



**The Global Environment Facility
The 6th Biennial International Waters Conference
Raising the Bar: 20 Years of GEF Transboundary Water Results**

Dead Zones Need Immediate Attention

Lack of oxygen in coastal waters will create social, economic and recreational problems if not addressed faster, a new report says

Dubrovnik, Croatia, October 2011 – The growing problem of dead zones in the world’s coastal waters requires a faster response from the Global Environment Facility, according to a report by a scientific and technical advisory panel.

Authors of the report, *Hypoxia and Nutrient Reduction in the Coastal Zone: Advice for Prevention, Remediation and Research*, examined data about oceans where oxygen was drastically reduced and where it was completely depleted, creating areas commonly known as a dead zones.

The study found that one of the most efficient ways to reduce oxygen depletion was to stem the flow of nutrients from fertilizers, municipal sewage or livestock waste into coastal waters. The report recommended that the Global Environment Facility (GEF) and its partners “urgently increase their support to nutrient reduction projects, building on GEF’s experience and leadership.”

“If the problem is managed at either the local or regional level, the problems can be reversed,” said Robert Diaz, an author of the report who has studied global dead zones for about 20 years.

The report was released at the *Sixth GEF Biennial International Waters Conference* held in Dubrovnik.

The four-day conference was organized by GEF and the United Nations Development Programme in cooperation with the Croatian government. It convened about 300 participants involved in GEF’s International Waters (IW) portfolio of projects.

The new study was unveiled and the advisory document was launched as part of the conference. It was undertaken by the Scientific and Technical Advisory Panel (STAP), which is administered by the United Nations Environment Programme (UNEP), and advises GEF.

“This advice from STAP is well timed to inform the GEF council that this issue is a critical one to address for our planet,” said GEF Senior Advisor Alfred M. Duda.

Even before the report was commissioned and issued, GEF was “a world leader in supporting measures to reduce nutrient pollution that contributes to coastal dead zones,” Duda said.

GEF regional projects have brought together 45 countries in East Asia, the Mediterranean and the Danube-Black Sea to reduce coastal pollution, he said.

“GEF has responded with 23 national projects on agriculture, municipal sewage, and industrial nutrient reduction in its international waters area, with \$144 million in grants and \$1.94 billion in co-financing,” Duda said.

One of the main goals of the study was to underscore the importance of hypoxia zones, or water areas with a depleted oxygen levels, said Thomas Hammond, STAP secretary.

Zones without any oxygen at all are anoxic zones, popularly referred to as dead zones. The number of hypoxic zones has doubled in each of the last five decades, the report said. There are now more than 500 in the world.

Hypoxia occurs when waters are overloaded with too many nutrients such as nitrogen, phosphorous and silicon. Often these arrive in the coastal waters from farm fertilizers, municipal waste systems and livestock waste.

The oxygen depletion creates many social and environmental difficulties. It reduces fisheries production, kills marine life, threatens human health and makes the coast a less pleasant place to visit, which harms the tourism industry.

Hypoxic areas also emit potent greenhouse gasses including nitrous oxide and methane, the study said.

“Left unremediated, coastal hypoxia leads to serious and mounting social, economic and ecological costs,” the report said.

The launch of the study included a presentation of work by others scientists working on the problem and suggesting solutions.

The STAD report studied coastal areas that are part of GEF transboundary projects. It made suggestions on how the independent financial organization should proceed. Recommendations to prevent and remediate hypoxia included:

- Urgently increase support to nutrient reduction projects.
- Establish principles to support tests of management responses to permanent and seasonal hypoxic zones.
- Develop a toolkit for evaluating hypoxia that can be used to evaluate new projects. It could be similar to the current Persistent Organic Pollutants Toolkit and should be available on GEF’s IW:Learn website.
- Tools to address hypoxia and nutrient reduction that have already developed by GEF’s Large Marine Ecosystem projects should be included in its International Waters Transboundary Diagnostic Analysis and Strategic Action Programs.
- All Large Marine Ecosystem (LME) projects should examine hypoxia in their areas and establish a monitoring, prevention and remediation program if one does not already exists.

- Hypoxia research proposals should be developed to learn more about the problem and to guide GEF responses. They should also address the associated problem of disruption of the global nitrogen cycle.

The best chance of stemming the problem should be focused at the source of the pollution, the study said.

Problems also occur when coastal water layers become stratified and do not mix preventing oxygenation of the layers. These issues are harder to fix, the study said.

The problem can be tackled, but there is no “silver bullet,” Hammond said.

“You have work with multiple jurisdictions, multiple actors, particularly the private sector,” he said. “GEF is extremely well positioned to lead the way on this because of its multilateral configuration and focus on local action to deliver global benefits.”

PHOTO CREDITS

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ABOUT GEF

The Global Environment Facility is an independent financial organization that provides grants to developing countries and countries with economies in transition to address global economic problems. It unites 182 member governments that work in partnership with 10 agencies, non-governmental organizations, international institutions and private companies. The partners are the United Nations Development Programme, United Nations Environment Programme, The World Bank, African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Food and Agriculture Organization of the United Nations, Inter-American Development Bank, International Fund for Agricultural Development and United Nations Industrial Development Organization. GEF-funded projects target six focal areas: biodiversity, climate change, land degradation, the ozone layer, persistent organic pollutants and international waters. Since it was founded in 1991, GEF has invested \$9.2 billion in grants, leveraged \$40 billion in co-financing. It has supported more than 2,700 projects in 168 countries.

ABOUT THE INTERNATIONAL WATERS FOCAL AREA

The GEF International Waters (IW) focal area targets transboundary water systems including river basins, lakes, groundwater and large marine ecosystems. Since its founding in 1991, the portfolio has comprised about 170 projects in more than 149 countries worldwide. IW grants have amounted to more than \$1.2 billion. The investment has led to \$7 billion in co-financing.

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