

# **WWF opposes dumping of urea in Sulu Sea**

November 10, 2007

**by Jerome Aning** ([Inquirer](#))

MANILA, Philippines — The World Wildlife Fund for Nature (WWF) added its voice Saturday to the growing number of environmental groups opposing the dumping of urea in Sulu Sea.

"The potential environmental impact of dumping 500 tons of urea into the sea is just too great. We should be wary of quick-fix solutions such as this to mitigate climate change," WWF Asia Pacific energy policy coordinator Rafael Senga said in a statement posted on the group's website ([www.wwf.org.ph](http://www.wwf.org.ph)).

WWF's Tawi-Tawi Project manager, Filemon Romero, who is overseeing ecological studies and conservation in the country's southernmost province, said he was also worried about the urea dumping experiment that the Sydney-based Ocean Nourishment Corp. (ONC) is conducting.

"This is a huge concern for us....This will surely have damaging environmental impact on both the Sulu and Celebes Seas," Romero said.

He added that over-fertilization of the sea would adversely affect the southern Philippines' seaweed farms, the main source of livelihood for the people.

"Think about it: tens of millions of people depend on the Sulu Sea for food — you cannot just experiment with their lives," Romero said.

ONC said it has received a go-signal from the Philippine government to release 500 tons of granulated urea into the Sulu Sea to test a technology it developed for large-scale carbon sequestration and ocean fertilization.

ONC is a private company spun out of the University of Sydney's Ocean Technology Group, and intends to gain both carbon credits and fish production revenue by licensing its technology to provoke massive plankton blooms in the world's oceans.

The firm confirmed dumping a ton of nitrogen-rich urea into the sea "recently" — last month, off the coast of Aniniy, Antique, according to the environment groups. More amounts of urea will be pumped into the sea in the coming months, according to an ONC official.

WWF said the government should carefully evaluate the possible impacts of ONC's planned urea dump to avert a possible environmental disaster. A further 1,000-ton urea dump is planned for Malaysian waters next year.

ONC's idea seems simple: Massive amounts of urea will be dumped into nutrient-poor sites. A pressurized hose situated 50 meters below the sea surface will release the mixture directly into sunlit-layers where photosynthetic plankton thrive.

Urea is an organic compound commercially derived from ammonia (NH<sub>3</sub>) and carbon dioxide (CO<sub>2</sub>). Large quantities of CO<sub>2</sub> are produced in the manufacture of ammonia from coal or petroleum-based raw materials.

The premise is that urea (acting much like plant fertilizer) would theoretically induce algal blooms. The plankton will multiply in the nitrogen-enriched waters and absorb carbon dioxide.

And when they die, the plankton will sink to the bottom of the sea taking the carbon dioxide with them.

WWF, however, urged extreme caution in testing this unproven and potentially risky technology in natural marine ecosystems, especially in critical biodiversity areas such as the Sulu Sea, home to the country's richest fishing grounds and the Tubbataha Reefs, a World Heritage Site.

WWF said urea and nitrogen runoff from agricultural lands have historically been known to cause toxic algal blooms such as red tide.

Additionally, WWF said complex factors such as temperature and chemical reactions can complicate everything from the size of the algal bloom (if it grows too large it might intrude into shallow waters to choke off light-dependent animals like corals), to the ecosystem's species composition (too many planktivores will upset the natural balance, distorting the food chain).

Some environment groups said the explosion in the population of marine life forms feeding on the algal bloom — and exhaling carbon dioxide — negates the company's premise that "fertilizing" the sea would reduce carbon gases from the atmosphere.

Also, to produce urea, the company would need to build natural gas-burning factories.

ONC said early analysis of results of the first urea "supported" claims of plankton nourishment and subsequent carbon-dioxide sequestration.

It said its researches needed time to monitor the effects more closely through tracking plankton blooms with satellites, combining samples taken directly from the water with geographic information, and observing how the area evolves.

Environment groups, however, are not convinced, noting that many scientists were worried about the "unintended consequences" of a large-scale dumping in the future.

Even the 2007 Nobel Peace Prize winner, the Intergovernmental Panel on Climate Change of the United Nations, has noted that ocean fertilization "remains largely speculative, and many environmental side effects have yet to be assessed."

Toxic tides and lifeless oceans might instead result from such climate-manipulation strategies, IPCC warned.

Senga said ONC's "leaving [of] possible negative impacts to speculation is not only scientifically unsound [but also] morally irresponsible."

"The most effective and proven climate solution is the reduction of carbon dioxide emission from energy use and deforestation," Senga said. "Risky schemes such as this will only detract us from real solutions to solve the climate crisis."