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Coal Development Threatens Great Barrier Reef

Plans to develop ports to export coal will hurt the coral reef with sediment and other pollution, as well as ocean acidification and climate change once the coal is burnt

By Stephanie Paige Ogburn and ClimateWire | Tuesday, April 30, 2013 | 2 comments

A group of respected coral reef scientists has released a declaration intended to change how the Australian government manages development in the coastal region bordering the Great Barrier Reef, a UNESCO World Heritage site.

A coal mining boom in the country, fueled by demand from Asia, has spurred plans to develop several ports along the coast of Queensland, the northeastern Australian territory whose coast abuts the reef.

In the statement, the scientists call for Queensland and the Australian government to restrict port developments and create a sustainable development standard for the Great Barrier Reef coastline. They also invite other scientists to sign the declaration.

The declaration was authored by several leading reef researchers, signed by many of the luminaries in the world of coral reefs and endorsed by the International Society for Reef Studies, an organization representing more than 700 scientists worldwide, and the Australian Coral Reef Society, a 200-plus-member organization.

The Great Barrier Reef has already experienced a 50 percent decline in coral cover over the last 27 years, in large part due to nutrient runoff from the coasts.

Dredging and sediment among the 'stressors'

Climate change is another threat, with warming oceans likely to lead to more extreme coral bleaching events, when corals lose the symbiotic algae that lend them their color. Ocean acidification, another change caused by the oceans' uptake of carbon dioxide, also hurts corals.

Because the threats climate change poses to reef systems are difficult to control without global action to reduce greenhouse gas emissions, many coral reef experts have advocated reducing the stresses to coral reefs that are easier to control at a local level.

Bob Richmond, president of the International Society for Reef Studies and a senior investigator at Kewalo Marine Laboratory at the University of Hawaii, said the declaration was meant to be "proactive, not reactive," targeted at Australian decisionmakers "to provide



SYDNEY ACTION TO SAVE THE REEF: The protest coincides with the release of a report from the Australian and Queensland governments in response to a request by UNESCO (the United Nation's world heritage agency) to take measures to protect the reef.

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policy guidance from the science community."

"The concern we have: Unless we do a really good job of reducing local stressors now, we're not going to be able to buy sufficient time to address climate change," said Richmond.

Many of the development proposals are currently being analyzed for their environmental impact. They would involve significant construction as well as dredging large quantities of sediment, which can affect the reef and other sensitive marine species.

In extreme rain events, sediment and associated pollution have already been shown to flow out to sea in a pulse reaching as far out as 100 kilometers (62 miles) that can be seen from space, said Richmond.

6 coal export projects under study

There are six coal export-related development or expansion proposals under assessment by the Great Barrier Reef Marine Park Authority, the agency responsible for managing the Great Barrier Reef Marine Park. Another port expansion proposal is still open for public comment.

In one typical proposal, the Dudgeon Point expansion, the North Queensland Bulk Ports Corp. has proposed to dredge 13 million cubic meters of sediment and dispose of it inside the Marine Park.

Dredging stirs up sediments, making the ocean water cloudy, said John Guinotte, a marine biogeographer with the Marine Conservation Institute and an expert on corals.

This makes it harder for sunlight, which corals need, to filter through to them. The corals, in turn, are stressed out and grow more slowly.

Guinotte said scientists are also worried about threats to the Great Barrier Reef's UNESCO World Heritage site status.

"You have to meet a really pretty stringent list of criteria in order to be considered for World Heritage status," he said. "One thing that puts World Heritage status at risk is if you've got a lot of development and other things that are impacting the intact ecosystem."

In March 2012, representatives from the UNESCO World Heritage Center and the International Union for Conservation of Nature conducted a monitoring mission to the Great Barrier Reef to examine its health.

They issued a report examining threats to the reef, including climate change, and stating their concern about proposed port expansions for liquefied natural gas and coal. UNESCO also sought a response from the Australian government on how it plans to protect the site.

This June, when UNESCO meets again, it will consider Australia's response and also decide whether to maintain the Great Barrier Reef's status as a World Heritage site.

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