



FISH ON!

HOOK-AND-LINE SURVEY VOLUNTEER NEWSLETTER

FALL 2022



GREETINGS VOLUNTEERS!

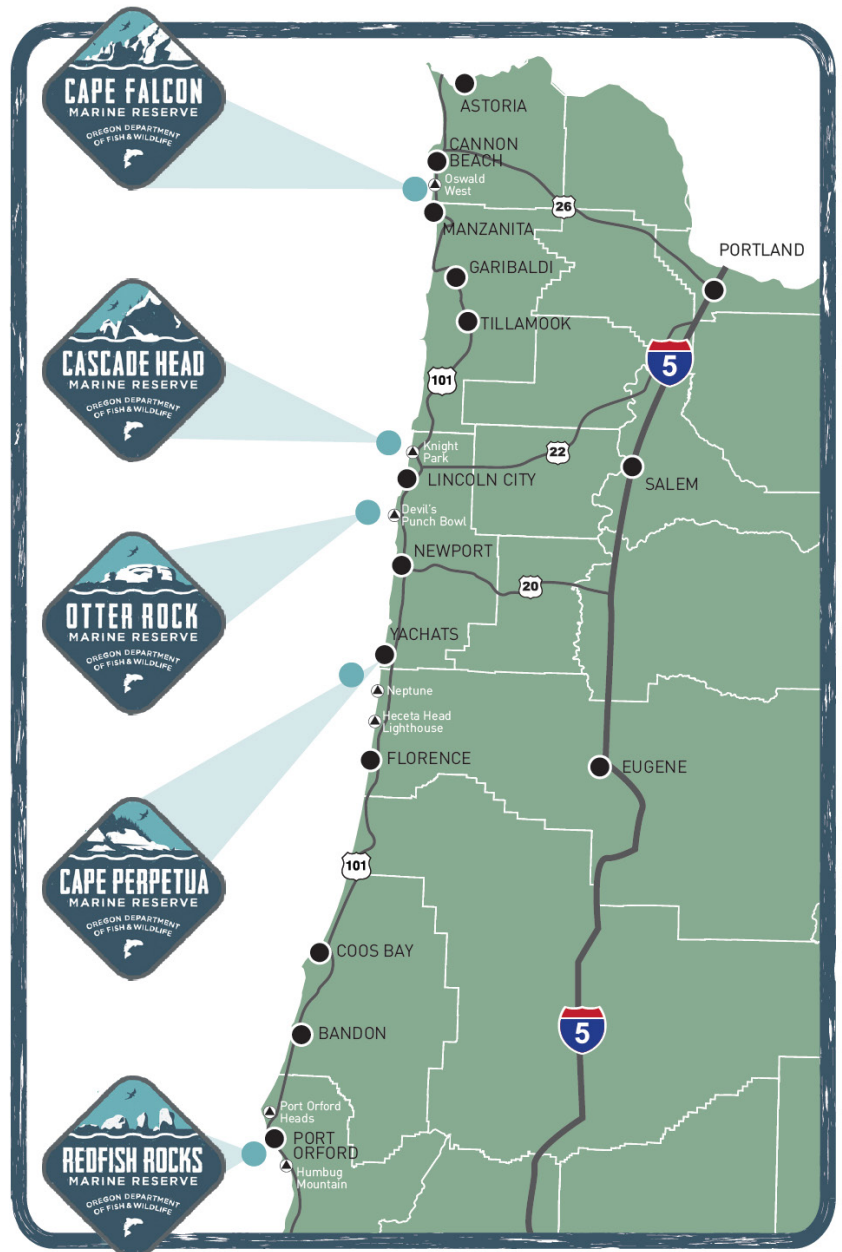
It was a breath of fresh air to be back on the ocean with everyone this year. Thank you to all our anglers for helping make our 2022 surveys a success. Thanks especially to our charter captains and crews. Robbie Waddell of the *F/V Misty* helped surveys at Cape Perpetua run smoothly and efficiently. We'd like to welcome a new captain to the rotation – James Pederson of the *F/V Samson* who led our surveys at Cascade Head for the first time. He immediately adapted to our methods and also served as our unofficial whale-watching guide. We greatly appreciate their hard work, expert knowledge, and collaboration! Many thanks to all our science assistants who recorded data. We couldn't gather this valuable long-term data without everyone involved.

This was our 5th year of hook-and-line surveys at Cape Perpetua and the 6th year at Cascade Head. We saw many species of fish, and even a mix of invertebrates and rock – Great job targeting the bottom!

Congratulations to Lindsay Aylesworth on her promotion to the broader Marine Reserves Program Leader. This means you won't be seeing her on the boat much, but she will be busy steering the program into the future.

Please enjoy this summary of the data YOU ALL helped collect this past year. We hope to see you again in 2023 for surveys at Cape Falcon. We are grateful to have such dedicated volunteers.

Sincerely,
Lindsay, Stephanie, and Ryan



2022 HIGHLIGHTS

2 Sites Surveyed



Cape Perpetua - 5 days
Cascade Head - 6 days

11 Trips

52 Volunteers

1312 Fishes Caught

18 Species

4 Families



Black Rockfish
Min: 22cm (9in)
Max: 54cm (21in)



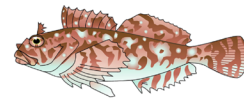
Blue Rockfish
Min: 32cm (13in)
Max: 32cm (13in)



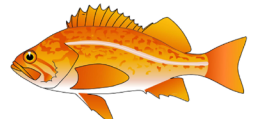
Brown Rockfish
Min: 31cm (12in)
Max: 50cm (20in)



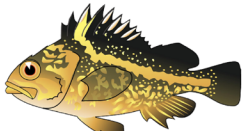
Buffalo Sculpin
Min: 26cm (10in)
Max: 36cm (14in)



Cabezon
Min: 37cm (15in)
Max: 66cm (26in)



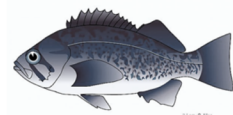
Canary Rockfish
Min: 24cm (9in)
Max: 46cm (18in)



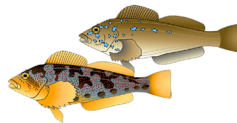
China Rockfish
Min: 26cm (10in)
Max: 39cm (15in)



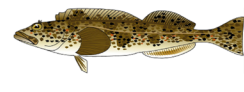
Copper Rockfish
Min: 31cm (12in)
Max: 52cm (20in)



Deacon Rockfish
Min: 24cm (9in)
Max: 39cm (15in)



Kelp Greenling
Min: 20cm (8in)
Max: 40cm (16in)



Lingcod
Min: 41cm (16in)
Max: 95cm (37in)



Pacific Staghorn
Min: 20cm (8in)
Max: 25cm (10in)



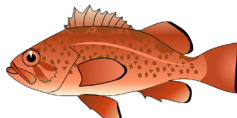
Quillback Rockfish
Min: 24cm (9in)
Max: 46cm (18in)



Red Irish Lord
Min: 33cm (13in)
Max: 33cm (13in)



Spotted Ratfish
Min: 54cm (21in)
Max: 55cm (22in)



Vermilion Rockfish
Min: 46cm (18in)
Max: 46cm (18in)



Yelloweye Rockfish
Min: 30cm (12in)
Max: 69cm (27in)



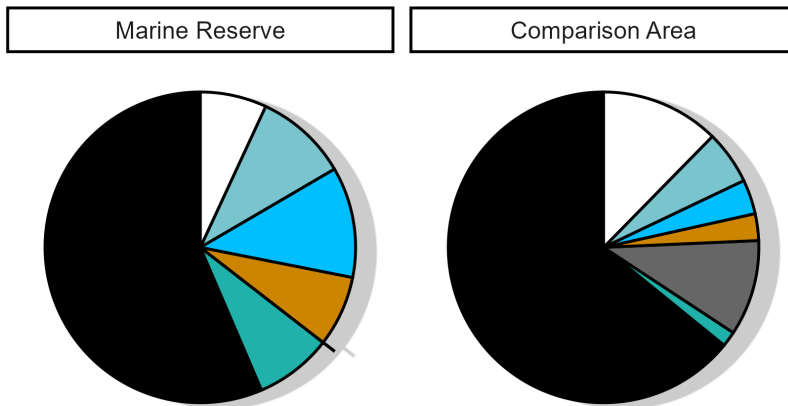
Yellowtail Rockfish
Min: 19cm (7in)
Max: 50cm (20in)

Art Credit: Larry Allen, Ryan Fields



WHAT PROPORTIONS OF SPECIES WERE THERE? WHAT SPECIES COMPOSITION TELL US

The figures below show us the species catch composition and helps us understand the make-up of fish species at each Marine Reserve and its associated comparison areas. We displayed the top six species at each site and can see differences in species compositions are part of what makes each marine reserve unique. Some standout differences include the absence of Cabezon at the Cape Perpetua Marine Reserve compared to its comparison area, Brown Rockfish and Copper Rockfish are more common at Cape Perpetua Marine Reserve, and we caught the greatest proportion of Black Rockfish at Cascade Head Marine Reserve.



Black Rockfish



Cabezon



Copper Rockfish



Quillback Rockfish



Kelp Greenling



Brown Rockfish



Canary Rockfish

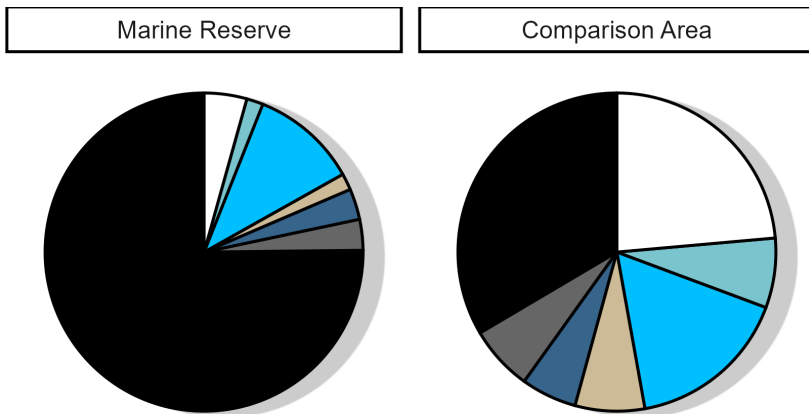


Lingcod



Marine Reserve

Comparison Area



CASCADE HEAD OCEANOGRAPHY TRACKING OXYGEN

Low-oxygen conditions (also called 'hypoxia') along the Oregon coast can occur in the summer and fall months. While hypoxia naturally occurs off the coast of Oregon, researchers suspect that ocean change is increasing the frequency and severity of these conditions. The marine reserves team deployed several oceanographic sensors this summer concurrently with our hook-and-line sampling as part of our effort to collect temperature and oxygen data. This helps us to be confident in our catch results - tracking whether oxygen levels might be influencing our catch rates. We did not observe any hypoxic conditions during our 2022 sampling trips, with zero readings below the hypoxia threshold of 1.4 ml/L of dissolved oxygen.

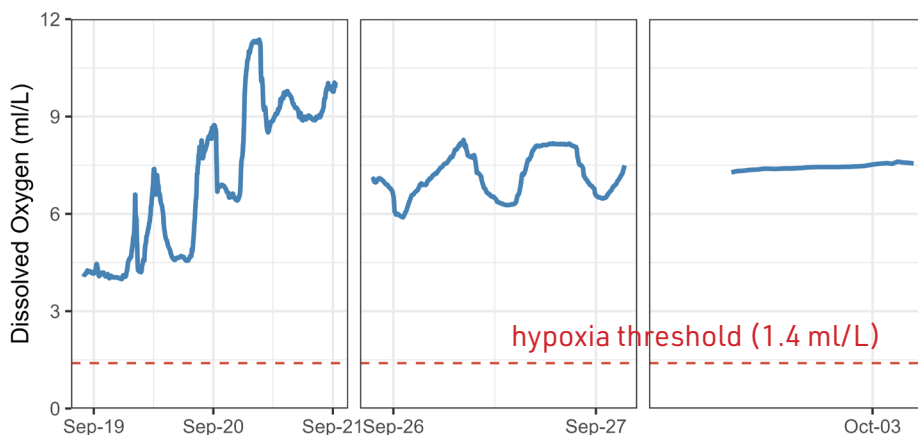


Figure: Dissolved oxygen (ml/L) during survey days near the Cascade Head Marine Reserve.

CAPE PERPETUA SPECIES SPOTLIGHT BROWN ROCKFISH

The Brown Rockfish (*Sebastes auriculatus*) is a medium sized rockfish species that can be found from Southeast Alaska down to Baja California, although it is not as commonly caught in Oregon. This species is characterized by its tall dorsal spines, large brown blotches and bright orange bars along its cheeks. It can grow to 56 cm (22 in) and live to at least 34 years old - on the younger side for rockfish since some species can be 200 years old! The largest Brown Rockfish that the Marine Reserves Team observed this year was 20 inches.

Interestingly, we almost exclusively encounter this species at the Cape Perpetua Marine Reserve - our deepest survey location. We also see this trend during remotely operated vehicle (ROV) surveys, with Brown Rockfish primarily found at Cape Perpetua. This fall we also saw an increase in Brown Rockfish catch rates in our hook-and-line surveys compared to previous years.



Brown Rockfish

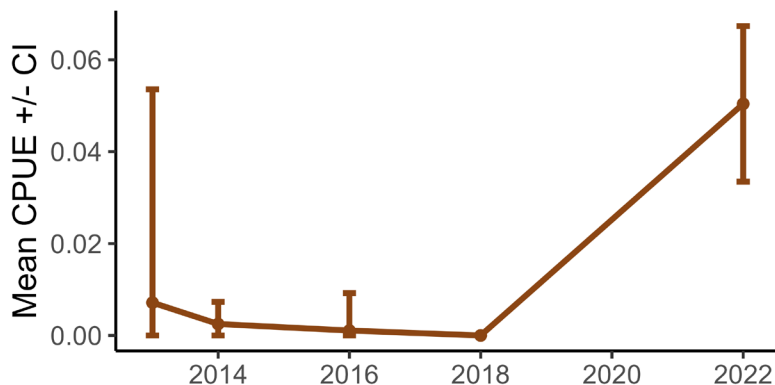


Figure: Mean Catch Per Unit Effort (CPUE) of Brown Rockfish at the Cape Perpetua Marine Reserve.