THE PEW ENVIRONMENT GROUP

FAQs

PACIFIC FISH CONSERVATION CAMPAIGN

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WHAT ARE FORAGE FISH?

They are small, schooling fish that eat microscopic plants and animals drifting near the ocean surface and are then consumed by bigger fish, seabirds and marine mammals. Sardines, herring and anchovy are commonly known examples of forage fish. Some species of squid and tiny shrimp-like creatures called krill are also considered forage fish because they are a principal food source for many marine species.

WHY ARE FORAGE FISH IMPORTANT?

They form the linchpin of the marine food web on the Pacific coast. The California Current is one of just a handful of large marine ecosystems in the world dominated by periodic upwelling of cold water, where nutrients pulled from ocean depths fuel the growth of phytoplankton at the surface. Forage fish swarm to these blooms of life. As they eat the phytoplankton, forage fish convert the energy of the sun into protein that's then readily available as important food for salmon and groundfish species and an astonishing array of ocean wildlife. A recent decade-long study revealed that tunas, sharks, seabirds, seals and whales cross the ocean every year to the rich marine ecosystem off the West Coast. Their key food: forage fish.

WHAT HAPPENS WHEN FORAGE FISH POPULATIONS DECLINE?

A lack of adequate forage harms wildlife in the ocean. In the past decade alone, depleted forage populations on the Pacific coast have been associated with failed salmon runs, starvation of sea lion pups and seabird population declines.

WHAT ARE THE MAIN THREATS?

Fisheries management traditionally has not considered the critical role forage fish play in marine ecosystems when setting management measures and fishing limits. As a result, fishing for forage species at a rate that is not considered overfishing in the traditional sense may lead to catching forage fish in such large quantities that there is insufficient food left in the ocean for other marine wildlife that depend on them for survival.

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And there is increasing market pressure to expand fishing on forage species to supply fishmeal and fish oil as feed for a booming global fish farming industry, which now accounts for almost half of the fish consumed by people worldwide. Forage fish accounts for almost 40 percent of the total global catch of wild marine fish, with the bulk of it processed into fishmeal and fish oil. On the West Coast, for instance, much of the sardine harvest is frozen and shipped to Australia to feed penned tuna.

BUT THEY REPRODUCE QUICKLY. WON'T THEY BE JUST FINE?

Forage fish are notable for their high abundance and rapid reproduction. However, scientists are finding evidence that their populations are just as susceptible to long-term population declines as animals higher on the food chain. That's bad for salmon, groundfish, tuna and other fish that provide valuable fisheries for coastal communities. It's why the North Pacific Fishery Management Council prohibited the directed harvest of many key forage species in Alaska beginning in 1998, with the strong support of commercial fishermen. On the West Coast, the Pacific Fishery Management Council took a similar approach by putting krill off-limits in 2006.

WHAT IS THE SOLUTION?

Fishery managers need to consider the role forage fish play in maintaining a sustainable food web and the needs of other marine predators like birds and seals when deciding how to manage forage species. The Pacific Fishery Management Council has taken a first step in this direction by agreeing to develop a fishery ecosystem plan. The council now has a choice. It can allow forage fish catches to expand as worldwide demand grows for turning small schooling fish into feedstock for aquaculture. Or it can adopt a plan that ensures enough forage fish stay in the ocean as vital food to sustain the other valuable fish and marine wildlife that are the basis of our coastal fishing and tourism economy.

WHAT CAN YOU DO?

Ask the Pacific Fishery Management Council to support a strong fishery ecosystem plan that explicitly accounts for the value of forage fish as prey for ocean wildlife. Tell them that protecting the forage base off our shores is essential to managing fisheries in a sustainable manner and to ensure the long-term health and productivity of the West Coast ecosystem. **Write the council at pfmc.comments@noaa.gov. Learn more at www.PewEnvironment.org/PacificFish.**