



BLACK ROCKFISH (*Sebastes melanops*)



Black Rockfish are an important component of the rocky reef ecology along the west coast of North America. They are a semi-pelagic species that can be found anywhere in the water column from the bottom to the surface. They are often found in large schools sometimes with a mix of other rockfish species. Black Rockfish are an important fishery species being targeted by both recreational and commercial fishers. Black Rockfish are black in color and have white patches along the back near their dorsal fin. They also usually have a light streak running along the mid-section of their body and a lighter colored belly. Their color pattern and large mouth helps distinguish them from Blue and Deacon rockfish.

OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to 27.6 inches long
- **Weight:** Up to 11 pounds
- **Lifespan:** Up to about 50 years
- **Key Strategy Habitats:** Estuaries, Nearshore
- **Similar Species:** Blue Rockfish, Deacon Rockfish

FISHING TIPS

- Start in the morning.
- Target rocky reef areas.
- Drop your hook near the bottom, then reel up slowly.
- A variety of lures and flies work well.
- Remember to check the fishing regulations for the area before you go and be sure you have your fishing license.

FUN FACTS

Favorite Food: Zooplankton, fish and crustaceans

- Black Rockfish are the most commonly landed groundfish species on recreational bottom fishing trips off Oregon.
- Black Rockfish mate and have internal fertilization, are born live and spend 3 to 4 months as pelagic larvae before settling to the bottom.
- Black Rockfish mature at 6 to 9 years of age and can live to about 50.
- Live Black Rockfish can be found at many Asian restaurants in the larger cities on the west coast. Some may let you pick the fish you want to eat!

RANGE AND DISTRIBUTION

In Oregon: Black Rockfish can be found throughout the state's marine waters and into the estuaries. Although they can occur at depths to 1,200 feet, they are most frequently found at less than 180 feet over rocky bottoms.



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Everywhere Else: Black Rockfish range from Amchitka Island in the Aleutian Islands of western Alaska to Huntington Beach in southern California. They are more common from southeast Alaska to northern California.

LIFE HISTORY AND ECOLOGY

In all rockfish species, fully formed larvae are released from the mother's body and live for several months in the water column. These pelagic larvae have been caught as far as 165 miles out to sea off the Oregon coast. At about 4 to 6 months of age they are found in the intertidal and estuarine areas of the coastline. Off Oregon, the juveniles usually settle to the bottom in June and July at about 1 to 1.5 inches in length. They form mixed age and sometimes mixed species schools as they grow larger. Black Rockfish are called a semi-pelagic species meaning that they can be found anywhere in the water from the bottom to the surface as adults. They are usually found over rocky habitat in areas both with and without kelp beds.

Black Rockfish mature between about 6 to 9 years of age at lengths of about 14 inches for males and 16 inches for females, but the sizes and ages vary a bit by location with those in Alaska tending to mature later than those further south. Rockfish don't spawn; spawning refers to the release of sperm and unfertilized eggs into the environment. Rather, all rockfish species mate and have internal fertilization, but the process of courtship and mating has been observed for relatively few of the many species. Male Black Rockfish are in spawning condition in July and August off Oregon which is when mating takes place. Females store sperm until they develop eggs which can then be fertilized. The eggs develop to larvae inside the females. The developing embryos of Black Rockfish get substantial nourishment that does not come from the egg itself. There is no placenta or other structure for transfer of nutrition and research suggests that the nourishment comes from dead embryos and undeveloped eggs that are reabsorbed into the amniotic fluid. The embryos have mouths and a hind gut that can absorb nutrients. This nutrition starts about at day 27 of their development and lasts for approximately 10 days until the larvae are released into the water in what is called live parturition or birth. As Black Rockfish grow older and get bigger the females produce more and bigger eggs and they continue to do so throughout their lives. Larval fish just released from the womb have an oil globule that provides energy. Research results indicate that larger females release their larvae earlier than smaller females and that larvae from larger females have larger oil globules. The long lifespan with an annual reproductive cycle helps to ensure that when the right combination of environmental conditions occur in the highly variable California Current system that a good year class of recruits are produced.

A number of tagging studies suggest that adult Black Rockfish tend to occupy a fairly small home range, with many being recovered at the same reef where they were tagged years earlier. However, these studies also reveal that a few of the tagged Black Rockfish have made extensive travels. ODFW recovered several Black Rockfish caught in the waters off Newport and Depoe Bay that were tagged and released off central California, and had traveled over 600 miles. Several Black Rockfish tagged and released as far north as the Cape Flattery area off Washington have also been recovered off Newport



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and Depoe Bay. At least one Black Rockfish tagged off Newport was recovered off Grays Harbor, Washington as well.

Known predators of Black Rockfish include marine mammals, sea birds (for juveniles), fish, and humans. Black Rockfish are the most frequently landed groundfish species on recreational bottom fishing trips off Oregon. They are also taken by commercial fishermen and many are sold live. Live fish prices are considerably higher than for freshly caught fish that are landed dead. Live fish are sold in many Asian restaurants in the bigger cities on the west coast.

DIET AND FORAGING

Black Rockfish eat a wide variety of things from zooplankton to fish and small invertebrates. Food tends to be most readily available during spring, summer, and fall. Black Rockfish store energy as fat which helps them survive the less productive winter months. The females also utilize these fat reserves during their pregnancies.

HABITAT CHARACTERISTICS

Coastal waters usually less than 180 feet deep with rocky bottoms both with and without kelp beds. High relief tend to be favored.

CONSERVATION AND MANAGEMENT

Threats: Black Rockfish dependent on the annual seasonal cycle that includes upwelling of cold nutrient rich waters during the spring and summer months that are critical for ocean productivity. Changes in ocean productivity, whether they are human induced or natural, can affect reproductive success and stock size. Black Rockfish are also vulnerable to overfishing based on productivity and susceptibility analysis.

Conservation and management: Black Rockfish are included in the federal Pacific Coast Groundfish Fishery Management Plan administered by the Pacific Fishery Management Council (PFMC). Stock assessments for Black Rockfish are conducted periodically by PFMC to help manage for sustainable fisheries. The Oregon Department of Fish and Wildlife works in concert with PFMC and manages fisheries for Black Rockfish within state waters. There is much still unknown about this species and there is an extensive set of research and data needs to improve conservation and management. Some of these needs include information on movement and behavior of older females, fishery-independent surveys in nearshore rocky habitat to get better information on abundance, better information on spatial distribution of habitat and Black Rockfish densities, and better information on stock structure.

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