Current Threats to Antarctica

Climate change is driving major changes in Antarctica and surrounding waters. The most dramatic changes are happening around the Antarctic Peninsula, which is one of the most rapidly warming regions on Earth. A recent review showed that over the last 61 years, 87% of the glaciers on the Antarctic Peninsula have retreated. There has also been a significant reduction in duration and extent of winter sea ice west of the Antarctic Peninsula. Krill, the basis of the Antarctic food web, use winter sea ice as a nursery and its loss leads to a fall in krill numbers the following summer. In turn, the fall in krill numbers has consequences for the whales, seals and penguins that feed on them.

With an increase in shipping traffic in recent years comes increased risk of oil spills and the release of other toxic chemicals into the sensitive environment. Polar waters are less able to recover from spills due to short seasons for growth and reproduction, harsh temperatures, and limited sunlight.

Overfishing, including the targeting of toothfish, a long-lived, slow-maturing species, occurs in the Ross Sea by both legal and illegal vessels. The most pristine shallow sea on our planet, the Ross Sea has a biological and evolutionary significance comparable to that of the Galapagos Islands. To preserve this unique ocean ecosystem, with its entire food chain and top predators intact, the Ross Sea must be protected as a marine reserve. This will also provide us a 'living laboratory' to help us further understand the impacts of climate change and how undisturbed ocean ecosystems function.

Parallels in the Arctic

Polar history is repeating itself in the Arctic, with powerful nations and corporations once again maneuvering for access to natural resources and seeking new territorial claims. Unlike Antarctica, there is no single overarching treaty governing activities in the Arctic. With only a patchwork of different rules and regulations in place, most of which are not legally binding, the Arctic environment and the marine life are currently wide open to exploitation.

As natural resources in temperate waters dwindle, industrial nations look to the Poles for new stores to exploit. In the Arctic, they have their eyes on the fish, petroleum, and mineral resources that have historically been protected in a 'de-facto' marine reserve underneath the Arctic sea ice. Climate change is rapidly bringing longer periods and larger areas of open water, leaving the once protected Arctic Ocean open to industrial extraction. As in the example above, activities in the Arctic show modern and the overfishing body taking advantage of the melting sea instead of setting the action required to protect the already stressed ecosystems.

Conclusion

There is a compelling body of scientific evidence that demonstrates that setting aside large areas of the ocean from industrial activities provides protection for valuable species and habitats, maintains important ecosystem functions, and allows degraded areas to recover. This is particularly important for the Polar Oceans, which are warming faster than the rest of the globe and are under increased stress. Creating marine reserves in the Polar Oceans will not only help protect the unique ecosystems but will also make a significant contribution to the prevention of climate change and by keeping precious reserve in place, help prevent further, deleterious climatic change.