

World's water ecosystems under threat

September 11 2008

(PhysOrg.com) -- Human activities such as fishing and water use are over-riding the effects of global warming on the ecosystems that support the world's water and fish supplies, experts have revealed.

And the world's leading marine and freshwater scientists show direct human impacts will devastate lakes, rivers and coastal seas long before climate change takes full effect.

The stark warning is the conclusion of a major new work compiled and led by Professor Nicholas Polunin, leading marine environmental scientist at Newcastle University.

Entitled 'Aquatic Ecosystems: Trends and Global Prospects', the book draws on the expertise of 103 of the world's top aquatic ecologists.

It reviews likely changes to the year 2025 in the Earth's 21 different water-based ecosystems - such as lakes, rivers, tropical seas and Arctic waters.

Huge damage has already taken place and recent decades have seen a sharp increase in the rate at which our water ecosystems are being destroyed.

Professor Polunin said: 'Across the 21 different ecosystems we have looked at, direct human actions have long been exceeding - and will long continue to exceed - the effects of climate change in almost every case.'

'That is not to say that climate change isn't happening or is unimportant.

'Coral reefs are threatened by oceanic warming and the release of carbon frozen and buried in wetlands has major implications for the Earth.

'But the demise of fish stocks through fishing and decline of rivers through excessive off-take are just two dramatic examples of how people are directly changing aquatic ecosystems and threatening the natural services that they deliver.'

Professor Polunin said he believed that climate change had become an easy focus of environmental concern and had overshadowed the direct impact that people were having on the natural environment.

'Global warming seems to have attracted more attention with respect to simple technological fixes,' he explained.

'The worldwide focus on global climate change has helped people to think more profoundly about the Earth's future than ever before but there is a danger that some more difficult and fundamental issues are being underplayed.'

Professor Polunin continued: 'Human population growth and over-consumption make up a complex knot of problems, quickly highlighting major challenges such as of personal liberty, faith and economic disparities among the world's peoples.

'Climate change has got people thinking about the future at all levels and the next step in our ecological planning of the planet's water resources needs to be more comprehensive, encompassing growing human consumption, its causes and consequences.'

Provided by Newcastle University

Citation: World's water ecosystems under threat (2008, September 11) retrieved 25 April 2024 from <https://phys.org/news/2008-09-world-ecosystems-threat.html>

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