



Threatened Species, Global Warming, and How CITES Can Help

For more information contact:
Susan Casey-Lefkowitz
sclefkowitz@nrdc.org
or Andrew Wetzler
awetzler@nrdc.org

Global Warming Is Pushing Wildlife Over the Brink

The earth's climate is rapidly changing. Scientists say that unless global warming emissions are reduced, global mean surface temperatures could rise as much as 6 degrees Celsius (approximately 43 degrees Fahrenheit) above late-20th century levels. The cause? A thickening layer of carbon dioxide pollution, mostly from power plants and cars, that traps heat in the atmosphere. Some species may adapt, but the complexities of rapid adaptation mean that more than 1 million species could be pushed to extinction by 2050. In every part of the world, global warming causes loss and change of habitat in part by raising temperatures higher than some species can tolerate. As species shift their range to adapt, they can become more vulnerable to wildlife trade.

CITES Should Take Action

CITES has not yet dealt with how to factor the ever-greater global warming threat to CITES species into its decisions. That's why it is critical that CITES move quickly to share information and undertake the following:

- The CITES Animals and Plants Committees should create a working group on how the impacts of global warming should be incorporated into the making of non-detriment findings (NDF) and elsewhere in the work of CITES.
- The NDF workshop planned for 2007-2008 should include global warming.

Much more evidence has accumulated over the past five years to indicate that changes in many physical and biological systems are linked to anthropogenic warming.



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Ocean and polar habitats are warming

Perhaps the most dramatic effect of global warming can be seen in the polar regions—and on the animals that live there. Melting sea-ice throughout the Arctic region means that polar bears and other sea-ice dependent species are losing habitat. More than 80 percent of the added heat from global warming remains in the oceans. Climate change impacts on marine mammals are being caused by changes in prey distribution and abundance, and by warming waters changing sea-ice habitat.

Coastal wetlands are under threat from rising sea levels

Sea levels are projected to rise due to global warming, and the expectation is that near-shore nurseries for many coastal waters species will be harmed, including mangrove forests, marshes, wetlands, and estuaries. Loss of wetlands due to global warming already is one of the reasons behind the recently reported decline of 44 percent of the world's waterbird species.

Species' relationships are out of sync due to changes caused by global warming

Plant growth, flowering, animal reproduction, and migration depend in part on temperature and are changing due to climate warming. Unfortunately, the changes are not happening equally for species that depend on each other. For example, Pied Flycatchers do not seem to be shifting their spring migration arrival time in the United Kingdom, however, the caterpillar on which they feed is emerging earlier in the year, causing the birds to have less of a key food source for their chicks.

Species have no where to go as mountain-sides warm

Mountain-restricted species are often isolated with no where to move when temperatures rise and conditions change. Sixty-seven percent of harlequin frogs in Central and South American tropics have disappeared over the past 20 to 30 years due in part to conditions on mountain sides improving for the chytrid fungus, a highly infectious disease for frogs.

Resources

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Examples of How Global Warming Affects CITES-listed Species

Species (CITES listing)	Threat/Effect
Thin lettuce leaf coral (Appendix II)	Wiped out on the central shelf lagoon of Belize by the high water temperatures of 1998.
Golden toad (Appendix I)	Disappeared from Monteverde Cloud Forest in Costa Rica due to global warming caused dry periods.
Green turtle (Appendix I)	Within the southern Great Barrier Reef, nest temperatures are reaching lethal temperatures for eggs, causing death of eggs and hatchlings.
Grey whale (Appendix I)	The stranding of hundreds of grey whales along the west coast of the Americas in 1999-2000 may have been caused by starvation resulting from a decline in their prey.
Polar bear (Appendix II)	Disappearance of summer sea-ice is linked to polar bear number declines and to the fact that polar bears, forced to spend longer periods of time on land, are more exposed to poachers.
Quetzal (Appendix I)	In Costa Rica's Monteverde Cloud Forest, the quetzal has declined as the climate has changed its upper-slope habitat, in part allowing lower-slope birds to move up and invade its nests.
Vaquita marina (Appendix I)	Particularly vulnerable to global warming due to its Gulf of Mexico habitat, precluding it moving north away from adverse changes to its range.

Tropical coral reefs are dying as oceans warm

Coral reefs are vital ecosystems. Short periods (less than three days) of maximum monthly temperatures can cause corals to expel the algal cells that normally live within their tissue, a process known as bleaching. Specific extreme events, which are believed to become more common with global warming, can cause massive coral bleaching and death. For example, after the particularly strong El Nino in 1997-1998, 16 percent of coral colonies surveyed in 1997 had disappeared.