap (via discard mortality), the recreational groundfish fishery had previously been restricted to inside of 40 fathoms during the summer months. However, beginning in 2023, the summer depth restriction was no longer necessary to stay within the updated impact cap as the yelloweye stock continues to rebuild, providing some relief to black rockfish and other nearshore species. The retention of yelloweye rockfish (*S. ruberrimus*) has been prohibited year-round since the early 2000s. Beginning in 2022, quillback rockfish were also prohibited. The 2021 assessment for quillback rockfish (*S. maliger*) indicated that while the stock is considered healthy, the total biomass is much smaller than previously estimated. The allowable amount annually is not enough to allow for any retention.

Outreach – Recreational Fishery

ODFW staff host public meetings three times a year for halibut and groundfish, taking place in February, July or August, and September or October. The summer or fall meetings take place in

multiple ports along the Oregon Coast (and occasionally in Salem) to encourage engagement with the local communities. These meetings provide an opportunity to share information with the public and gain feedback on regulations from an angler perspective. Meetings hosted in Newport are offered as a hybrid for anglers across the state to join virtually. Additionally, staff continue to work with anglers via webinars, conference calls, emails, and online materials as needed.

To reduce bycatch mortality of prohibited rockfish species in the sport fisheries, ODFW staff continue to participate in angler education workshops, meetings, and shows to educate marine anglers and encourage the use of descending devices when releasing rockfish suffering from barotrauma. These efforts have proven to be successful, as anglers now hold each other accountable at-sea and promote the devices themselves. To further increase usage, anglers requested that ODFW make descending devices mandatory on any vessel fishing the ocean for groundfish or halibut. This regulation went into effect on January 1, 2017. Additional outreach efforts include: videos online that show fish successfully swimming away after release with a device, rockfish barotrauma flyers, and videos on how to use the various descending devices.

ODFW has also been educating anglers on a relatively new opportunity to use what is termed "offshore long-leader gear" to target midwater rockfish species such as yellowtail (*S. flavidus*) and widow (*S. entomales*) rockfishes, while avoiding more benthic species such as yelloweye rockfish. The long-leader gear requires a minimum of 30 feet between the weight and the lowest hook, along with a non-compressible float above the hooks, to keep the line vertical in the water column. ODFW has produced informational handouts with the gear specifics, species allowed, and other associated regulations.

Sablefish

Management

Sablefish is an economically valuable species in the West Coast bottom trawl and fixed gear fisheries. The 2025 fixed gear sablefish trip limits (both open access and limited entry) were raised in the middle of the year with in-season action to allow for higher attainment of sablefish allocations. In 2025, the Individual Fishing Quota (IFQ) trawl fleet landed 2,963 mt of sablefish into Oregon, and the combined non-trawl gear groundfish fisheries (including IFQ "gear switchers") landed 8,562 mt. The IFQ trawl fishery includes both groundfish bottom and midwater (including shoreside Pacific whiting) trawl vessels.

The PFMC has three main ongoing items that will affect the sablefish fisheries. The first will change the "gear-switching" provision of the trawl IFQ program which allows the use of non-trawl gear to harvest trawl IFQ pounds. The FPA (adopted April 2024) stated that gear switching would only be limited in years when sablefish quota pound (QP) availability is low—specifically, when the northern (north of 36° N. Latitude) sablefish annual catch limit (ACL) is below 6,000 mt. The limitation would be imposed through the issuance of gear-specific QP (any-gear QP and trawl-only QP). In years with an ACL above 6,000 mt, there would be no restrictions on gear switching. There were other provisions within the FPA that addressed "legacy participant" status. The implementation of this regulation change is on hold while staff prioritize working on flexibility options for the harvest specifications process. More information can be found at the PFMC's Gear-Switching webpage.

The next is the Fixed Gear Marking and Entanglement Risk Reduction item. Final action was taken in June 2024, but implementation is still in progress. The regulations, once implemented, will change requirements for buoy marking, line marking, surface gear, and permitted line length for surface lines. More information can be found on the Fixed Gear Marking and Entanglement Risk Reduction webpage.

The last is the follow-on actions for the Limited Entry Fixed Gear permit stacking (primary tier) program. While final action was taken in June 2025, implementation is also still in progress. This item, once implemented, will 1) create a single gear endorsement that will allow limit entry vessels to use any legal non-trawl gear other than entangling nets, 2) remove the base permit designation, 3) remove the time requirements for the season start and end dates, and 4) develop a cost recovery program. More information is available on the Limited Entry Fixed Gear Follow-on Actions webpage.

Lingcod

Aging Activities

Prior to the last lingcod assessment in 2021, ODFW had sent commercial fin rays to WDFW for processing and subsequent aging; however, recent and substantial increases in WDFW's processing costs resulted in ODFW processing and aging samples in-house. In 2025 we began the tedious process of preparing and aging fins collected from 2020-2024 from both commercial and recreational fleets. In all, we estimated ages on 1180 commercial samples (2020-2023) and 1285 recreational samples (2020-2024). A 20% double read resulted in low average percent error (APE) values for commercial (range 2.17-3.31) and recreational samples (range 1.96-3.29), indicating relatively high within-reader precision.

Management - Commercial

Lingcod are managed commercially using two-month trip limits in both the limited entry fixed gear and open access fisheries. Oregon is managed in the North of 40° 10′ N latitude management area. Trip limits are updated biennially and in-season if necessary. The 2024-2025 trip limits are higher than the 2022-2023 trip limits for both the non-trawl sectors. In 2025, the combined non-trawl gear groundfish fisheries (including IFQ trawl vessels using non-trawl gear, i.e., "gear switchers") landed 236 mt of lingcod into Oregon.

Annual allocations for the IFQ trawl fishery that operates off Oregon, as well as the rest of the US West Coast, are also set on a biennial cycle. The IFQ trawl fishery includes groundfish bottom trawl vessels, midwater trawl vessels targeting midwater rockfish, and shoreside Pacific Whiting vessels. In 2025, the IFQ trawl fleet landed 405 mt of lingcod into Oregon.

Management - Recreational

Lingcod is a popular target in the Oregon recreational groundfish fishery. Beginning in 2023, the summer depth restriction was removed for the groundfish fishery, allowing anglers to harvest lingcod, rockfish, and Pacific halibut on the same trip (when Pacific halibut retention is allowed). Anglers prefer to target lingcod at deeper depths, as larger lingcod are believed to occur in deeper offshore waters. Lingcod have their own daily bag limit (2 fish per angler per day in 2025), separate from other groundfish. There is also a minimum size limit of 22 inches. In 2025, anglers landed over 65,000 lingcod, totaling 205 mt.

Pacific Halibut

Management

Oregon's recreational fishery for Pacific halibut continues to be a popular, high-profile fishery requiring International Pacific Halibut Commission (IPHC), Federal, and state technical and management considerations. In 2019, the IPHC recommended an annual fishery catch limit for Area 2A (Oregon, Washington, and California) of 1.5 million pounds which the IPHC Commissioners indicated would be in place for four years, 2019-2022. The Commissioners have since maintained the 1.5 million pounds catch limit for Area 2A.

The recreational fishery for Pacific halibut in Oregon is managed under three subareas with a combination of all-depth and nearshore quotas. In 2025, the Columbia River subarea quota was 18,587 pounds, the Central Coast subarea quota was 277,024 pounds, and the Southern Coast subarea quota, was 8,000 pounds. Landings in the recreational Pacific halibut fishery are monitored weekly to ensure catch limits are not exceeded. The majority of Pacific halibut continue to be landed in Newport. Total recreational landings in the Central Coast subarea for 2025 were 166,610 pounds, 60 percent of the subarea quota. Landings in the Southern subarea were 5,360 pounds (67 percent of the subarea quota) and in the Columbia River subarea, landings were 17,282 pounds (91 percent). Fishing in the Central Coast subarea was hampered by weather again in May and June, though the ocean did lay down at times to allow anglers to fish offshore. For the rest of the season, the majority of anglers switched over to salmon fishing or prioritized albacore, when accessible. The Columbia River subarea was able to open as scheduled in early May with good catches and extend the season all the way through September, though halibut fishing tailed off after June. In all three subareas, anglers continued to report smaller fish. The average weight of landed fish in 2025 was about 16 pounds, similar to what was reported in 2024.

Other Groundfish – Kelp Greenling

Management – Commercial Fishery

The commercial Greenling HG for 2025 was 96.6 metric tons. Greenling are targeted by very few commercial fishers despite the relatively high HG and price per pound paid for live fish. The bimonthly trip limit in 2025 was set at 1,200 pounds per period after considering public input, markets, and local depletion concerns. To increase opportunity and attainment, ODFW increased the bimonthly trip limit by 800 pounds per period to 2,000 pounds for Periods 4 – 6. Greenling landings, not including discard mortality, ended the year with 18% of the HG attained. Barring changes in targeted effort catch rates and markets, Greenling attainment is likely to continue to remain low.

Other Groundfish – Cabezon

Management – Commercial Fishery

The commercial HG for Cabezon was 31.0 metric tons in 2025. Cabezon landings ran below the historical average through most of the year and were projected to come in well below the HG. To increase opportunity and attainment, ODFW increased the bimonthly trip limit from 1,500 pounds per period to 2,500 pounds for Periods 4 – 6. Despite this increase, landings remained below

average and ended the year at a new historical low. Final commercial fishery attainment, not including discard mortality, was 40% after in-season adjustments.

Management – Recreational Fishery

Cabezon is another popular target for recreational groundfish anglers. Cabezon have a one-fish sub-bag limit as part of the general marine species bag limit and a 16-inch minimum size, additionally the season does not open until July 1. Retention is prohibited January through June, as that is the time that cabezon generally spawn and nest guard. The cabezon harvest guideline has remained relatively constant over the last decade, though even with the average angler catching less than one per day, the quota can go very quick. In 2025, the season remained open through the end of the year. However, as recently as 2022, cabezon was prohibited shortly after Labor Day to stay within the harvest guideline.

5. Reserves

The ODFW Nearshore Ecology Program oversees the management and scientific monitoring of Oregon's five nearshore marine reserves. These sites, from north to south, include: Cape Falcon; Cascade Head; Otter Rock; Cape Perpetua; and Redfish Rocks. All fishing and marine development are banned in the reserves, which also are surrounded by marine protected areas where some types of fishing are allowed. Together they represent 9% of Oregon's nearshore waters and they were all created through a public process. Each reserve has distinct habitat and biological characteristics and therefore requires site-specific monitoring and research planning. This section presents an update on management, ecological monitoring and research activities from 2024. More detailed information is available on the Oregon Marine Reserves website at http://oregonmarinereserves.com/.

An Oregon First

Oregon's marine reserve system is the state's first long-term nearshore ocean conservation and monitoring program. It is the only ecosystem-focused, fisheries-independent monitoring program designed to track and understand ocean changes occurring in Oregon's state waters. It also provides information on Oregon's juvenile and subadult rockfish as well as track oceanographic conditions of nearshore waters such as ocean acidification and hypoxia.

The program also is the first with a comprehensive human dimensions research effort examining the reserves' impacts on the economic, social, and cultural dynamics of the Oregon coast and coastal communities. It remains the West Coast's only comprehensive human-dimensions research program ever focused on marine protected areas.

Management

The ODFW Marine Reserves Program underwent a legislatively mandated programmatic review in 2023, which found that in general Oregon's marine reserves were effectively designed and implemented to achieve the goals and policy objectives set forth in legislation. Senate Bill 1510, passed in 2012 by the Oregon legislature, called for a check-in and report on the ODFW Marine Reserves Program to the legislature in 2023. This check-in mandated an independent university to review the Marine Reserves Program and prepare a report for the Scientific and Technical Advisory

Committee of the Ocean Policy Advisory Council to share with the Oregon legislature by March 1, 2023. The university report evaluated whether the program was meeting its mandated goals and provided recommendations for improvements.

The basis for the university report was the ODFW Marine Reserve Program Synthesis Report, which provided a comprehensive overview of the program and first 10-years of marine reserves implementation. The recommendations from the university assessment were used to inform an introduced bill in the 2023 legislative session; however, the bill did not make it through the end of the session. In early 2024, HB 4132 was passed tasking ODFW Marine Reserves with implementing an adaptive management plan, as well as other new goals such as researching the reserves' resilience to climate change. In 2025, ODFW's Marine Resources Program reorganized the Oregon Marine Reserves Program and Marine Habitat Project into one program. The creation of the new Nearshore Ecology Program brings together ODFW efforts focused on marine conservation and nearshore habitat research. However, the goals and mandates of the Marine Reserves team remain the same.

6. Data Management

Broadly speaking, each year, the ODFW contributes a significant amount of catch, biological and logbook data to West coast data repositories, PacFIN and RecFIN. These data are accessible to a variety of end users but include both the general public and agency personnel involved in the assessment and management of groundfish species. Internally, the data for these repositories are housed in multiple Access-linked SQL databases (or for some logbooks, Access databases) that are continually updated and periodically transmitted to PacFIN/RecFIN. ODFW also maintains multiple internal SQL or Access databases with data not appropriate or ready to disseminate. Examples of these databases include special projects biological sampling (e.g. for growth or maturity studies), or smaller-scale survey/study specific databases, such as those for marine reserves ecological monitoring or for Ocean Recreational Fishery Survey. These internal data are available upon request through a data-use agreement with ODFW. Summarized data from PacFIN/RecFIN are available to the general public but detailed data can also be requested through the Pacific States Marine Fisheries Commission. Most of the databases, particularly those that feed into PacFIN/RecFIN, are managed by the Technical and Data Services Section, more commonly known as the "Data Shop".

Few staff at the Marine Resources Program use common code repositories, though specific projects have begun to utilize GitHub to store code and project-specific non-confidential data. Staff that work on federal stock assessments teams utilize GitHub as data and code repositories to increase transparency in the development of federal groundfish assessments.

7. Upcoming Work, Emerging Needs, and Challenges

This section contains information on upcoming research projects, surveys, stock assessments and management activities for the Marine Resources Program at the ODFW.

Research

Multiple research projects described above in Section 3 are ongoing and work will continue on data collection, analysis and publication for these projects. Additional anticipated projects are described below.

Rockfish Barotrauma During Longline Operations: Developing Gear for Efficient Recompression and Assessing the Effects of On-Hook Time on Fish Survival

This project aims to evaluate and develop practical recompression techniques that can be integrated into commercial longline fisheries to reduce discard mortality of rockfishes experiencing barotrauma. The study will test two gear-based approaches: (1) a downrigger-based system that releases fish at depth during longline haul-back, and (2) an on-deck holding cage system that stores fish throughout gear retrieval and later descends them as a batch using the vessel's pot hauler. Both approaches are designed to minimize disruptions to normal fishing operations, addressing a major barrier that has prevented the adoption of recompression practices in longline fleets. Survival will be assessed through visual barotrauma scoring, underwater video, and by placing a subset of fish in recompression cages for 48-hour post-release monitoring—a method consistent with procedures used to develop existing survival credits for recreational fisheries.

In parallel, the study will quantify the effects of on-hook duration on survival using hook timers deployed on gangions, an important factor given long soak times characteristic of commercial longlining. Field trials will occur in both nearshore (<55 m) and offshore (>90 m) fisheries over 14 fishing days, providing species-specific survival estimates across operational contexts. The results will directly support the development of longline-specific survival credit tables, inform stock assessments, and provide fisheries managers with much-needed data on post-release mortality. By advancing recompression technologies suited for commercial operations, this work has the potential to substantially reduce discard mortality, improve conservation outcomes for overfished and rebuilding rockfish species, and enhance sustainable fishing opportunities for the West Coast longline fleet.

Population and Community Structure of Black, Canary, and Yellowtail Rockfishes at Cobb Seamount

The summer 2026 research cruise will investigate the population and community structure of Black, Canary, and Yellowtail Rockfishes at Cobb Seamount, an isolated offshore habitat located roughly 500 km from the Oregon coast. These three species are central to Oregon's commercial and recreational groundfish fisheries, yet stock assessments consistently show a lack of old females—a critical life-history component because older females contribute disproportionately to recruitment. The project aims to determine whether older females are present at Cobb Seamount, whether offshore populations differ in diet and age structure from nearshore populations, and how these fish arrive and persist at seamount habitats. The work will combine age and stomach sampling, acoustic surveys, stereo-video camera deployments, genetic analyses, and satellite tagging to assess abundance, connectivity, and movement patterns. These data will fill major knowledge gaps regarding whether older individuals migrate offshore, experience high natural mortality, or utilize offshore seamounts as critical habitat.

During the cruise, the research team will deploy hydroacoustic transects, benthic video systems, hook-and-line gear, and an Isaacs–Kidd midwater trawl to characterize fish assemblages, diet, prey fields, and habitat associations across the seamount. Tissue samples collected from all captured rockfish will support genomic analyses addressing relatedness and potential population exchange between nearshore Oregon and the offshore seamount system. A subset of fish will be implanted with satellite tags to quantify movement on multi-month timescales, providing the first direct evidence of residency or connectivity between seamounts and the continental shelf. The project will also provide hands-on research and outreach opportunities for undergraduate assistants and collaborating scientists. Findings will directly reduce uncertainty in stock assessments and inform marine spatial planning, especially as offshore habitats may function as de facto marine refuges supporting older, reproductively valuable individuals.

Field Validation of Species Distribution Model in Stonewall Bank Yelloweye Rockfish Conservation Area

The summer 2027 research campaign will validate a species distribution model (SDM) developed for Yelloweye Rockfish (Sebastes ruberrimus) in the Stonewall Bank Yelloweye Rockfish Conservation Area (YRCA), a region of complex rocky reef habitat where traditional survey gear cannot operate. The project addresses long-standing uncertainties about the spatial ecology and habitat use of Yelloweye Rockfish—a historically overfished species that continues to constrain west coast fisheries. By pairing new video-lander observations with in-situ environmental measurements (e.g., temperature, depth, benthic habitat, chlorophyll-a), the team will evaluate whether the environmental predictors used in the original SDM align with real-world conditions and whether the model accurately forecasts abundance across new locations and time periods. This work supports Oregon's need for better fisheries-independent data, responds to expanded ODFW responsibilities in stock monitoring, and contributes to state mandates for improved ecological assessments in marine reserves.

During each monthly cruise from April through September 2027, researchers will deploy dual video landers across a stratified grid of rocky habitat on Stonewall Bank to collect roughly 30 spatially distributed observations per sampling day. These observations will be compared to SDM-predicted abundance values to assess predictive skill and identify areas for model refinement. Concurrent environmental measurements gathered using the vessel's flow-through system will help link habitat conditions to real-time species occurrence. The resulting dataset will strengthen multi-species SDMs, support ecosystem-based management and spatial planning (including marine reserve monitoring and potential offshore development), and contribute directly to PI Johnston's dissertation research. All findings will be shared with ODFW and the Pacific Fishery Management Council to support their ongoing efforts to integrate video-based monitoring and SDMs into stock assessments for data-poor groundfish species.

Modernizing Rockfish Assessments: Leveraging Broadband Acoustics for Ecosystem-Based Fisheries Management

The summer 2027 research effort will modernize Oregon's nearshore rockfish assessments by upgrading from traditional narrowband echosounders to advanced broadband acoustic systems. Broadband acoustics transmit across a wide range of frequencies, producing richer spectral information that improves detection, classification, and biomass estimation of semi-pelagic

rockfishes inhabiting complex reef habitats. This higher resolution is critical in rocky, high-relief environments where narrowband systems struggle to distinguish fish from seafloor echoes. The project will run paired broadband–narrowband acoustic transects, integrate these data with stereo-video observations, and use x-ray imaging of sampled fish to develop improved target strength–length (TS–L) models for key species. These enhancements will yield more accurate population estimates, better species discrimination, and stronger stock assessments for Black, Blue/Deacon, and Canary Rockfishes—species central to Oregon's recreational and commercial fisheries.

In addition to improving acoustic survey efficiency and accuracy, the summer 2027 fieldwork will expand understanding of rockfish spatial ecology by tagging individuals with satellite transmitters to track their movements over multi-month timescales. Broadband-derived abundance indices will be generated for marine reserves such as Redfish Rocks or Cascade Head, with concurrent sampling in comparison areas to assess reserve performance. This research directly supports Oregon's long-term ecosystem monitoring, contributes to statewide resilience initiatives, and enhances the only synoptic, statewide dataset used for managing nearshore rockfish stocks. The resulting TS–L models, broadband–narrowband comparisons, and satellite-tracking datasets will improve management readiness under changing ocean conditions and provide high-quality science for future Pacific Fisheries Management Council assessments.

Surveys

Existing surveys monitoring Oregon's commercial and recreational fisheries are ongoing, though modifications may be required as ODFW takes over management and assessment of nearshore groundfish species.

Management/Stock Assessments

Participation at the PFMC, NPFMC, and the IPHC will continue into 2026. Some anticipated topics include:

1. PFMC: Adopting 2025 Stock Assessments for 2027-2028, followed by development of harvest specifications
2. PFMC: Stock Definitions (Phase 2) and protocol for FMP species review
3. PFMC: Stock Assessment Plan for 2027, 2029 and beyond
4. PFMC: Harvest Specifications Flexibility
5. PFMC: Trawl gear midwater experimental fishing permit implemented into regulations
6. PFMC: Trawl Follow-on actions
7. PFMC: Risk Management Framework
8. NPFMC: Annual crab and groundfish harvest specifications
9. NPFMC: June meeting in Newport, OR, with MRP staff and local industry coordinating events and excursions for the NPFMC
10. IPHC: ODFW will continue to be involved leading up to the IPHC Interim Meeting and next year's Annual Meeting

ODFW continues to plan for the 2027/2028 federal stock assessment cycle. In addition to participation in the federal assessments themselves, ODFW staff continue to automate and optimize

data products for federal stock assessments. These include incorporating historical catch reconstructions into PacFIN and RecFIN, automation of dataset development and modelling approaches for indices of abundance, and the incorporation of new data sources. ODFW staff are working to enhance internal capacity to lead stock assessments through participation in a "state stock assessors" working group.

Emerging Needs/Challenges

Staffing, particularly for seasonal sampling positions, remains a challenge for a variety of reasons, but the primary challenge is the lack of available housing on the Oregon coast for employees that require affordable, short-term rentals.

Capacity to age Oregon's biological samples continues to be a limiting factor in the development of both federal and potential state-led age-structured stock assessments.

Changes to the Pacific Coast Groundfish Fishery Management Plan will transfer the management of multiple nearshore stocks over to the state for management in coming years. This will add strain to state capacity in various ways.

Overarching all these continued issues is the broad uncertainty in federal funding and support to continue to study, monitor and manage Oregon's public marine resources, which will be a considerable challenge in the years to come.

8. Other Publications

N/A

9. Agency Contact List

Topic(s)	Primary Staff Contact
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