



FISH ON!

HOOK-AND-LINE SURVEY VOLUNTEER NEWSLETTER

SPRING/FALL 2019



GREETINGS VOLUNTEERS!

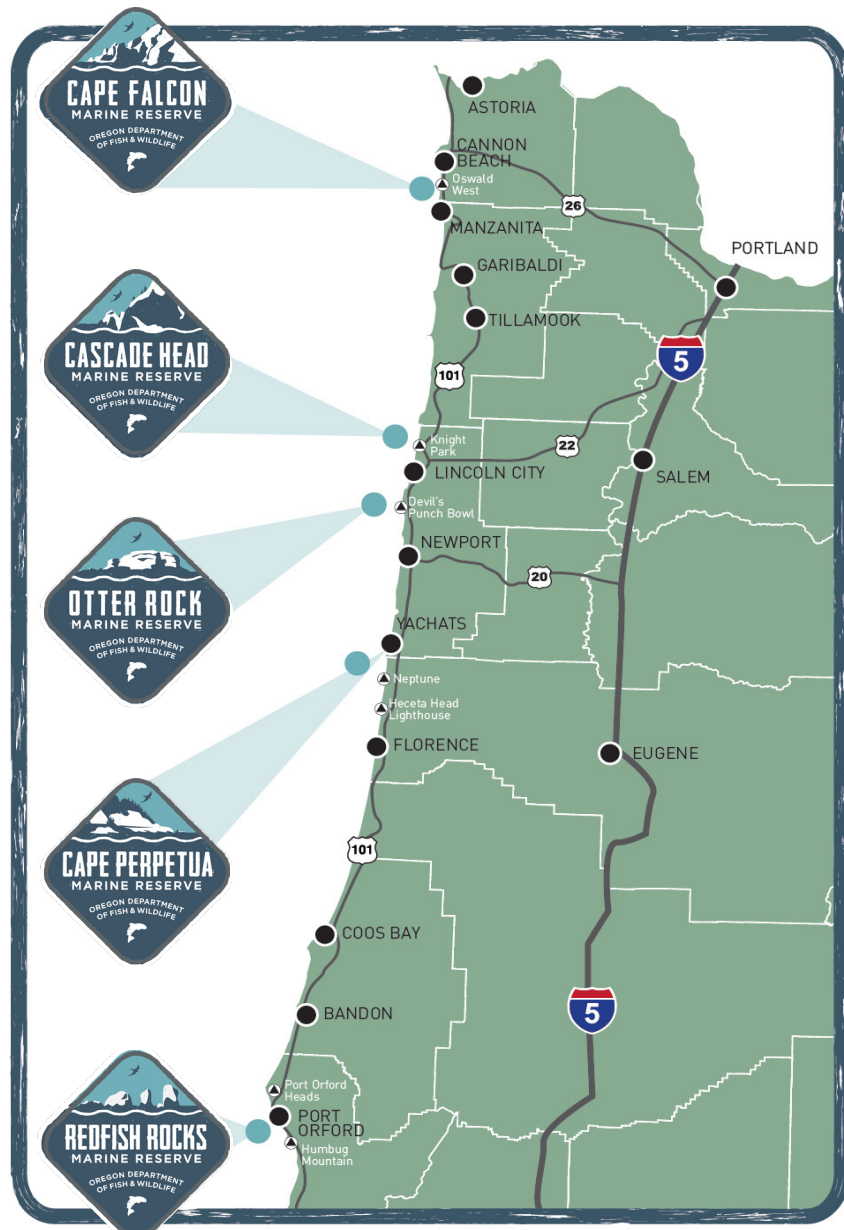
We want to thank all our volunteer anglers for helping make our 2019 surveys a success. To our charter captains and crews: Lance Fletcher, Mitch, Terry, Tyler and Willy on the *Norwester*; Jeff Miles, Chris, Tom, and Chadwic on the *Top Gun* - we greatly appreciate your hard work, expert knowledge of the ocean, and collaboration! Many thanks to all our science assistants who volunteered their time.

This was our 4th year of hook and line surveys at Cape Falcon and the 7th year at Redfish Rocks. This also marked the 4th year of longline surveys at Redfish Rocks.

A big welcome to our new assistant research lead, Stephanie Fields, who joined our team in April. We also wish Jessica Watson all the best in her new position at ODFW working in fisheries policy and management, after 5 dedicated years with the ODFW Marine Reserves Program. Thanks for all you did to guide and improve the marine reserves monitoring program.

Please enjoy this summary of the data YOU ALL helped collect this past year. We hope to see you again in 2020 for surveys at Cascade Head and Cape Perpetua. We are grateful to have such dedicated volunteers.

Sincerely,
Lindsay, Stephanie, and Jessica



2019 HIGHLIGHTS

2 Sites Surveyed



Cape Falcon -- 7 days
Redfish Rocks -- 12 days



19 Trips
39 Volunteer Anglers

1,250 Fish Caught:
18 Species from
3 Families

RECORD LARGEST and smallest catches from 2019



BLACK ROCKFISH
minimum: 16 cm (6 in)
maximum: 54 cm (21 in)



BLUE & DEACON ROCKFISH
minimum: 14 cm (6 in)
maximum: 37 cm (15 in)



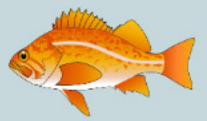
BROWN IRISH LORD
maximum: 12 cm (5 in)



BUFFALO SCULPIN
minimum: 14 cm (6 in)
maximum: 34 cm (13 in)



CABEZON
minimum: 30 cm (12 in)
maximum: 67 cm (26 in)



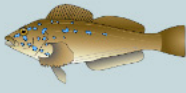
CANARY ROCKFISH
minimum: 24 cm (9 in)
maximum: 42 cm (17 in)



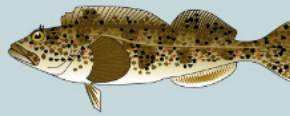
CHINA ROCKFISH
minimum: 21 cm (8 in)
maximum: 40 cm (16 in)



COPPER ROCKFISH
minimum: 30 cm (12 in)
maximum: 50 cm (20 in)



KELP GREENLING
minimum: 22 cm (9 in)
maximum: 45 cm (18 in)



LINGCOD
minimum: 29 cm (11 in)
maximum: 114 cm (45 in)



QUILLBACK ROCKFISH
minimum: 21 cm (8 in)
maximum: 46 cm (18 in)



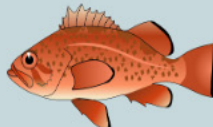
RED IRISH LORD
minimum: 32 cm (13 in)
maximum: 37 cm (15 in)



ROSY ROCKFISH
maximum: 18 cm (7 in)



TIGER ROCKFISH
minimum: 40 cm (16 in)
maximum: 45 cm (18 in)



VERMILLION ROCKFISH
minimum: 51 cm (20 in)
maximum: 52 cm (20 in)



YELLOWEYE ROCKFISH
minimum: 26 cm (10 in)
maximum: 58 cm (23 in)



YELLOWTAIL ROCKFISH
minimum: 24 cm (9 in)
maximum: 39 cm (15 in)

Fish icons courtesy of Dr. Larry Allen of CSUN;
Tiger Rockfish courtesy of Oregon Coast Aquarium

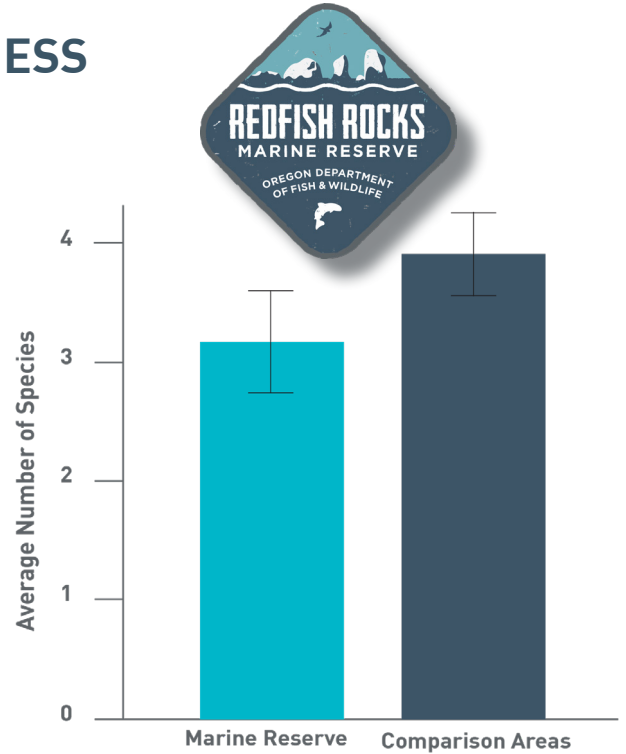
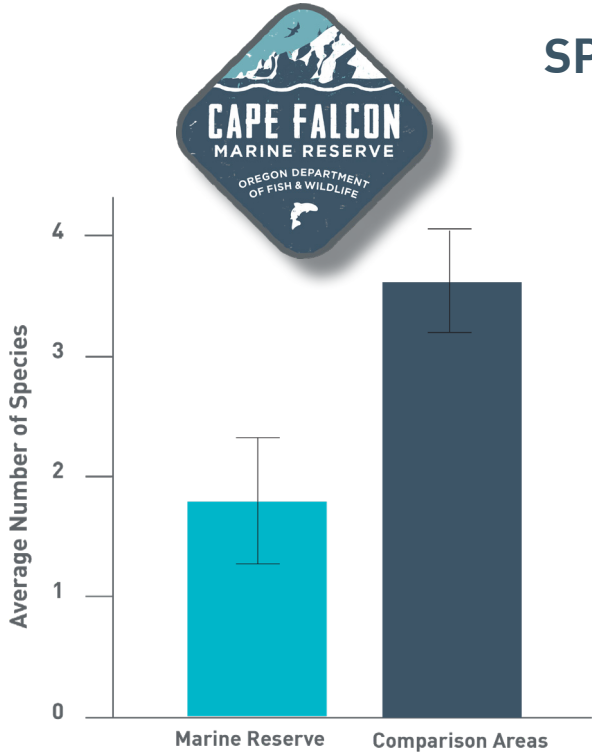


HOW MANY SPECIES WERE THERE?

WHAT SPECIES RICHNESS AND COMPOSITION TELL US

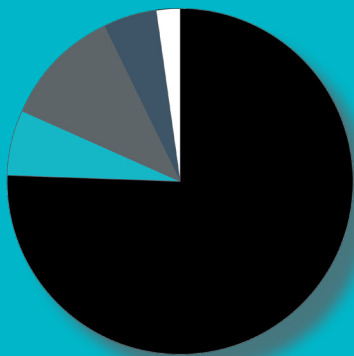
The graphs below summarize the average species richness (number of different species observed) and species catch composition for each reserve and comparison area surveyed in 2019. Black Rockfish are the most abundant species observed, but different compositions of other species at each reserve underscores that each reserve is unique.

SPECIES RICHNESS

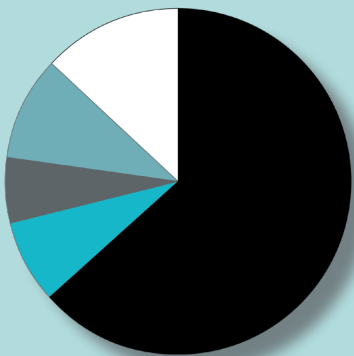


SPECIES COMPOSITION

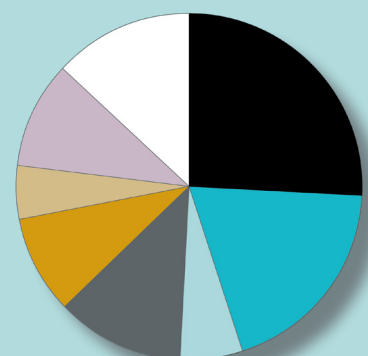
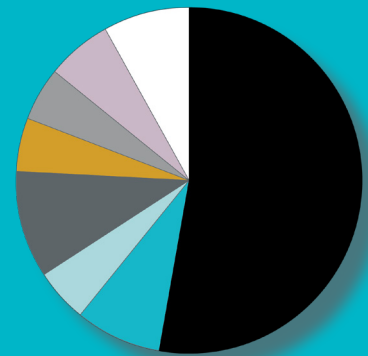
Marine Reserve



Comparison Areas



- Black Rockfish
- Lingcod
- Deacon Rockfish
- Kelp Greenling
- Canary Rockfish
- Cabezon
- Buffalo Sculpin
- Yelloweye Rockfish
- Quillback Rockfish
- China Rockfish
- Other



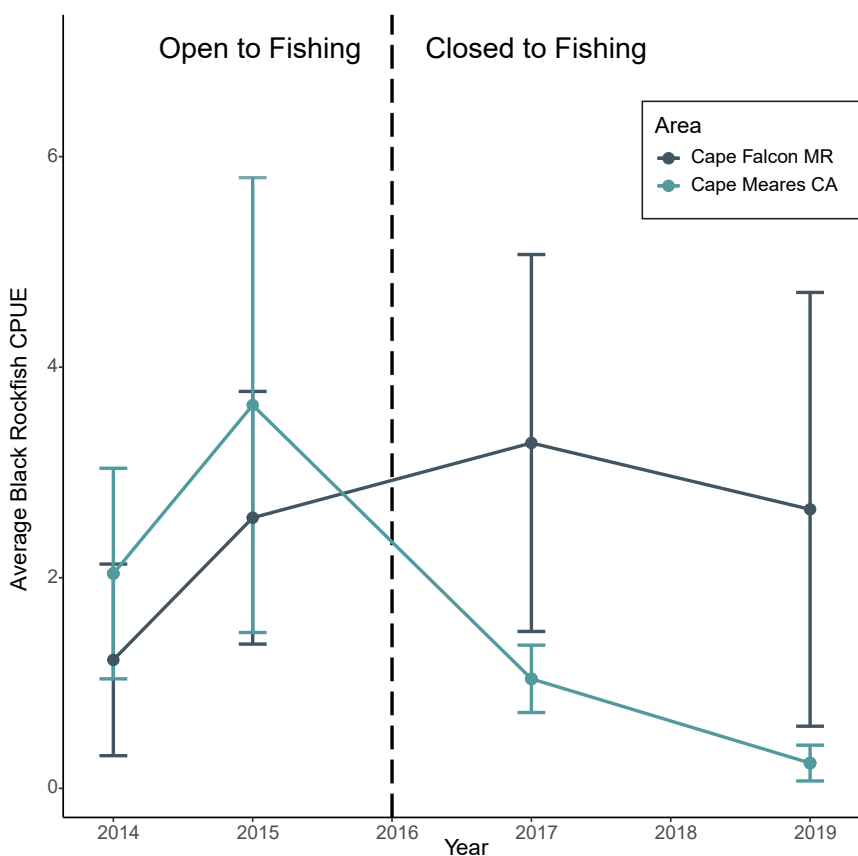


CAPE FALCON SPECIES SPOTLIGHT: BLACK ROCKFISH

OUR MOST COMMON SPECIES

AVERAGE CATCH VARIES FROM YEAR TO YEAR

Four years of monitoring data (below) at Cape Falcon Marine Reserve and Cape Meares Comparison Area show that the average catch of Black Rockfish varies from year to year. We measure catch based on our effort - generally referred to as CPUE (catch per unit effort). Our unit of effort is per angler, per hour spent fishing. The CPUE numbers on the graph show us how many fish were caught on average by each person, per hour spent fishing. Because this number takes into account both catch and effort, it can be used to measure the relative abundance of a species. The error bars around each data point below show how much our CPUE varied within a given year of sampling; larger bars mean there was more variation. Everyone agrees the “bite” on any given survey day is never the same. By using the same gear at all sites, every time we survey, we are standardizing our effort and minimizing catch differences based on gear type.



WHY IS UNDERSTANDING NATURAL VARIATION IMPORTANT?

Hook and line surveys are helping us understand any changes in relative abundance of nearshore fish species over time. Populations experience natural variation depending on ocean conditions and the availability of food. Populations can also change due to fishing pressure. Long-term datasets from ongoing monitoring allow us to track and differentiate changes due to natural variation vs. those due to marine reserve protections (i.e. no fishing). Because of the limited rock habitat and historically low fishing pressure at Cape Falcon we do not expect to see changes over time due to the marine reserve protections.

WHAT ABOUT DATA FROM OTHER COMPARISON AREAS?

You may recall we do surveys at several other comparison areas too (e.g. Three Arch Rocks, Castle Rock). These comparison areas have quite different habitat and historical fishing pressure compared to Cape Falcon. Although different from the reserve, we are sampling them to better understand changing ocean conditions that may influence fish populations. Data from these sites will be included in future analyses and reports.

NEW RESEARCH IN 2019

- Microplastics: 61 Black Rockfish, collected from our comparison areas, were provided to our research collaborators at OSU to study ingestion of microplastics.
- Movement & Growth: This year we tagged 23 Black Rockfish in the marine reserve. Recapturing tagged fish helps us understand their growth, movement, and survival.

