FISH ON!

HOOK-AND-LINE SURVEY VOLUNTEER NEWSLETTER

SPRING & FALL 2025

GREETINGS VOLUNTEERS!

We had a very fun and exciting year on the water at the Cape Falcon and Redfish Rocks Marine Reserves. Thank you to all our volunteers for making the 2025 surveys possible!

We are grateful to our captains and crews. Lance Fletcher, captain of the F/V Norwester, and sons led our surveys at Cape Falcon for the 5th time. Captain Aaron McKenzie and deckhands Richard and Sean of the F/V Lynoma led surveys at Redfish Rocks for the 1st time and adapted quickly to our methods. We were impressed by their expertise and workflow, and enthusiasm for learning more about our surveys. The hard work and expert knowledge of both captains made our surveys a success!

Many thanks to all our volunteer anglers and biological assistants who caught and recorded data during our surveys. We couldn't gather this valuable long-term data without everyone involved.

During our 6th year of hook-and-line surveys at Cape Falcon, we caught our very first Puget Sound Rockfish (featured on final page)! In our 10th year at Redfish Rocks, we were excited to see many Gopher Rockfish and Wolf Eels.

Please enjoy this summary of the data you all helped collect in the past year. We hope to see you again in 2026 for surveys at Cape Perpetua or Cascade Head. We are grateful to have such dedicated volunteers.

Sincerely,
Moritz, Stephanie, and Ryan

2025 HIGHLIGHTS

2 Sites Surveyed

Redfish Rocks - 9 days
Cape Falcon - 8 days

17 Trips

73 VOLUNTEERS

1906 Fish Caught

23 Species

367 Fish Tagged

Black Rockfish
Min: 14 cm (6 in)
Max: 55 cm (22 in)

Blue Rockfish
Min: 28 cm (11 in)
Max: 37 cm (15 in)

Brown Irish Lord
Min: 6 cm (2 in)
Max: 6 cm (2 in)

Buffalo Sculpin
Min: 23 cm (9 in)
Max: 37 cm (15 in)

Cabezon
Min: 30 cm (12 in)
Max: 66 cm (26 in)

Canary Rockfish
Min: 25 cm (10 in)
Max: 63 cm (25 in)

China Rockfish
Min: 23 cm (9 in)
Max: 41 cm (16 in)

Copper Rockfish
Min: 36 cm (14 in)
Max: 52 cm (20 in)

Deacon Rockfish
Min: 17 cm (7 in)
Max: 42 cm (17 in)

Gopher Rockfish
Min: 29 cm (11 in)
Max: 33 cm (13 in)

Kelp Greenling
Min: 13 cm (5 in)
Max: 42 cm (17 in)

Lingcod
Min: 36 cm (14 in)
Max: 106 cm (42 in)

Olive Rockfish
Min: 30 cm (12 in)
Max: 30 cm (12 in)

Puget Sound Rockfish
Min: 15 cm (6 in)
Max: 15 cm (6 in)

Quillback Rockfish
Min: 27 cm (11 in)
Max: 49 cm (19 in)

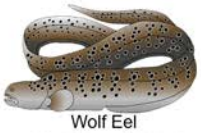
Red Irish Lord
Min: 32 cm (13 in)
Max: 35 cm (14 in)

Rosy Rockfish
Min: 26 cm (10 in)
Max: 26 cm (10 in)

Tiger Rockfish
Min: 37 cm (15 in)
Max: 40 cm (16 in)

Vermilion Rockfish
Min: 40 cm (16 in)
Max: 57 cm (22 in)

Widow Rockfish
Min: 35 cm (14 in)
Max: 35 cm (14 in)



Wolf Eel
Min: NA cm (NA in)
Max: NA cm (NA in)

Yelloweye Rockfish
Min: 26 cm (10 in)
Max: 70 cm (28 in)

Yellowtail Rockfish
Min: 24 cm (9 in)
Max: 46 cm (18 in)

Basket Star

Art Credit: Larry Allen, Ryan Fields

CAPE FALCON MARINE RESERVE

A SUNKEN BARGE IS A UNIQUE FEATURE IN THE RESERVE

If you have fished with us in the Cape Falcon Marine Reserve, you may know there is a hidden feature that often produces an exciting flurry of fish: the rusting hull of a sunken barge. This complex steel structure provides excellent habitat for species like rockfish, Cabezon, and greenlings, as well as many invertebrates like the Giant Plumose Anemone (pictured below). Although it is an artificial reef, this wreck is still protected by the reserve bounds and influences the total fish abundance within the reserve. In fact, most of the fish caught in the reserve are from schools of Black Rockfish caught over the barge (see figure below). To step back in time and learn more about how this barge sank in 1983, read the original article. To see what the barge looks like today, check out this video collected by ODFW with a drop camera in 2022.

Black Rockfish swimming above the sunken barge covered in Giant Plumose Anemones

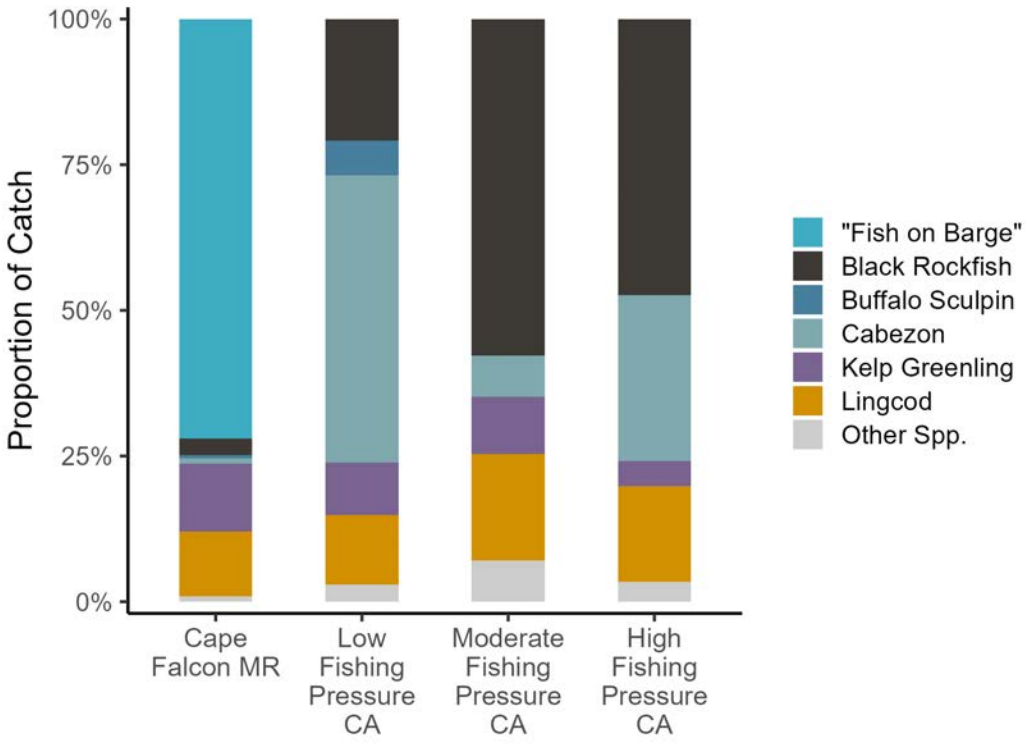


Figure: *Proportions of the 2025 catch at the Cape Falcon Marine Reserve (MR) and surrounding comparison areas (CA). The "Fish on Barge" category (teal) represents fish caught on the sunken barge (found only in the marine reserve) and is made up of ~90% Black Rockfish, with a few Cabezon, Lingcod, and Kelp Greenling.*

CAPE FALCON MARINE RESERVE

LOW OXYGEN LEVELS PROMINENT DURING SUMMER

Oxygen data can provide valuable insight into the ocean conditions during the survey season and help us better interpret changes in fish abundance. Each spring, ODFW deploys a mooring with oxygen and temperature sensors in the Cape Falcon Marine Reserve (MR). Climatology plots (figure below) are one way we can compare an individual year's data to the overall average of multiple years. This helps us understand what a 'typical' range of dissolved oxygen (mg/L) is at our mooring location. Dissolved oxygen is essential for the survival of marine life and is a key indicator of ocean health. Levels below 2 mg/L are considered low oxygen conditions, or hypoxia, and can negatively impact marine animals.

The figure below shows climatology plots for the past five years at the Cape Falcon MR. In 2021, Cape Falcon experienced relatively lower values of dissolved oxygen during the mid-summer months, occasionally dipping into hypoxia. Oxygen levels during 2022-2024 were higher during the summer months compared to 2021, with fewer days showing hypoxic conditions. In 2025, we observed the lowest oxygen values of the last five years with extended hypoxia between July and August. These patterns are consistent with seasonal shifts during the spring and summer months that bring cold, low-oxygen water nearshore (i.e. coastal upwelling). Additional years of sampling will better enable us to determine whether hypoxic events are becoming more common in reserves and comparison areas.

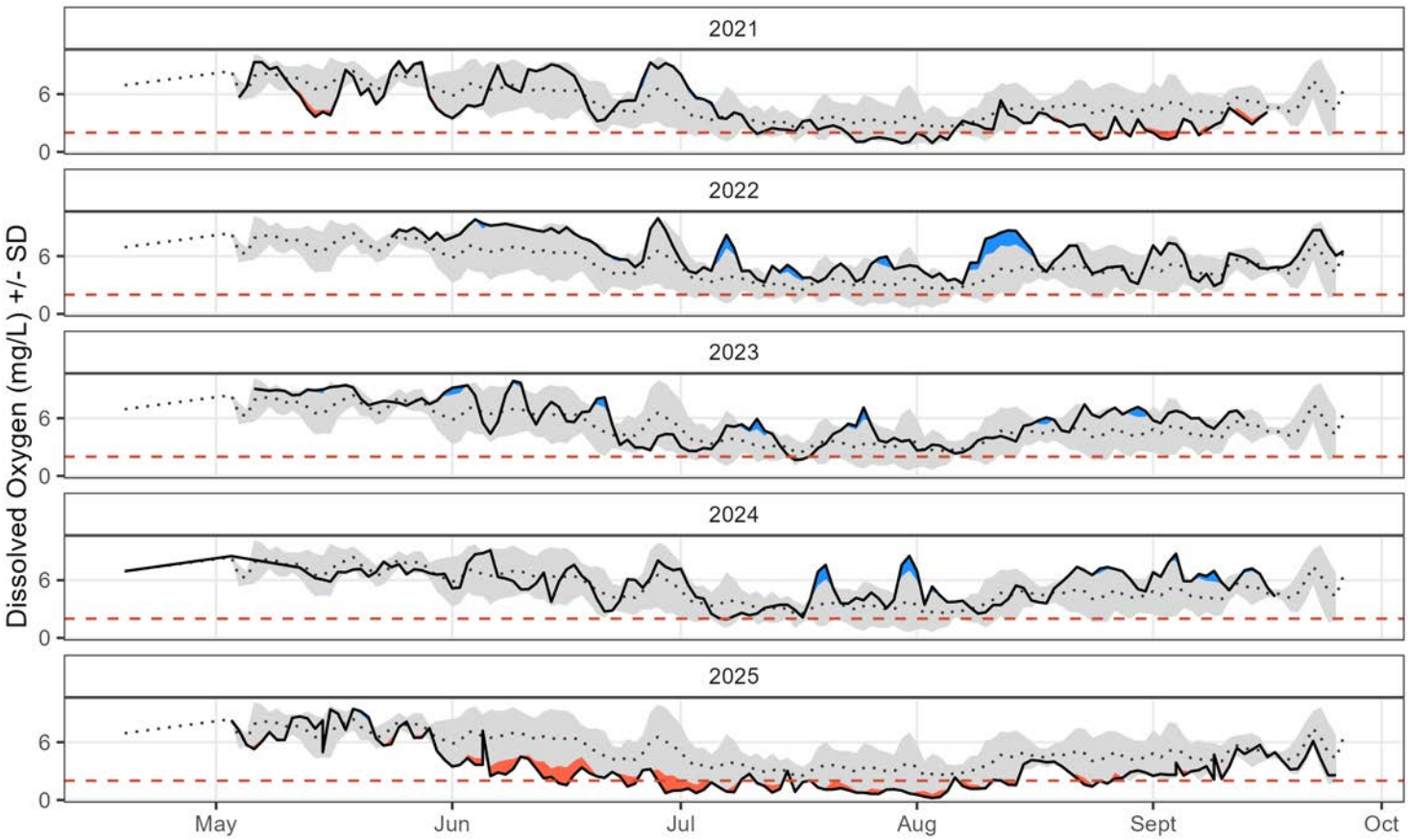


Figure: *Climatology plots depict dissolved oxygen (mg/L) at the Cape Falcon Marine Reserve (solid black line) plotted against the average across 2021-2025 (light dashed line). Standard deviation (SD) is shaded in light gray. Hypoxia, or low oxygen, occurs below 2 mg/L (red dashed line). Areas shaded in blue indicate oxygen levels greater than the standard deviation and areas in red indicate oxygen levels below the standard deviation.*

REDFISH ROCKS MARINE RESERVE

CHINA ROCKFISH ON THE RISE AT ORFORD REEF

China Rockfish are a favorite species of the Marine Reserves team due to their vibrant colors. We encounter this species most often during hook-and-line surveys on the southern Oregon Coast in the Redfish Rocks area. Recently, we have been catching more Chinas at our Orford Reef Comparison Area (CA), with both longline and hook-and-line surveys. Specifically on hook-and-line, China catch rates have increased steadily since 2015. Meanwhile, the Redfish Rocks Marine Reserve and the Humbug CA do not show much change in abundance through time.

Concurrently, we have observed a slight decline in the average size of China Rockfish through time across all Redfish Rocks survey areas. This decline is also reflected in the commercial landing data of Chinas delivered to Port Orford over recent years. An increase in catch rate at the Orford Reef CA and decreased mean lengths of Chinas are more consistent with environmentally or fishery-driven effects than a reserve effect. It is also possible that there has been increased recruitment of new, younger China Rockfish at Orford Reef - an expansive area with complex rocky habitat, leading to more but smaller fish. ODFW plans to investigate possible factors influencing this species.

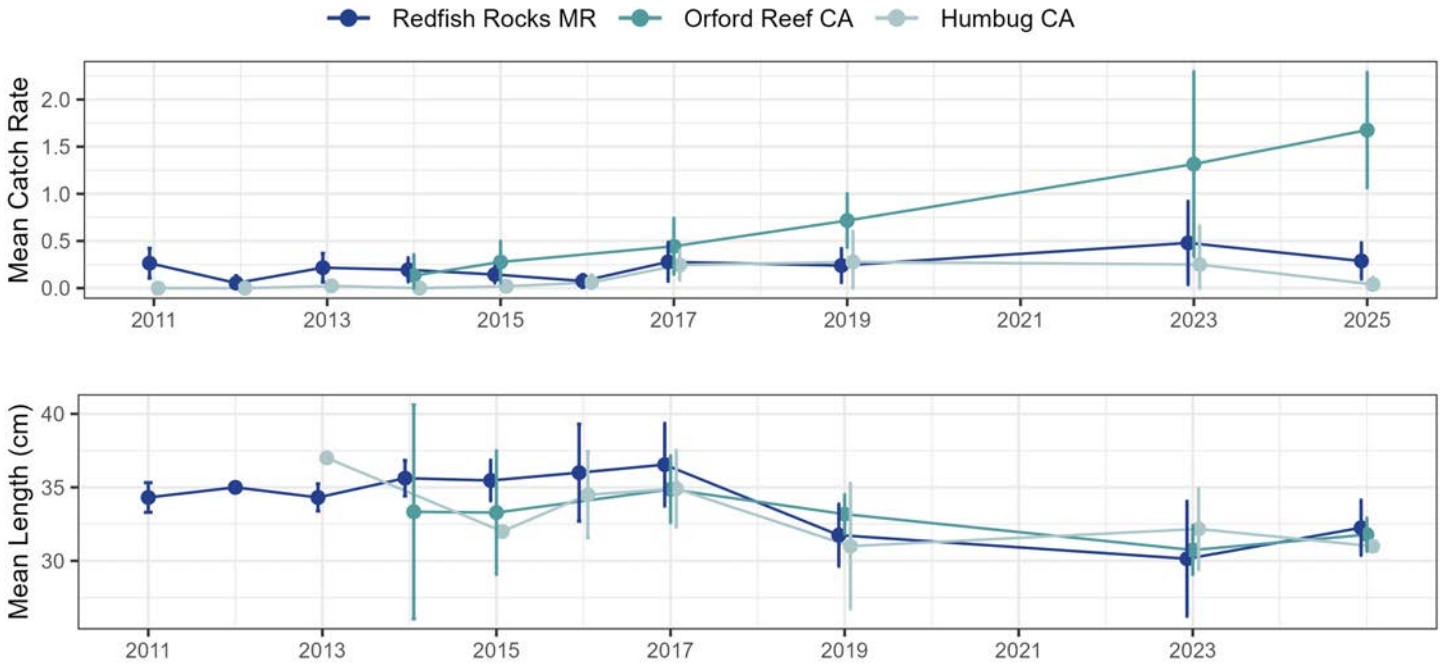


Figure: *Mean catch rates (fish caught per hour of fishing) and sizes (cm) of China Rockfish across the Redfish Rocks Marine Reserve (MR) and comparison areas (CA) from hook-and-line surveys.*

REDFISH ROCKS MARINE RESERVE

ANOTHER YEAR WITH MINIMAL LOW OXYGEN DAYS

The Redfish Rocks Marine Reserve (MR) is the only reserve south of Cape Blanco, an important geographical feature that juts into the ocean and disrupts the flow of ocean currents along the Oregon coast. This can cause differing oceanographic characteristics on the south coast compared to conditions further north. Each spring, ODFW deploys a mooring with oxygen and temperature sensors in the Redfish Rocks MR – one of the only sources of nearshore oceanographic data along the southern Oregon coast. Climatology plots (figure below) are one way we can compare an individual year's data to the overall average of multiple years. This helps us understand what a 'typical' range of dissolved oxygen (mg/L) is at our mooring location. Dissolved oxygen is essential for the survival of marine life and is a key indicator of ocean health. When levels drop below 2 mg/L, these are considered low oxygen conditions, or hypoxia, and can negatively impact marine animals.

The figure below shows climatology plots for 2021 and 2023-2025 at the Redfish Rocks MR. In 2021 and 2023 we observed periods of hypoxia from mid-July to mid-August . We observed the opposite in 2024 and 2025: relatively greater levels of oxygen during the summer months. Additional years of data will be needed to really describe a 'typical' pattern for oxygen at Redfish Rocks MR. Further exploration will help us to better understand the link between fish catch and oxygen levels, especially during hypoxic events.

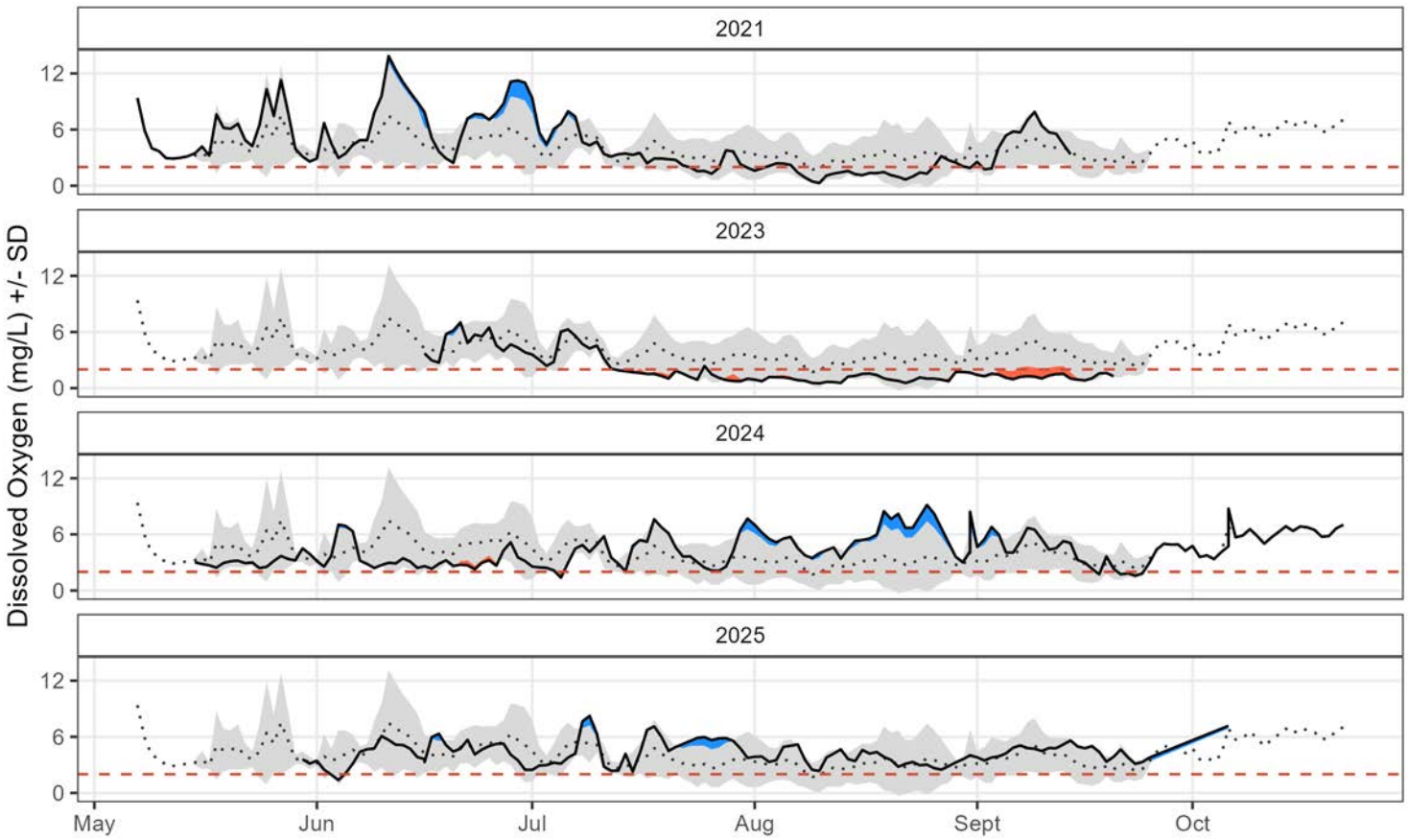


Figure: *Climatology plots depict dissolved oxygen (mg/L) at the Redfish Rocks Marine Reserve (solid black line) plotted against the average across all years shown (light dashed line). ODFW was not able to deploy sensors at Redfish Rocks Marine Reserve in 2022. Standard deviation (SD) is shaded in light gray. Hypoxia, or low oxygen, occurs below 2 mg/L (red dashed line). Areas shaded in blue indicate oxygen greater than the standard deviation and areas in red indicate oxygen below the standard deviation.*

CAPE PERPETUA MARINE RESERVE

QUILLBACK ROCKFISH FROM RESERVE TRAVELS NORTH

A Quillback Rockfish tagged in Cape Perpetua Marine Reserve in September 2024 was caught near Yaquina Head this summer - travelling roughly 22 miles north out of the reserve! A previous tagging study indicated that most Quillback don't travel very far, often moving less than 100 feet away from original capture locations. That makes this tag recapture pretty unusual. We don't know why this fish swam so far north, but it is possible that periodic hypoxic (low dissolved oxygen levels) conditions that affected the coast this past summer encouraged this fish to move off its home reef. This particular fish was released again. Given that Quillback Rockfish can live for 95 years, it's possible it may swim back to its home reef for a long and reproductively successful life in the marine reserve.

PHOTOS FROM THE FIELD