

New study reveals large scale conservation essential

June 10 2008

Scientists were surprised with findings of a recent study that reveals many animal species believed to persist in small contained areas actually need broad, landscape level conservation to survive.

With more species at risk of extinction today than any other time in human history, the findings of the study published in the debut issue of *Conservation Letters* provides new insight into how to improve protection for many species worldwide. Scientists from organizations including Conservation International (CI) and BirdLife International identified appropriate scales of conservation efforts for 4,239 species of mammals, birds, reptiles, and amphibians included on the IUCN Red List of Threatened Species.

"The biggest surprise was the frogs," said Claude Gascon, executive vice president for programs and science at CI, and co-chair of the IUCN Amphibian Specialist Group. "Amphibians are small animals, and many have tiny ranges restricted to a single forest or a mountain stream. But astonishingly many species -- like the Critically Endangered Lake Titicaca Giant Frog (*Telmatobius culeus*) from Peru -- are greatly impacted by ecological processes at the landscape scale."

Many freshwater species, such as frogs and other amphibians, are threatened by environmental changes to watersheds or river basins impacted by pollution, deforestation or dams. The study found that 20 percent of threatened amphibians, and no less than 40 percent of threatened freshwater turtles, depend on broad-scale conservation action

to address changes in freshwater processes.

"It's not that these animals themselves need a huge area per se, but rather that comprehensive and successful strategies must include various scales of action from sites to landscapes" Gascon added. "But we have to think about how we impact the quality and flow of freshwater across entire landscapes. And remember that people need those flows of clean freshwater across landscapes in the same way that frogs do."

The establishment of protected areas to safeguard key biodiversity areas has been long considered the most effective means to protect threatened species. The study reinforces this assumption, showing that the protection of key sites must remain the foundation for all conservation efforts. However, it also showed that considerably more threatened species need urgent conservation action at the landscape or seascape level than previously believed. Fully one in five threatened vertebrates require urgent conservation action at the landscape or seascape scale, including such flagship species as the Tiger (*Panthera tigris*) and the Philippine Eagle (*Pithecophaga jefferyi*).

The study also covered marine mammals, seabirds and sea turtles, and showed that 74 percent of these require urgent seascape level action. These include species like the Galápagos Fur Seal (*Arctocephalus galapagoensis*) and the Waved Albatross (*Phoebastria irrorata*), from the Eastern Tropical Pacific. "While the need for seascape conservation is overwhelming for these species," cautioned Charlotte Boyd, the study's lead author and now a marine ecologist at the University of Washington, "we urgently need equivalent assessments for fish to obtain a more comprehensive picture of what conservation actions are needed where in marine systems."

Overall, the study provides strong new evidence supporting the integration of multiple scales of conservation, including protected areas

as well as landscape and seascape level conservation strategies.

"Our key conclusion is that both site-scale and broad-scale conservation are essential to prevent mass extinction," said Thomas Brooks, from the CI Center for Applied Biodiversity Science. "We recognize that site protection is the cornerstone for almost all threatened species. We are now also certain that a substantial proportion and unexpected diversity of threatened species will be lost without urgent conservation intervention at the sea or landscape level."

Source: Conservation International

Citation: New study reveals large scale conservation essential (2008, June 10) retrieved 9 April 2024 from <https://phys.org/news/2008-06-reveals-large-scale-essential.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--