

July 7, 2017

The Honorable Ryan Zinke
Secretary of the Interior

The Honorable Wilbur Ross
Secretary of Commerce

Dear Secretary Zinke and Secretary Ross:

As academic scientists specializing in marine and environmental sciences, we collectively recognize the need to conserve and protect our most biologically diverse, scientifically-rich and vulnerable natural habitats. For this reason, we write in support of the Northeast Canyons and Seamounts Marine National Monument. The monument provides permanent protection for the only seamounts in the U.S. Atlantic—Bear, Mytilus, Physalia, and Retriever, which lie approximately 200 miles southeast of Cape Cod—and three large nearby submarine canyons— Oceanographer, Lydonia, and Gilbert, which are approximately 150 miles off Cape Cod and are among the northernmost canyons that incise the continental margin off the northeast U.S. coast.

We support maintaining the permanent protection of these seamounts and canyons as a marine national monument. They are biodiversity hotspots and represent outstanding examples of our natural heritage. The monument encompasses in a small area an extraordinary diversity of topography, depths, and substrates, with accompanying unique, ecologically-rich, and highly-sensitive communities and species which are of great scientific value and interest.

Decades of exploration and research have demonstrated the ecological significance and the vulnerability of the fauna associated with the canyons and seamounts, which are among the most spectacular geologic features along the continental margin off the northeast U.S. coast. In particular, from 2001-2014, a series of NOAA-supported expeditions greatly accelerated our understanding and expanded our appreciation of these deep-sea ecosystems. A variety of habitat types and complex currents that transport nutrients and concentrate food supply make the canyons and seamounts uniquely suited to support ecologically significant and diverse communities of animals. The exposed rock walls in the submarine canyons, which are dynamic and high-energy environments, and the slopes and summits of the seamounts are all rare islands of hard substratum in the deep ocean. Because of this ample hard substrate, the canyons and seamounts harbor unusually high concentrations and diversity of deep-sea corals and associated species compared to other habitats along the continental margin, rise and abyssal plain.

Oceanographer, Gilbert, and Lydonia Canyons are particularly outstanding examples of the diversity of habitats and biological communities found in this deep-sea landscape. Oceanographer and Lydonia Canyons were among the first and best explored of the Atlantic submarine canyons and long recognized for their precipitous landscapes and spectacular assemblages of deep-sea corals. In 2012, a scientific expedition to Gilbert Canyon found significant coral diversity and abundance there as well. The area around the canyon heads contributes to the diversity and productivity of these canyons. Dense aggregations of fish and squid that feed on krill and small prey fishes have been observed in these areas, and help explain the high density and diversity of marine mammals in the canyon head environments.

The protection of the entire marine monument, including all its benthic and pelagic habitats, makes the monument uniquely valuable ecologically and scientifically. Presently the full range of canyon habitats is included within the monument, from the shelf edge to the lower slope, and from the benthos to the top of the water column. The monument thus protects the full range of species reliant on the monument's geologic, bathymetric and oceanographic features as well as the ecologic linkages between and across the different depth zones and between the pelagic and benthic environments.

The seamounts, which are part of the New England Seamount chain, are biological hotspots in the deep sea, due in large part to their isolation, unique topography and current patterns. Recent studies suggest that the seamount chain may act as a dispersal corridor, allowing species to cross the Atlantic and potentially able to promote species movements in the future as environmental conditions change. These places are also warehouses of diversity as new species and cryptic species continue to be discovered and described. If protected, both the seamounts and canyons can remain sites of active scientific investigations and discovery for years to come.

The marine mammal occurrence in the monument area is remarkably high in both abundance and diversity. The precipitous topography and impinging currents provide for exceptionally rich pelagic habitats. Endangered sperm whales and beaked whales—the deepest diving mammals on the planet—as well as a diversity of dolphins, sharks, billfish and seabirds rely on these areas as feeding habitats. The great baleen whales, including endangered fin, right and humpback whales, and endangered loggerhead and leatherback turtles visit seasonally.

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Canyons and seamounts are rare and fragile landscape features with unique biological communities along the edge of the deep North Atlantic Ocean basin. Compared to shallow-water counterparts, deep-water species tend to have a longer lifespan, later sexual maturity, slower growth rates and lower natural mortality. These characteristics make deep-water species generally slow to recover from disturbance. Deep-sea corals in particular are extremely slow-growing and long-lived (i.e., hundreds to thousands of years). As a result, acute disturbances can cause significant adverse impacts, with recovery times of hundreds of years or longer.

Damage from fishing gear, excavation for mineral extraction, and energy exploration and development are all threats to the canyons and seamounts. Concern is also growing about impacts on deep-sea ecosystems from ocean acidification and ocean warming. Safeguarding deep-sea communities from anthropogenic disturbances will maximize their resiliency against acidification and a warming ocean.

We have come to recognize and appreciate how extraordinary and vulnerable these canyons and seamounts and their diverse fauna are. As human uses of the sea expand, we believe it is important to protect these special ocean places. For these reasons, we support the Northeast Canyons and Seamounts Marine National Monument which protects these features from commercial extractive activities.

We would be happy to discuss this issue with you further and aid in this effort any way we can. Thank you, in advance, for your consideration.

Sincerely,

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