CASHES LEDGE

NEW ENGLAND OceanOdyssey

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For a thriving New England

As special as it is, Cashes Ledge is a very vulnerable marine ecosystem. Right now Cashes Ledge has a small amount of protection from certain types of fishing activity. This is laudable and a real achievement by fisheries managers in New England. However, this protection is only temporary and it could be eliminated at any moment. It could be opened to fishing practices that further deplete stocks of groundfish, damage biodiverse communities, and decrease the sustainability of the kelp forests.

Because it is such a unique, valuable, and diverse New England marine ecosystem, the rocky ridge, adjacent bottom habitats, and the overlying water column on Cashes Ledge need permanent protection from human impacts.

Dr. Jon Witman
Brown University

RESOURCES:
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100 miles off the coast of Portland, Maine lies Cashes Ledge, an underwater mountain range covered with a large kelp forest teeming with ocean life. Although long protected from bottom trawling, it is now at risk. This ocean wonder is as ecologically important as it is sensitive to human impacts. Cashes Ledge deserves permanent protection.

Cashes Ledge, located in the Gulf of Maine about 100 miles southeast of Portland, is a unique underwater mountain range with a virtual treasure trove of marine life living among its peaks and valleys. The steep ridge rises from basins hundreds of feet deep to a ledge that comes within 40 feet of the surface. This ledge's peak, known as Ammen Rock, punctures the ocean current and forces water to swirl around the underwater mountains. This results in a unique environment where nutrient- and oxygen-rich water mix at a depth exposed to sunlight, resulting in ideal conditions for marine life.

Along the peaks and ridges of Ammen Rock grows the deepest and largest kelp forest on the Atlantic seaboard. This lush kelp provides superb habitat and serves as a food source for the vast array of ocean wildlife that lives on Cashes Ledge. The diverse seafloor habitat of Cashes Ledge ranges from rocky outcroppings to deep mud basins, providing refuge for common New England fish such as cod and pollock and rare species like the Atlantic wolffish. This abundance also draws in migrating schools of bluefin tuna, blue and porbeagle sharks, and passing pods of highly endangered North Atlantic right whales and humpback whales.

Cashes Ledge is important not only to marine life but also to scientists hoping to learn about the health and function of New England's oceans – many scientists believe that Cashes Ledge represents the best remaining example of an undisturbed Gulf of Maine ecosystem. As a result, scientists have used Cashes Ledge as an underwater laboratory for decades.

Cashes Ledge is extremely susceptible to damage from bottom trawling gear. The New England Fishery Management Council (NEFMC) placed much of the area under temporary protection from bottom trawling and scallop dredging in 2002. However, with overfishing and other long-term impacts bringing groundfish populations to historic lows across the Gulf of Maine, some members of the fishing industry are seeking to remove these protections and resume bottom trawling.

Cashes Ledge is an ecological wonder and has served as an open sea laboratory for decades of important research by marine scientists. The Conservation Law Foundation, National Geographic photographer Brian Skerry, Brown University professor and scientist Jon Witman, and many of New England's scientists, community groups, fishermen, and other ocean users support the permanent protection of Cashes Ledge.

CASHES LEDGE

UNIQUE GEOGRAPHY

Atlantic Wolffish

Atlantic wolffish get their name from their large head and mouth full of sharp and wayward teeth. Wolffish require specific habitat that allows them to hide and catch prey, defend their eggs and remain safe from predators. This means wolffish prefer rocky outcroppings and broken terrain with nooks and small caves.

Historically, these fish were found from the northern tip of the Gulf of Maine through New Jersey, but their range has been greatly diminished, largely due to overfishing and the destruction of their habitat caused by years of seafloor trawling. The most recent scientific research shows that wolffish numbers in the United States have dropped precipitously over the last two decades.

Because wolffish live on the rocky seafloor and depend on its diverse features to hunt for prey and protect their young, the impact of trawling and dredging in these habitats is cataclysmic. Cashes Ledge is one of the best remaining habitat areas for the Atlantic wolffish.

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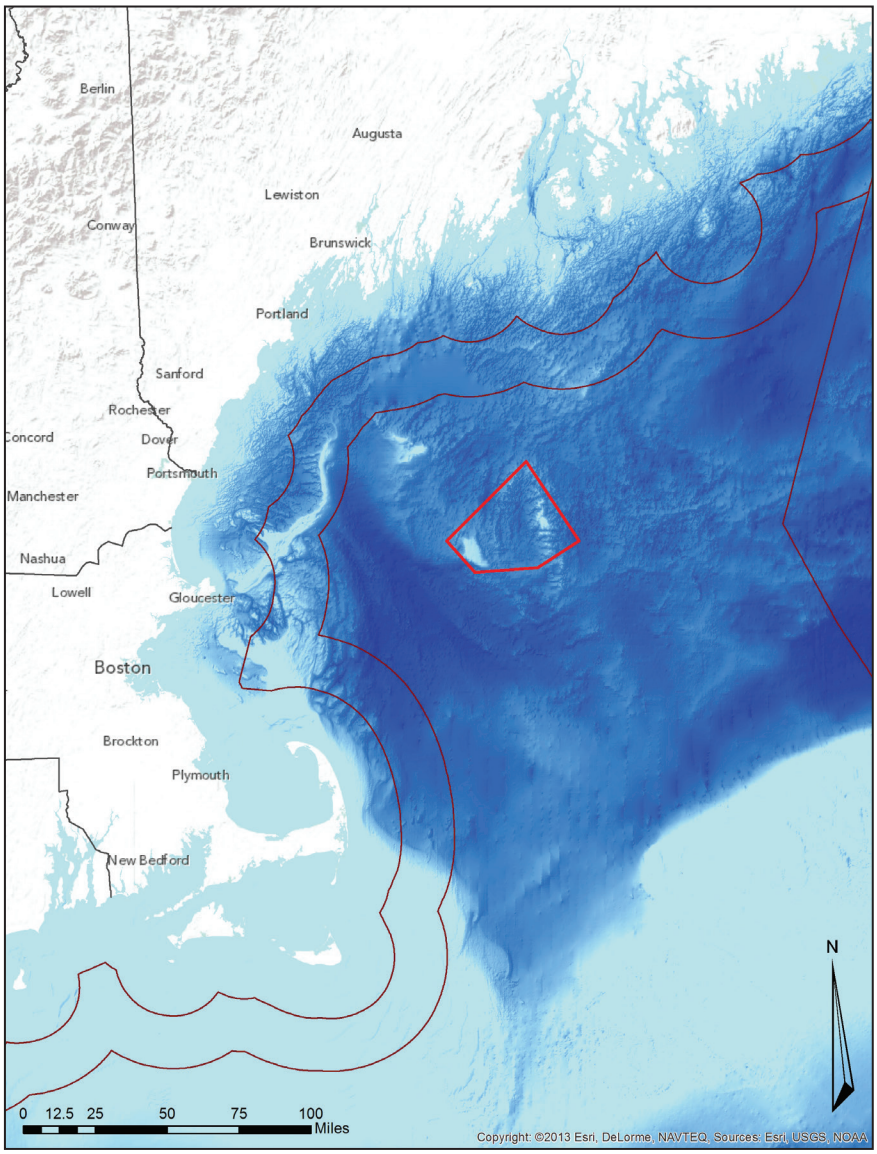

Cashes Ledge hosts a remarkable diversity of marine life, from the Atlantic wolffish and rare blue sponge to the unusual red cod. The reason for such diversity lies in the mountain range itself, whose pinnacles interrupt the primary Gulf of Maine current and create a stunning oceanographic phenomenon known as *internal waves*, which carry high levels of phytoplankton from the sea surface to the sea floor. This unusual circulation pattern results in an incredibly productive and diverse ecosystem. Cashes Ledge boasts the deepest cold water kelp forest in the Gulf of Maine and possibly the North Atlantic and has a rich array of invertebrates including sea anemones, bright orange, red, yellow and blue sponges, horse mussels, sea stars, brittle and feather stars, sea squirts, worms and northern shrimp. Atlantic bluefin tuna can be found pursuing herring on Cashes Ledge, and blue sharks are common during the warm summer months. Humpback and North Atlantic right whales often stop off to feed on the abundant supply of plankton. Because of its great value as habitat for Atlantic cod, haddock, white hake, and Atlantic halibut, and its protection from bottom trawling since 2002, Cashes Ledge also serves as an important refuge to help restore these depleted commercial stocks in the Gulf of Maine.

CASHES LEDGE

HABITAT AT RISK

Even though Cashes Ledge was first mapped in the 1800s, fishermen historically avoided the area for centuries because the underwater mountain range made putting down anchor and fishing difficult. Until the 1980s and 1990s, use of destructive fishing gear like bottom trawls was too risky because the rocky and steep slopes of Cashes Ledge could destroy this expensive equipment. Today, modern fishing gear equipped with rock-hoppers is more effective and more destructive, and poses a serious threat to this ecological treasure beneath the waves.

Cashes Ledge is particularly susceptible to damage from this modern bottom trawling gear. Bottom trawling could easily wipe out certain populations of sea anemones, and scientists estimate that it would take over 200 years for the population to recover and return to the area. The kelp forests are also prone to shredding from simple fishing gear like lines, hooks, and traps, and bottom trawling could remove entire sections of the kelp forests – requiring years to recover. Any sustained damage to this delicately balanced ecosystem could last for decades or more.

Recognizing the threat bottom trawling poses to a biological wonder like Cashes Ledge, the New England Fishery Management Council (NEFMC) placed much of the area under groundfish mortality and Essential Fish Habitat closures over a decade ago. These protective measures prohibited commercial fishing for groundfish such as cod and haddock as a way to restore seriously depleted cod populations.

Federal regulators are now under pressure from some of the largest trawlers in the region to re-open Cashes Ledge to commercial fishing, which would put the ecological value of this area at immediate risk. Until Cashes Ledge is permanently protected, it will always be under threat from bottom trawling and other harmful fishing practices.

Our Partners: Jon Witman

Dr. Jon Witman is a professor of biology at Brown University. He has studied the ecology of subtidal marine communities for over 30 years.

Dr. Witman led the first ecological study of overfishing in the Gulf of Maine. He has published numerous peer-reviewed papers and book chapters on the invertebrate and fish communities that thrive on the rocky seafloor at Cashes Ledge, and he has also studied the internal waves that support primary productivity in the area. He is committed to protecting the ecological and scientific value of this unique marine habitat.

Dr. Witman leads a group of scientists from New England and across the country who have expressed their support for the permanent protection of Cashes Ledge.

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PERMANENT PROTECTION

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Our Partners: Brian Skerry

Brian Skerry is a renowned underwater photographer praised around the world for his aesthetic sense and evocative scenes. His images tell stories that not only celebrate the mystery and beauty of the sea, but also help bring attention to the threats that endanger our oceans and their inhabitants.

A contributing photographer for National Geographic Magazine since 1998, Skerry has covered a wide range of stories, from the harp seal's struggle to survive in frozen waters to the alarming decrease in the world's fisheries. His latest book, a 160-photo monograph entitled Ocean Soul, was published in 2011.

Skerry is also a passionate ocean advocate. After three decades of exploring the world's oceans, the Massachusetts native has returned to the Gulf of Maine to document and protect the exceptional diversity of marine wildlife on Cashes Ledge.

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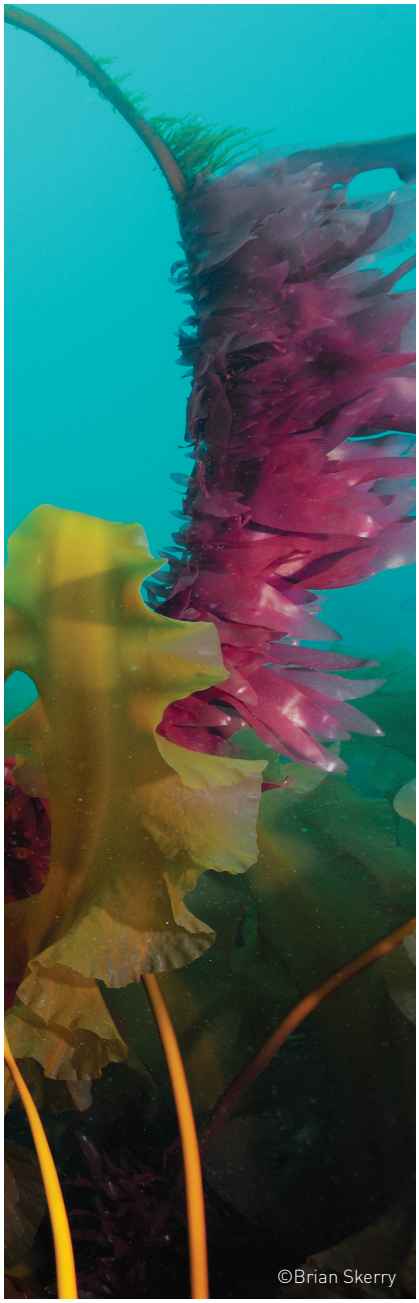
For decades, the best marine science has demonstrated the critical importance of establishing permanently protected areas in our oceans as a means to maintain their long-term health, resilience, and biological diversity.

The effects of climate change and ocean acidification will only strenghten this need in years to come. Strong evidence suggests that warming waters are already altering the health, distribution, and spawning patterns of many marine species along New England's coast. Ocean acidification threatens to harm shell-building organisms and weaken the plankton that support the marine food web. In the face of this rapid environmental change, establishing permanent habitat protections for New England's marine life is more important than ever.

As the best remaining example of an undisturbed Gulf of Maine ecosystem and the home to a wide variety of unique and often threatened marine species, Cashes Ledge merits such permament protection.

Unfortunately, current regulations are insufficient to provide the necessary full protection against common threats to the Cashes Ledge ecosystem and to allow its unique ocean floor habitat and kelp forests to be fully restored. Permanent protection for Cashes Ledge will ensure that this marine wonder can continue to serve as a reserve of ocean wildlife and an open ocean laboratory for scientific research. Permanent protection will also support the resilience of ocean wildlife as climate change continues to alter conditions in New England's ocean waters.



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The protection of New England's special ocean areas is a vital step to providing research opportunities for future generations of scientists, restoring New England's depleted fisheries, and maintaining high quality habitat for ocean wildlife. Permanent protection of Cashes Ledge is gaining support from scientists, fishermen, and other ocean users from around New England. Protecting this special place would help provide a thriving ocean for future generations of New Englanders.

Conservation Law Foundation's Ocean Conservation program is a leader in ocean conservation, working to create sustainable fisheries, protect special places, manage ocean sprawl, and fight ocean pollution. Using innovative approaches backed by sound science and legal advocacy, CLF aims to protect ocean ecosystems and help our coastal communities thrive. Founded in 1966, CLF is a non-profit, member-supported organization with offices in Maine, Massachusetts, New Hampshire, Rhode Island and Vermont.