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Expert Task Force Recommends Halving Global Fishing for Crucial Prey Species

Forage Fish Twice as Valuable in the Water as in the Net

WASHINGTON – Fishing for anchovies, sardines, and other "forage fish" in general should be cut in half globally to account for their critical role as food for larger species, recommends an expert group of marine scientists in a report released today. The Lenfest Forage Fish Task Force conducted the most comprehensive worldwide analysis of the science and management of forage fish populations to date. Its report, "Little Fish, Big Impact: Managing a crucial link in ocean food webs," concluded that in most ecosystems at least twice as many of these species should be left in the ocean as conventional practice.

A thriving marine ecosystem relies on plenty of forage fish. These small schooling fish are a crucial link in ocean food webs because they eat tiny plants and animals, called plankton, and are preyed upon by animals such as penguins, whales, seals, puffins, and dolphins. They are primary food sources for many commercially and recreationally valuable fish around Australia, such as tuna, snapper, and emperors. The task force estimated that, globally, forage fish are twice as valuable in the water as in a net—contributing US$11.3 billion (AUD 10.8 billion) by serving as food for other commercially important fish. This is more than double the US$5.6 billion (AUD 5.4 billion) they generate as direct catch.

These species are also playing a growing role in the everyday lives of industrialized nations. The demand for forage fish in recent decades has greatly increased for use as fish meal and fish oil to feed farmed fish, pigs, and chickens that people consume on a regular basis. Fish oil is also used in nutritional supplements for humans.

"Traditionally we have been managing fisheries for forage species in a manner that cannot sustain the food webs, or some of the industries, they support," says Dr Ellen K. Pikitch of the Institute for Ocean Conservation Science at Stony Brook University in the United States, who convened and led the task force. "As three-fourths of marine ecosystems in our study have predators highly dependent on forage fish, it is economically and biologically imperative that we develop smarter management for these small but significant species."

Predators that depend on forage fish are on the decline in many areas around the world. Fortunately, Australia currently has conservative management of its largest volume fishery, the

SA sardine fishery. Sardine are most abundant in the rich ecosystem of the Great Australian Bight, where they provide vital food for a number of species, including penguins, dolphins, seals, seabirds, and tuna. They simultaneously support an aquaculture industry, are used as live bait for tuna, and as bait by recreational fishers.

In the Antarctic, for example, research indicates that macaroni and chinstrap penguins may not be able to adapt rapidly enough to declines in krill abundance. The Commission for the Conservation of Antarctic Marine Living Resources was one of the first multilateral management bodies to recognize the importance of maintaining ecological relationships and established an international fishing agreement to maintain 75 percent of the original krill populations in the water.

"Forage fish are the core of the ecosystem, but we know more about interactions between predators and prey in some areas than in others," said Dr Keith Sainsbury, a professor at the University of Tasmania's Institute of Marine and Antarctic Science and task force member. "Our hope is that natural systems with little information, or systems where it's known that predators are sensitive to declines in prey, are managed in a way that is safe and precautionary."

Made up of 13 preeminent scientists with expertise in a wide range of disciplines, the Lenfest Forage Fish Task Force was established to generate specific and practical advice to support better management of forage fish around the world. This group of experts, with support from the Lenfest Ocean Program, synthesized scientific research and other information about these species and conducted original simulation modeling to reach their conclusions.

"The Lenfest Forage Fish Task Force brought together knowledge and experience from across the globe to think about the management of forage fish in a more holistic way," said Dr Éva Plagányi, senior research scientist at CSIRO Marine and Atmospheric Research and task force member. "We need fishery managers to implement our recommendations if we are to protect our environments and our economies into the future."

Find more information about:
Lenfest Forage Fish Task Force: *www.oceanconservationscience.org/foragefish*
Lenfest Ocean Program: *www.lenfestocean.org*

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The Lenfest Ocean Program supports scientific research aimed at forging solutions to the challenges facing the global marine environment. The program was established in 2004 by the Lenfest Foundation and is managed by the Pew Environment Group. www.LenfestOcean.org

The Institute for Ocean Conservation Science at Stony Brook University is dedicated to advancing ocean conservation through science. The Institute transforms real-world policy while pursuing serious science, both of which are essential for ocean health.
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