

Pacific Herring: A Model Fishery

Why Herring are Important

Although they are small, never underestimate the importance of Pacific herring. Referred to as forage fish, herring—like sardine and anchovy—form the foundation for a healthy marine food web. These tiny fish are among the top five most important forage fish in ocean waters off California, serving as an important food source for marine mammals and seabirds as well as commercially and recreationally important fish species.

Adult herring are prey for many seabirds, salmon, seals, California sea lions, porpoises, northern fur seals, killer whales, humpback whales, dogfish, steelhead trout, Pacific cod, sablefish, hake, lingcod, several species of rockfish (black, yelloweye, quillback and tiger rockfish), striped bass, cutthroat trout, sculpin, and sand sole. Herring eggs are important in the diets of juvenile salmon, sturgeon, smelt, surfperches, crabs and at least 20 species of birds.



An adult humpback whale can eat over four thousand pounds of herring per day.



Brant geese in Humboldt Bay rely on herring eggs and eelgrass for their 3,000 mile migration to Alaska.

Tasty, Trendy, and Sustainable

San Francisco Bay's Pacific herring pack a punch of flavor and heart healthy omega-3 fatty acids. Herring are becoming more common on menus at trendy new restaurants. These small fish are among the most sustainable fish on the market. The way these fish are caught makes this fishery one of the cleanest in the nation. Over 99 percent of the catch is herring, meaning less than one percent is bycatch (capture of unintended ocean animals). Very little vessel fuel is used to catch and deliver herring, making them one of the lowest carbon-footprint proteins you can find in the Bay Area. Oceana and Audubon California are working together to promote local markets for Pacific herring because of the combination of sustainable management, local harvest, and human health benefits.



There are many creative ways to prepare and enjoy herring including pan-frying, pickling, and smoking.

California's Urban Fishery

In California, the four largest herring spawning populations occur in San Francisco Bay, Tomales Bay, Humboldt Bay and Crescent City Harbor. San Francisco Bay is home to the largest spawning population of herring along the entire U.S. West Coast and the only current hub of commercial herring fishing in California. The San Francisco Bay herring fishery is an iconic part of history and culture in the area, often referred to as one of the few remaining “urban” fisheries because nets are sometimes deployed right off Fisherman’s Wharf and the Sausalito waterfront.

Every winter, the California Department of Fish and Wildlife works with herring fishermen to conduct surveys throughout San Francisco Bay to estimate the number of spawning herring. Based on these annual estimates, the herring fishery is managed with a precautionary harvest rate to determine the amount of fish that can be taken every year. For the past decade, harvest rates in San Francisco Bay have been set at levels, which— combined with closed areas— provides for sustainable harvest, population recovery, and an abundant food supply for the animals that eat herring. With the support of the fishing industry, fishery managers reduced this year’s quota due to lower fish numbers, unusual ocean conditions, and the drought. This kind of adaptive management will help ensure a healthy herring population for years to come.



A commercial herring vessel in San Francisco Bay.



Herring roe in Richardson Bay, the heart of herring spawning within the San Francisco estuary.

What Oceana and Audubon are Doing

Oceana and Audubon are partnering with the commercial fishing industry and fishery managers to make sure there is a Fishery Management Plan to ensure the long-term sustainability of the herring population. We are also collaborating to protect sensitive spawning habitat for herring in San Francisco Bay and around the state. Together we are working to build a model for a sustainable forage fish fishery in San Francisco Bay, while ensuring enough food for dependent wildlife. To learn more visit www.oceana.org/foragefish and <http://ca.audubon.org/pacific-herring-conservation-program>.

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