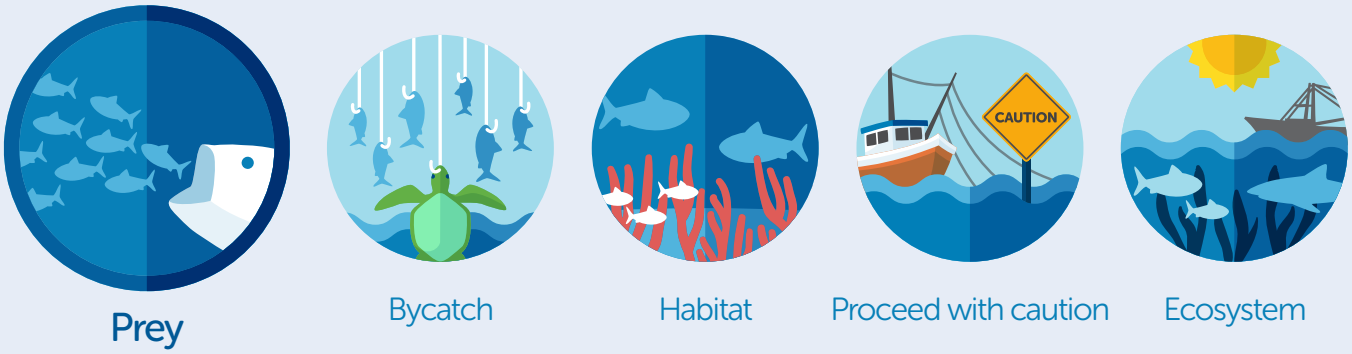

Safeguarding Forage Fish

Conserving small fish has big benefits

Forage fish provide food for recreationally and commercially important species such as tuna, salmon, and cod, as well as for seabirds, sharks, dolphins, and other animals that are integral to healthy ocean ecosystems. In some instances, no federal management plan exists for forage species, as is the case with shad and river herring.

Consumer demand for these nutrient-rich species—which are used to make fertilizer, feed for livestock and farmed fish, and products such as cosmetics—is skyrocketing worldwide. Yet the importance of the little fish to healthy ecosystems and to fishing, seafood, and tourism businesses makes it critical that we use extra caution in their management.

The solution

As part of the reauthorization of the Magnuson-Stevens Act, Congress should improve conservation of forage fish by requiring that regional fishery managers:

- **Set science-based limits on how many forage fish can be caught** each year in order to ensure abundant food sources for other wildlife, including managed fish species.
- **Apply a national definition** of what species qualify as forage fish for management purposes.

Forage fish: A closer look

Little fish, big impact

In 2012, the Lenfest Forage Fish Task Force, a panel of 13 internationally known marine scientists, found that harvesting of forage fish at levels previously thought to be sustainable could have major adverse effects on some marine ecosystems. The panel recommended cutting forage fish catch rates by half in many ecosystems and doubling the minimum required amount left in the water. These measures would help to maximize the benefits of

forage fish as food for more highly valued species.[1]

Conservation of forage fish has an impact beyond simply feeding larger fish. For example, a 2011 study of several ecosystems found that seabird populations decreased when the amount of forage fish fell below one-third of the maximum historical level.[2]

Protections in practice

When about 1,600 starving sea lion pups washed up on California's shores in 2013, researchers pointed to the likely cause: Their mothers abandoned them because there was not enough forage fish, such as Pacific sardines, to support both generations.[3] The severe decline in the sardine population was a threat not only to sea lions but also to other ocean life along the California coast and the fisheries that depend on it. In response, the Pacific Fishery Management Council reduced sardine fishing levels by nearly two-thirds from 2013 to 2014.[4]

The Pacific council has taken other steps in forage fish management, providing a model for its counterparts nationwide. In a separate action in 2013, the council approved its first fishery ecosystem plan, which spells out how to take a big-picture approach to managing marine resources. The plan's first management initiative calls for developing a sound understanding of the potential impact of new fishing on forage species, such as sand lance and saury, before allowing such a fishery.[5]

Unfortunately, most of the nation's other fishery management councils have not adopted similar practices to help avoid drastic declines in forage populations and the resulting adverse ecosystem effects. However, through the reauthorization of the Magnuson-Stevens Act, Congress can—by directing councils to adopt best practices and protections—ensure that forage fish fulfill their important roles in the ocean environment.

Endnotes

1 Ellen Pikitch et al., *Little Fish, Big Impact: Managing a Crucial Link in Ocean Food Webs, Lenfest Ocean Program* (2012), http://www.lenfestocean.org/en/publications/research-reports/little-fish-big-impact.

2 Philippe M. Cury et al., "Global Seabird Response to Forage Fish Depletion—One-Third for the Birds," *Science* 334 (2011): 1703–1706, doi:10.1126/science.1212928.

3 NOAA Fisheries, "FAQs on the 2013 California Sea Lion UME Investigation" (2014) http://www.nmfs.noaa.gov/pr/health/mmume/casealion2013_investigation.htm.

4 Calculated from 2013 and 2014 directed commercial harvest guidelines: National Oceanic and Atmospheric Administration Fisheries Off West Coast States; Coastal Pelagic Species Fisheries; Annual Specifications, 78 Fed. Reg. 36117 (June 17, 2013) and 79 Fed. Reg. 22449 (April 22, 2014).

5 Pacific Fishery Management Council, *Pacific Coast Fishery Ecosystem Plan for the U.S. Portion of the California Current Large Marine Ecosystem* (2013), http://www.pcouncil.org/wp-content/uploads/FEP_FINAL.pdf.

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