



CHINA ROCKFISH (*Sebastes nebulosus*)



China Rockfish are an important component of the rocky reef ecology along the west coast of North America. They live on or near the bottom, and are generally a solitary species. China Rockfish are an important fishery species being targeted by both recreational and commercial fishers. This colorful species is very popular with the commercial fishery for live fish markets. They are among the most valuable species. China Rockfish have a yellow stripe that runs from about the 3rd dorsal spine to the tail and many yellow blotches on dark bodies. The distinctive coloration helps distinguish this species from other rockfish species.

OVERVIEW

- **Oregon Conservation Strategy Species**
- **Size:** Up to 18 inches long
- **Weight:** Up to 4.2 pounds
- **Lifespan:** At least 83 years
- **Key Strategy Habitats:** Nearshore
- **Similar Species:** Quillback Rockfish, Gopher Rockfish

FISHING TIPS

- Start in the morning.
- Target rocky reef areas.
- Drop your hook to the bottom, and keep your lure very near the bottom.
- 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: Bottom living invertebrates such as brittle stars, crabs, shrimp, amphipods, and snails. They also eat small fish.

- China Rockfish sometimes live in the dens of giant pacific octopus.
- China Rockfish are a territorial species that have small home ranges and erect their spines to face down intruders.
- China Rockfish mature at about 10 to 12 inches in length.
- They can live at least 83 years.
- Live China 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: China Rockfish can be found throughout the state's marine waters and also in some estuaries as juveniles.

Everywhere Else: China Rockfish range from the northern Gulf of Alaska to Redondo Beach and San Nicholas Island in southern California. They are more common and abundant from southeast Alaska to northern California. Adults are known to live at depths from about 10 to 420 feet.



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LIFE HISTORY AND ECOLOGY

Like all rockfish species, fully formed larvae are released from their mother's body to live for several months in the water column. Very little is known about the pelagic larval stage of this species. Researchers off Oregon collected larval young of the year from May to September in sampling devices called SMURFs (standardized monitoring units for the recruitment of fishes), 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. China Rockfish that have recently settled out have also been collected in Oregon estuaries.

China Rockfish mature between about 10 and 12 inches in length at 3 to 6 years of age. Rockfish don't spawn which refers to the release of sperm and unfertilized eggs into the environment. 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. Female China Rockfish have mature and fertilized eggs off Oregon from about January to June. 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. The long lifespan with annual and 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.

Studies of adult tagged China Rockfish suggest that they stay at or near the bottom and have small home ranges, but the number of tagged fish in these studies is small. China Rockfish have been observed to erect their spines when intruders approach their territory. China Rockfish sometimes live with giant Pacific octopus in the same crevice or den.

Predators of China Rockfish include sea birds (for juveniles), fish, and humans. China 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 brightly colored China 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

China Rockfish mostly eat bottom dwelling invertebrates such as brittle stars, crabs, shrimp, and amphipods. They will also eat small fish.

HABITAT CHARACTERISTICS

Coastal waters usually less than 420 feet deep with rocky bottoms. Adult China Rockfish seem to prefer high relief complex bottoms such as boulders.



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CONSERVATION AND MANAGEMENT

Threats: China 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 stock size. China Rockfish are also vulnerable to overfishing based on productivity and susceptibility analysis.

Conservation and management: China Rockfish are included in the federal Pacific Coast Groundfish Fishery Management Plan administered by the Pacific Fishery Management Council (PFMC). Stock assessments for China Rockfish are conducted periodically by PFMC to help manage for sustainable fisheries. The Oregon Department of Fish and Wildlife works in concert PFMC and manages fisheries for China 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 a fishery-independent survey in nearshore rocky habitat to get better information on abundance throughout its range, better information on stock structure, and genetic differences at a variety of scales throughout the species range. There is also limited information available on the life history of this species. Almost nothing is known about the pelagic larvae or their dispersal as these are not caught on the research cruises that have provided information on the larvae of many other rockfish species.

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