



# BLUE ROCKFISH (*Sebastes mystinus*)



Blue Rockfish are an important component of the rocky reef ecology along the west coast. Perhaps one of the most surprising stories about this species is that in 2015 what was long thought of as a single species was determined to be two very similar looking or cryptic species, the Blue Rockfish and the Deacon Rockfish! The mottled or spotty coloration on the sides of the body of Blue Rockfish is the easiest way to distinguish it from the more solidly colored Deacon Rockfish. Both Blue and Deacon Rockfish have four dark bars on their head and small mouths that help distinguish them from Black Rockfish.

## OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to 21 inches long (females grow larger than males)
- **Weight:** Up to 3.9 pounds
- **Lifespan:** At least 44 years
- **Key Strategy Habitats:** Nearshore
- **Similar Species:** Deacon Rockfish, Black Rockfish

## FISHING TIPS

- Start in the morning.
- Target rocky reef areas.
- Drop your hook to the bottom, then reel up slowly. Blues are often found well off the bottom.
- A variety of lures and flies work well, but you are more likely to catch Blue Rockfish using smaller lures.
- 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, especially gelatinous forms as they get larger. Will also eat small fish and squid.

- While Blue Rockfish look somewhat similar to Black Rockfish, they are even more similar to Deacon Rockfish. In fact Blue and Deacon Rockfish were first distinguished as two distinct and separate species in 2015 when the Deacon Rockfish was first described!
- Blue Rockfish are one of only a handful of rockfish species whose courtship and mating behavior has been observed.
- Blue Rockfish mature at 4-11 years of age and can live to about 44.
- A 16.2 inch female had 525,000 eggs!
- Ovaries of Blue Rockfish are bright yellow, but Deacon are pink-cream color.

## RANGE AND DISTRIBUTION

**In Oregon:** Blue Rockfish can be found in marine waters over rocky bottoms from central Oregon southward. Blue Rockfish are a more frequent component of the rockfish community in southern Oregon waters than further north.



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**Everywhere Else:** Blue Rockfish range from central Oregon to northern Baja. Their range overlaps with Deacon Rockfish, with Blue Rockfish being the more common of the two species from about Monterey Bay southward, while Deacon Rockfish are more common from about Half Moon Bay northward.

## 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. The pelagic larvae of Blue Rockfish seem to like to live fairly deep. They were most abundant in net tows done at over 300 feet than those done at shallower depths in a study off the coast of California. At about 3 to 6 months of age when they are about 1.5 inches long they settle to rocky bottom habitats off the coast. They settle from March into July and there can be great variability in the numbers that settle from year to year. These juveniles tend to stay very close to the bottom until they grow larger. Blue Rockfish are called a semi-pelagic species meaning that they can be found anywhere in the water from the bottom to the surface, usually in schools that sometimes include other species of rockfish. While this is true during the day, Blue Rockfish of all sizes are found at the bottom during the night.

Blue Rockfish mature between about 4 to 11 years of age. 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. Blue Rockfish are one of the few rockfish species that the process of courtship and possibly mating has been observed. Female Blue Rockfish can give birth once each year. 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, suggesting these larval fish may have a better chance at survival if food is not readily available when they are born. 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 a good year class of young is produced.

Known predators of Blue Rockfish include marine mammals, sea birds (especially for juveniles), fish, and humans. Blue Rockfish have long been a common species caught on recreational bottom fishing trips and even from rocky shorelines. They are also taken by commercial fishermen and primarily sold to the fresh fish market.

## DIET AND FORAGING

Blue Rockfish eat primarily zooplankton. They consume both crustaceans, like copepods, mysid shrimp, and amphipods, as well as gelatinous forms of zooplankton like sea butterflies (pteropods), larvaceans, and medusa. As they get larger Blue Rockfish will also consume fish and squid.



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## HABITAT CHARACTERISTICS

Coastal waters usually less than 180 feet deep with rocky bottoms both with and without kelp beds. Studies of acoustically tagged Blue Rockfish suggest that they have small home ranges with individual fish staying within several hundred feet of a core area.

## CONSERVATION AND MANAGEMENT

**Threats:** Blue 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. Blue Rockfish are also vulnerable to overfishing based on productivity and susceptibility analysis.

**Conservation and management:** Blue Rockfish are included in the federal Pacific Coast Groundfish Fishery Management Plan administered by the Pacific Fishery Management Council (PFMC). Stock assessments for Blue 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 Blue Rockfish within state waters. There is much that is 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 fishery independent- surveys in nearshore rocky habitat to provide information on abundance, species specific information (older information may contain information from both Blue and Deacon Rockfish), gender specific information about growth and natural mortality, and better information on stock structure.

## REFERENCES

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