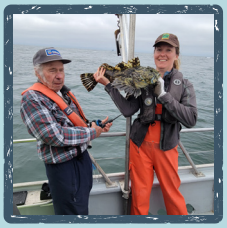
FISH ON!

HOOK-AND-LINE SURVEY VOLUNTEER NEWSLETTER

SPRING/FALL 2023





GREETINGS VOLUNTEERS!

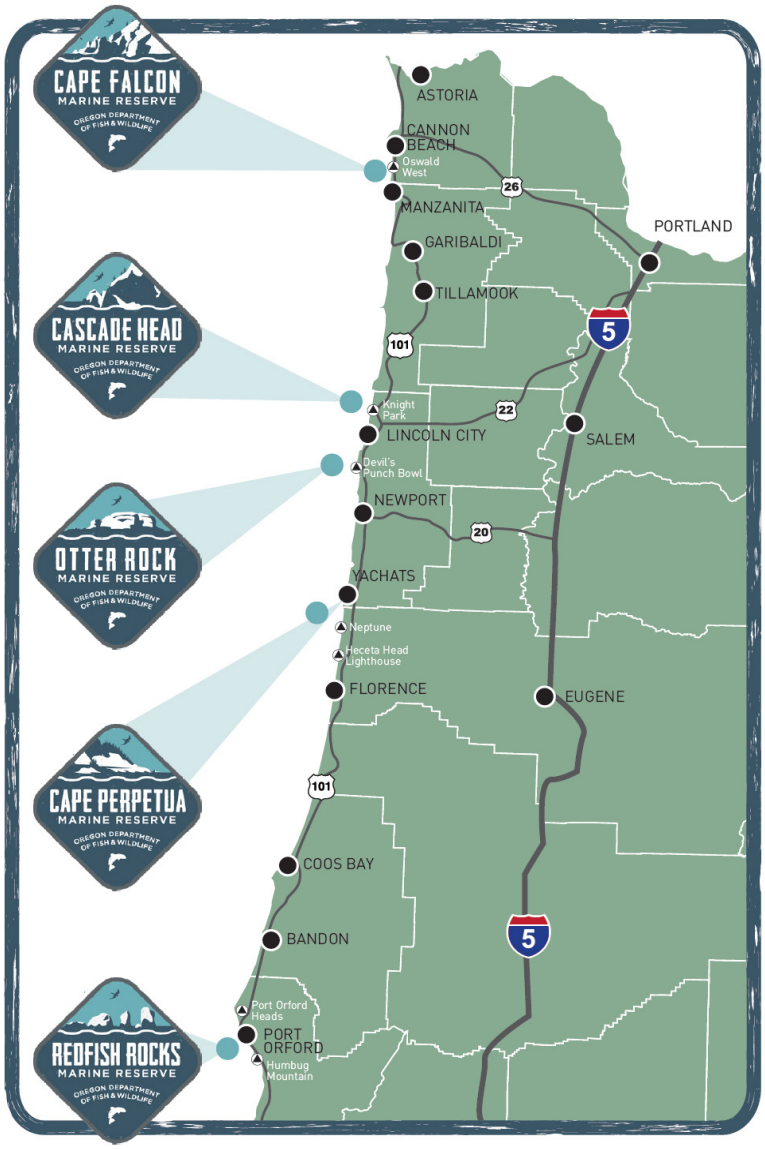
We had a very fun and exciting year on the water at the Cape Falcon and Redfish Rocks Marine Reserves. Thank you to all our anglers for making our 2023 surveys possible. We are grateful to our fishing captains and crews. Lance Fletcher of the *F/V Norwester* led efficient surveys at Cape Falcon, navigating challenging weather in the spring. Wilson Thompson, owner of the *F/V Fantasy* led our combined hook-and-line/longline surveys at Redfish Rocks for the first time. Wilson quickly adapted to our methods and contributed decades of local knowledge and commercial fishing expertise to our surveys. The hard work and expert knowledge of both captains made our surveys a success! Many thanks also to all our biological assistants who recorded data during our surveys. We couldn't gather this valuable long-term data without everyone involved.

During our 5th year of hook-and-line surveys at Cape Falcon we caught many beautiful Red Irish Lords, while during the 9th year at Redfish Rocks we were excited to see a Wolf Eel, many China Rockfish, and a single Rosy Rockfish.

In July, we welcomed Dr. Moritz Schmid as the new Ecological Project Leader. In November, we thanked Emmah Johannes for all of her essential work during the 2023 field season and wished her the best in her future endeavors.

Please enjoy this summary of the data you all helped collect in the past year. We hope to see you again in 2024 for surveys at Cape Perpetua and Cascade Head. We are grateful to have such dedicated volunteers.

Sincerely,
Moritz, Stephanie, and Ryan



FISH ON! NEWSLETTER

2023 HIGHLIGHTS

2 Sites Surveyed

Cape Falcon - 9 days
Redfish Rocks - 6 days

15 Trips

57 VOLUNTEERS

1383 Fishes Caught

19 Species

195 Fish Tagged

Black Rockfish
Min: 9 cm (4 in)
Max: 53 cm (21 in)

Blue Rockfish
Min: 34 cm (13 in)
Max: 39 cm (15 in)

Buffalo Sculpin
Min: 22 cm (9 in)
Max: 34 cm (13 in)

Cabezon
Min: 28 cm (11 in)
Max: 69 cm (27 in)

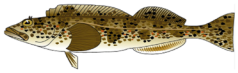
Canary Rockfish
Min: 23 cm (9 in)
Max: 58 cm (23 in)

China Rockfish
Min: 24 cm (9 in)
Max: 41 cm (16 in)

Copper Rockfish
Min: 30 cm (12 in)
Max: 56 cm (22 in)

Deacon Rockfish
Min: 24 cm (9 in)
Max: 48 cm (19 in)

Kelp Greenling
Min: 21 cm (8 in)
Max: 42 cm (17 in)



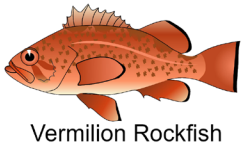
Lingcod
Min: 35 cm (14 in)
Max: 105 cm (41 in)

Quillback Rockfish
Min: 26 cm (10 in)
Max: 48 cm (19 in)

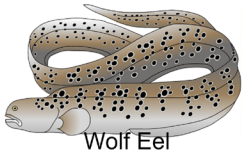
Red Irish Lord
Min: 12 cm (5 in)
Max: 39 cm (15 in)

Rosy Rockfish
Min: 25 cm (10 in)
Max: 25 cm (10 in)

Tiger Rockfish
Min: 34 cm (13 in)
Max: 48 cm (19 in)

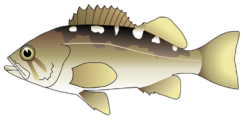


Vermilion Rockfish
Min: 36 cm (14 in)
Max: 59 cm (23 in)



Wolf Eel
Min: NA
Max: NA

Yelloweye Rockfish
Min: 18 cm (7 in)
Max: 71 cm (28 in)



Yellowtail Rockfish
Min: 34 cm (13 in)
Max: 45 cm (18 in)

Art Credit: Larry Allen, Ryan Fields

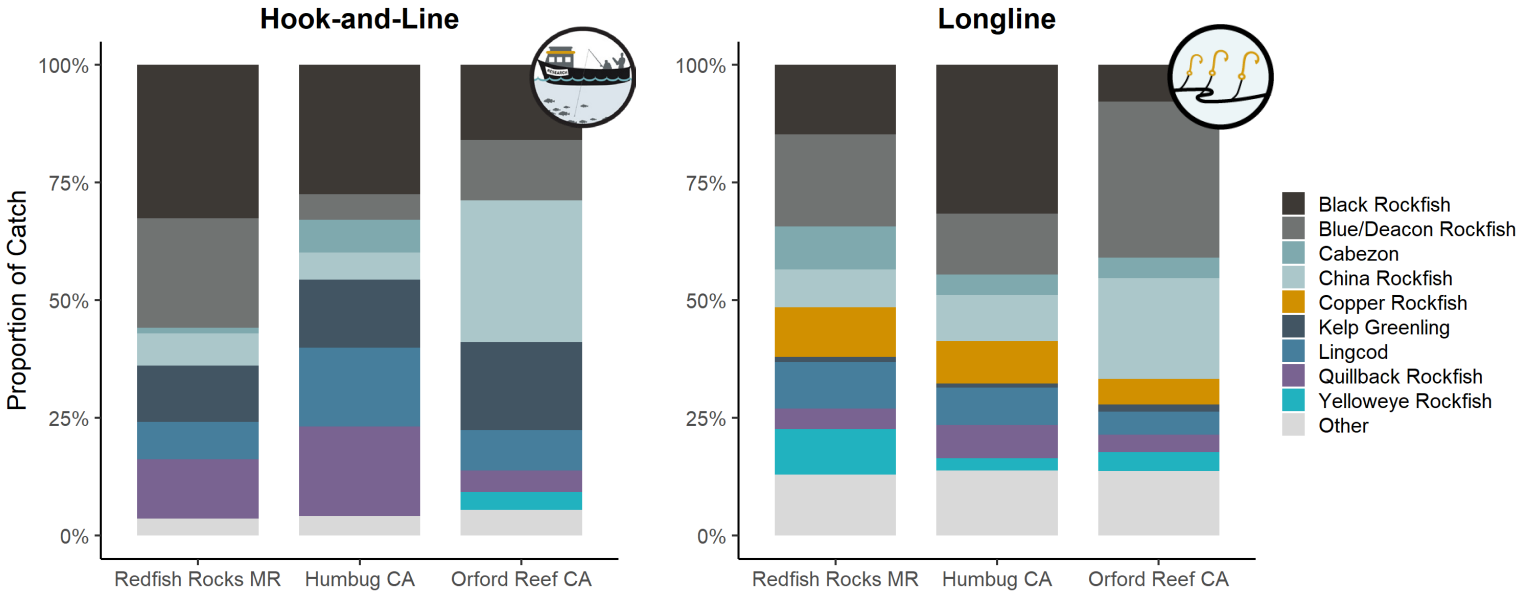
OregonMarineReserves.com

REDFISH ROCKS MARINE RESERVE

TARGETING BENTHIC SPECIES WITH LONGLINE SURVEYS

Our hook-and-line surveys surveys at Redfish Rocks are unique because we adapted our methods to include longline gear to better target benthic rockfish species caught by the local commercial fishery. The 2023 species compositions (below) highlight that we catch higher proportions of benthic species like Copper and Yelloweye Rockfish with longline gear. This allows us to better track relative abundances and sizes through time. The Redfish Rocks Marine Reserve (MR) is more likely than other reserves (e.g., Cape Falcon) to experience ecological changes attributable to protections, due to high historic fishing pressure and a large area of rocky habitat at the site. To detect these ecological changes we compare the MR to its comparison areas (CAs).

2023 SPECIES COMPOSITIONS



SPECIES SPOTLIGHT

YELLOWEYE ROCKFISH

Our longline surveys catch higher proportions of Yelloweye Rockfish, allowing us to better track relative abundance (average catch rate) through time. Below we can see the change in mean catch rate is rather consistent across the marine reserve (MR) and its comparison areas (CAs) through time and differences between the MR and CAs are so far not significant. This may be attributable to a combination of limited sample sizes leading to large variability around averages, overlaying climate change affecting MR and CAs more evenly, as well as the biology of slow growing rockfish in our temperate ecosystem.

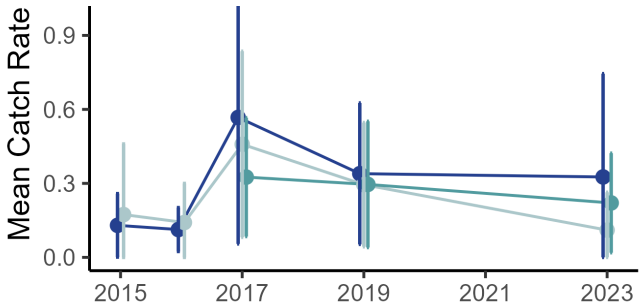


Figure: Mean catch rates of Yelloweye Rockfish at the Redfish Rocks Marine Reserve (MR) and surrounding comparison areas (CAs).

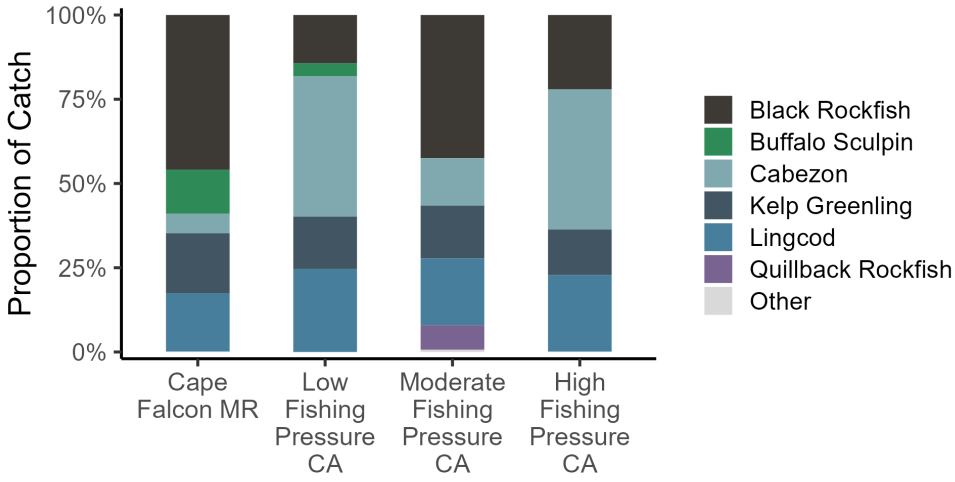
CAPE FALCON MARINE RESERVE

TRACKING COMMUNITIES WITH DIFFERENT FISHING PRESSURES

The Cape Falcon Marine Reserve is Oregon's northern-most and youngest marine reserve. This site is unique in that the marine reserve (MR) historically had low fishing pressure and the three comparison areas (CAs) represent a range of current fishing pressures (low, moderate, high). Here we examine how fish communities with different fishing pressures respond to changing ocean conditions. Attributable to historically low fishing pressure in the reserve and small area of rocky reef habitat, we expect minimal changes after its closure in 2016.

Looking at our 2023 species composition data (right), catches at the reserve and moderate pressure CA were dominated by Black Rockfish, while the low and high fishing pressure CAs had higher catches of Cabezon. The reserve was also charaterized by catches of Buffalo Sculpin, a cryptic fish related to Cabezon.

2023 SPECIES COMPOSITIONS



SPECIES SPOTLIGHT

BLACK ROCKFISH

Black Rockfish are one of the most important species to Oregon's nearshore fisheries and are also the most commonly caught species during our surveys. Our data show relatively stable trendlines in mean catch rates, consistent with our hypothesis that we will not see large changes in abundance at this marine reserve. We have observed a slight increase in mean length of Black Rockfish at Cape Falcon and two of the comparison areas, which suggests that broader environmental factors are responsible for this change.

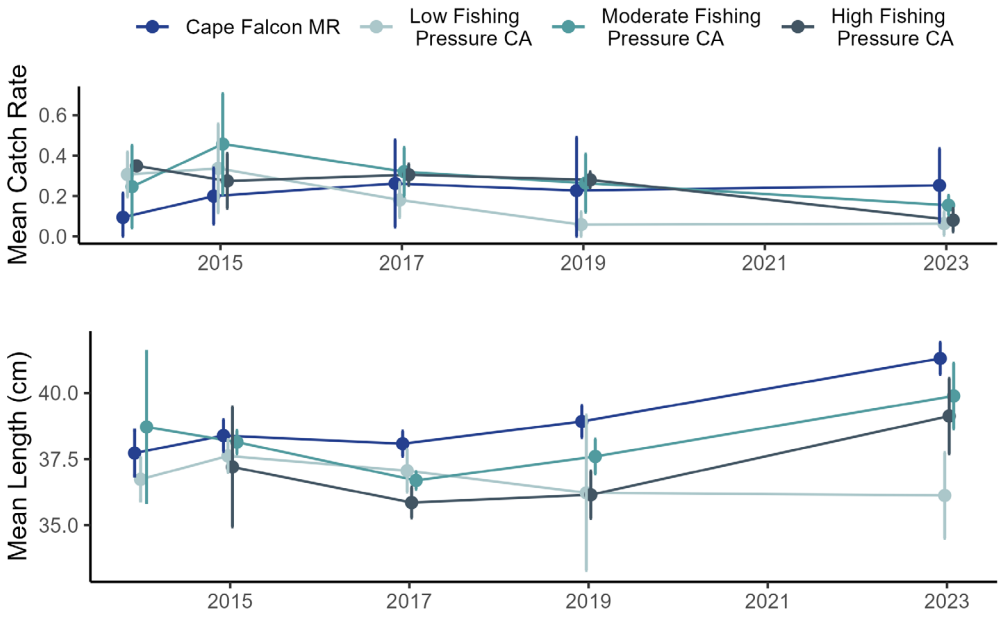


Figure: Mean catch rates (top) and size (bottom) of Black Rockfish at the Cape Falcon Marine Reserve (MR) and comparison areas (CAs).