

Tuesday, 7 March 2006, 00:39 GMT

Stopping the next extinction wave

By Richard Black

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"We hope conservationists will use our findings to pre-empt future species losses rather than concentrating solely on those species already under threat"

Marcel Cardillo



Conservationists are being urged to focus on prevention rather than cure.

A scientific study pinpoints 20 areas in the world where animals are not at immediate risk of extinction, but where the risk is likely to arise soon.

The regions include Greenland and the Siberian tundra, Caribbean islands and parts of South-East Asia.

The London-based research team say they hope their work will help conservationists prevent extinctions through early intervention.

The study, reported in Proceedings of the National Academy of Sciences (PNAS), concentrates on a concept called "latent

extinction risk".

This means animals are not under threat right now, and may not be classified as in danger according to the Red List, the internationally-accepted database of threatened species.

But the pattern of human development means they could be sent on a fast track to extinction in the near future, perhaps overtaking other species currently in higher-risk classifications.

"We can see this leap-frogging happening now, for example with the Guatemalan howler monkey, which was classified as being on the 'least concern' list in 2000 but which moved to the 'endangered' list in 2004 as it lost much of its forest habitat," said study leader Dr Marcel Cardillo from Imperial College London.

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Ox and reindeer

"Proactive solutions tend to be cheaper and easier"

Thomas Brooks

The scientists calculated the latent extinction risk for more than 1,500 non-marine mammals.

Re-inforcing the conclusions of other groups, they find that species at particular risk tend to have relatively large bodies, live in small areas and reproduce relatively slowly; these include, they say, the North American reindeer, the musk ox, the Seychelles flying fox and the brown lemur.

Perhaps surprisingly, areas identified as containing species with a particularly large latent extinction risk exclude well-known biodiversity hotspots such as the Amazon and Congo

basins, and include sub-Polar regions in northern Canada, northern Russia and Greenland.

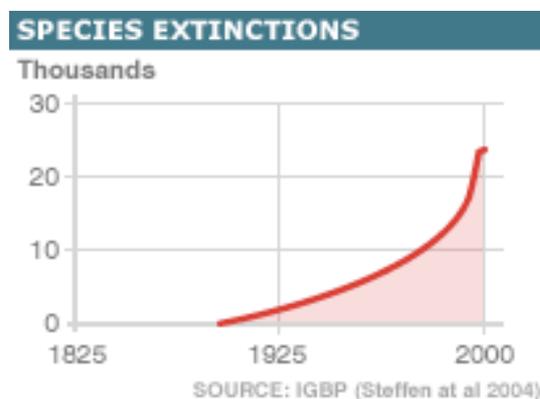
"I am surprised that paper doesn't pick up the Amazon and Congo basins, regions where there is a large number of animal species with small ranges," observed Thomas Brooks of the Center for Applied Biodiversity Science (CABS) in Washington DC, a division of Conservation International.

One reason for this may be poor information. Some databases of plants and animals are badly in need of revision - a flaw which scientific groups led by IUCN, the World Conservation Union, are trying to address through improving background studies of various species and ecosystems.

Ahead of the curve

Conservation International is one of a number of groups which already tries to mount "preventative" programmes rather than waiting until very few members of a species remain.

"It's widely recognised among conservation practitioners that wherever we have the opportunity we should get ahead of the curve and implement proactive conservation measures," Dr Brooks told the BBC News website.



"Proactive solutions tend to be cheaper and easier.

"But the magnitude of human impacts on biodiversity are such that most conservation programmes will inevitably be reactive."

Some "last-chance" programmes have proved successful. In Yellowstone National Park, grizzly bears have recovered far enough to come off the US endangered species list; while in the UK, numbers of stone curlew breeding pairs have doubled over the last 20 years.

Through the Convention on Biological Diversity, the international community has set itself the goal of making a "substantial reduction in the rate of loss of biological diversity" by 2010.

But overall, extinctions are coming at 100 to 1,000 times the normal background rate, according to the Millennium Ecosystem Assessment, a vast attempt to audit the Earth's ecological health which was published last year.

It concluded that a third of all amphibians, a fifth of mammals and an eighth of all birds are now threatened with extinction.

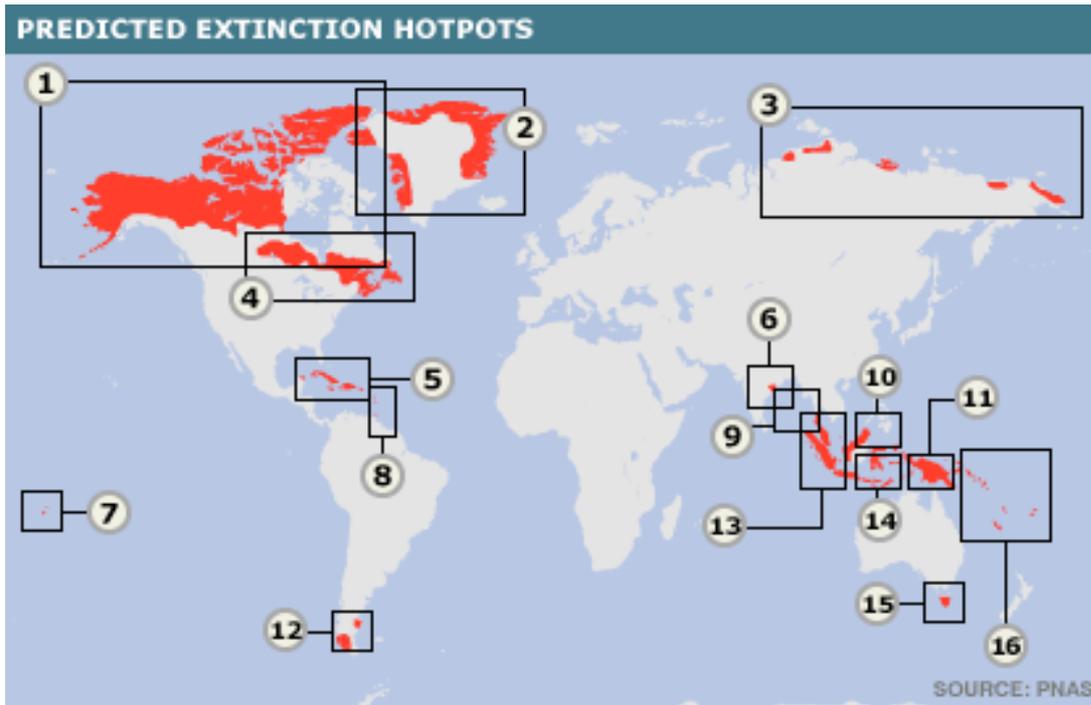
It also concluded that although humanity is the cause, humanity will ultimately be among the losers.

Reducing biodiversity will, it says, impact societies at a number of levels, including diminishing the availability of economically valuable natural goods such as timber and compromising "ecosystem services" such as fresh water and biodegrading bacteria.

- 1: Northern Canada and Alaska
- 2: Greenland
- 3: Siberian tundra
- 4: Eastern Canadian
- 10: Borneo, Sulawesi and the Moluccas
- 11: New Guinea
- 12: Patagonian coast
- 13: Peninsular Malaysia,

- forests
- 5: Bahamas
 - 6: East Indian highlands
 - 7: Southern Polynesia
 - 8: Lesser Antilles
 - 9: Andaman and Nicobar Islands

- Sumatra and West Java
- 14: Nusa Tenggara
- 15: Tasmania and the Bass Strait
- 16: Melanesia



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