



# QUILLBACK ROCKFISH (*Sebastes maliger*)



Quillback Rockfish are an important component of the rocky reef ecology along the west coast of North America. Quillback Rockfish are an important fishery species being targeted by both recreational and commercial fishers. This colorful species is very popular with the commercial live fish market. Quillback Rockfish have very long spines in their dorsal fins. They have yellow to orange color blotches on the front portions of their brown or brown-black bodies. They may have orange to brown speckles on their head and back to the pectoral fins. The body coloration can vary considerably. The forward portion of their dorsal fin is yellowish and all other fins are darkly colored.

## OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to 25 inches long
- **Weight:** Up to 7.2 pounds
- **Lifespan:** At least 95 years
- **Key Strategy Habitats:** Nearshore, Estuaries
- **Similar Species:** China Rockfish, Copper Rockfish, Gopher Rockfish

## FISHING TIPS

- Start in the morning.
- Target rocky reef areas.
- Drop your hook to 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:** Fish are an important part of their diet and they also eat a variety of crustaceans such as crabs, shrimp, amphipods, mysids, and krill.

- Like all rockfish species, Quillback Rockfish have internal fertilization, the embryos develop inside the mother's body and they give birth to live young.
- They mature between 5 and 22 years of age, and can live at least 95 years.
- Quillback Rockfish generally are found at or near the bottom and tend to stay in a small area to which they return if they are displaced or moved.
- Quillback Rockfish can make long forays at night returning home at daylight.

## RANGE AND DISTRIBUTION

**In Oregon:** Quillback Rockfish can be found throughout the state's marine waters and also in some estuaries.



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**Everywhere Else:** Quillback Rockfish range from the Gulf of Alaska to southern California. They are more common and abundant from southeast Alaska to central California. Most adults live deeper than 66 feet and are known to live at depths up to about 1,000 feet.

## LIFE HISTORY AND ECOLOGY

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 and Quillback Rockfish is not one of them. The fertilized eggs develop as embryos inside their mothers. The developing embryos 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. Fully formed larvae are released from their mother's body to live for up to several months in the water column. Very little is known about the pelagic larval stage of this species, but the larvae settle out to very nearshore habitats when they are as small as 0.4 inches long. Researchers off Oregon have collected larval young of the year Quillback Rockfish that are getting ready to settle out to the bottom in what are called Standardized Monitoring Units for the Recruitment of Fishes (SMURFs), which are essentially bags of folded plastic just below the surface that are anchored in about 50 feet of water. They are designed to simulate a kelp canopy. Young of the year that have settled to the bottom have also been collected in several Oregon estuaries. Young of the year seem to like vegetation such as kelp or eel grass.

Quillback Rockfish mature between about 5 to 22 years of age and can live to at least 95 years. Females are slightly bigger than males. 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.

Quillback Rockfish are generally bottom dwellers, but they will come up well off the bottom to feed and sometime form schools when in the water column. They like complex bottoms, but are also found over flatter rocky bottoms as well. Some Quillback Rockfish tagged at one reef off Oregon stayed in a very small area for over a year, but others tagged at a different reef moved away from rocky reef areas at night.

Known predators of Quillback Rockfish include Lingcod, Yelloweye Rockfish, Steller sea lions, killer whales, and humans. Quillback Rockfish are caught 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 and the colorful Quillback Rockfish are among the most valuable. Live fish are sold in many Asian restaurants in the bigger cities on the west coast.

## DIET AND FORAGING

Quillback Rockfish mostly feed near the bottom, but will take fishes up in the water column. They eat a variety of fish species, crabs, shrimp, amphipods, mysids, krill, other crustaceans, fish eggs, and snails.



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## HABITAT CHARACTERISTICS

Coastal waters less than 1,000 feet deep with rocky bottoms. Adult Quillback Rockfish seem to prefer high relief complex bottoms such as boulders and areas with cracks and crevices and are usually found at depths below 66 feet.

## CONSERVATION AND MANAGEMENT

**Threats:** Quillback Rockfish that reside in the California Current Ecosystem benefit from the annual seasonal cycle that includes upwelling of cold nutrient rich waters during the spring and summer months, which are critical for ocean productivity. Changes in ocean productivity, whether they are human induced or natural, can affect reproductive success and population size. Quillback Rockfish are also vulnerable to overfishing based on productivity and susceptibility analysis.

**Conservation and management:** Quillback Rockfish are included in the federal Pacific Coast Groundfish Fishery Management Plan administered by the Pacific Fishery Management Council (PFMC). The Oregon Department of Fish and Wildlife works in concert PFMC and manages fisheries for Quillback Rockfish within state waters. To date there has only been one stock assessment done for Quillback Rockfish and it was what is considered to be a “data-poor” assessment rather than a full assessment. 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 a fishery-independent survey in nearshore rocky habitat to get better information on abundance throughout its range and better information on stock structure. There is also limited information available on the life history of this species. Almost nothing is known about the pelagic larvae or their dispersal.

## REFERENCES

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