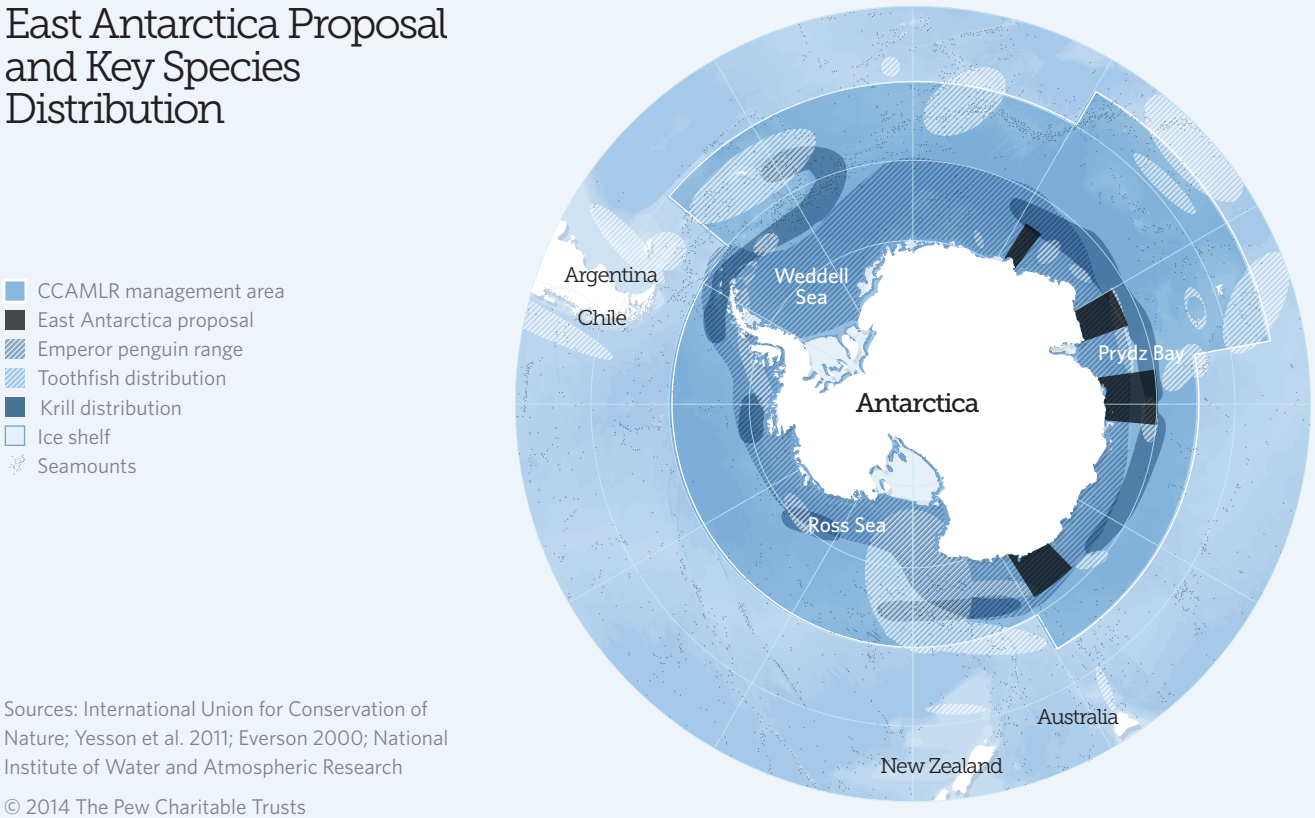
East Antarctica Proposal and Key Species Distribution



Sources: International Union for Conservation of Nature; Yesson et al. 2011; Everson 2000; National Institute of Water and Atmospheric Research

Protecting East Antarctic Waters

The East Antarctic ice sheet flows off the Antarctic continent into the surrounding Southern Ocean. This vast expanse of ice abruptly surrenders to sapphire seas that are home to an array of marine life. Coastal currents, including the Prydz Bay Gyre, mingle with the Antarctic Circumpolar Current,1 supporting marine life throughout the circumference of the continent. Penguins2, seals3, krill4, and toothfish5 (also known as Chilean sea bass) are among the many species that rely on this relatively unexplored, remote, and frigid habitat for survival.

The Pew Charitable Trusts urges the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to designate several areas off the coast of East Antarctica as marine protected areas. CCAMLR is the international body of 24 countries and the European Union established in 1982 to protect the remarkable biodiversity of the Southern Ocean. If all members agree to protect these sensitive marine ecosystems, their action would help penguins and other species that rely on these waters for food. With climate change disproportionately affecting the polar regions, a marine reserve off East Antarctica would provide a crucial global reference area for assessing the impact on the biodiversity of the Southern Ocean.

Unequaled habitat sculpted over time

For over a million years, glacial streams have carved deep canyons into the continental shelf and slope along the East Antarctic coastal region.[6] Today, these gorges host remarkably diverse ecosystems. The Gunnerus Ridge rises from the depths of the ocean bed to a seamount—an underwater mountain—producing upwellings that distribute nutrients to surrounding waters.[7]

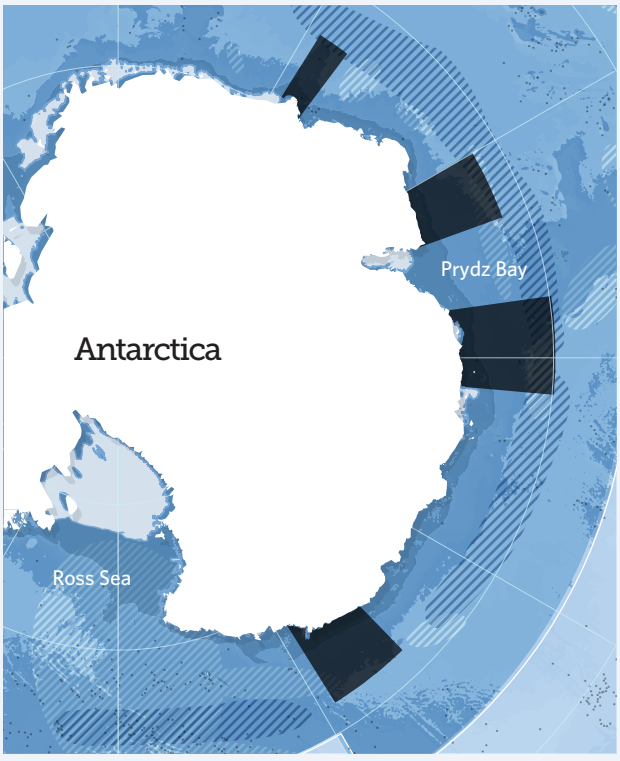
The unique marine habitat off the continental shelf of Prydz Bay, one of the most productive and biologically diverse in the region, is due to a large channel formed during prehistoric times.[8] The seals and seabirds off the shores here feed mostly on krill[9] and silverfish[10]—two species vital to a healthy ecosystem. Prydz Bay hosts large populations of snow petrels, as well as Antarctic terns and a variety of albatross species.[11]

A home for the ocean's most charismatic species

East Antarctica supports many colonies of Adélie and emperor penguins. About 640,000 pairs of Adélie penguins and an estimated 55,000 pairs of emperor penguins[12] forage over great distances. Emperors travel up to 900 kilometers (560 miles) from their colonies[13] and Adélies more than 480 kilometers (300 miles).[14]

Large populations of minke, humpback, blue, and fin whales inhabit the waters of the East Antarctic,[15] as well as various species of seals, including crabeater, Weddell, Ross, and leopard seals.[16] Crabeaters are particularly prolific, with 1 million estimated to breed off East Antarctica.[17] The region also harbors up to 42 percent of the world's little-known Ross seals, which have been designated a specially protected species under the Protocol on Environmental Protection to the Antarctic Treaty.[18]

East Antarctica Proposal and Sensitive Areas



Sources: International Union for Conservation of Nature; Yesson et al. 2011; Everson 2000; National Institute of Water and Atmospheric Research

Antarctic toothfish.

Snow petrel.

Humpback whale.

The proposal

Sponsored by Australia, France, and the European Union, the proposal would create a "representative system" of marine protected areas. Because of historically sparse fishing activity and research in these waters, scientists have predicted local species-richness based on habitat type. Using this method, the proposal sets aside unique biogeographical areas for protection based on characteristics known to support biodiversity. This approach for designing marine protected areas is common in data-poor places such as the East Antarctic.

The original 2010 proposal for an East Antarctic system of marine protected areas identified seven representative regions for conservation, with varying degrees of protection for benthic (seafloor) and pelagic (open ocean) locations. After revisions to the proposal at the last annual meeting in 2013, only four of those areas remained, and the plan did not include the most sensitive one in the region, Prydz Bay.

The proposal also includes review language that would allow management of the area to be adjusted if necessary, an approach supported by the International Union for Conservation of Nature. Monitoring and management of the protected areas would be reviewed every ten years. The proposal is set to expire 30 years after designation. If the plan is adopted, CCAMLR would have the opportunity to extend these marine protected areas in the future.

Recommendations

Scale: Pew supports meaningful protections in East Antarctica that preserve large-scale ecosystem processes in their entirety and maintain crucial predator-prey relationships. Areas proposed for protection must remain very large, and should not allow fishing or any other extractive activities.

Pew urges CCAMLR not to allow further concessions to the number or size of the proposed protected areas and to include protection for Prydz Bay. Each representative area must also include pelagic and benthic protections to help safeguard crucial foraging habitat for Adélie and emperor penguins.

Duration: To be effective, the East Antarctic representative system of marine protected areas must be permanent. Instead of a 30-year duration clause, or expiration date, the proposal should include standard review language to ensure that effective monitoring and management measures are in place, and to ensure that the conservation measures are effectively implemented.

What you can do to help

Visit www.pewtrusts.org/penguins to become an advocate for the penguins of East Antarctica. There you can sign our petition to protect these waters, and join the global effort to protect Antarctica's Southern Ocean.

Tell CCAMLR that the time for action is now.

Endnotes

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