

Reefs at Risk in Belize: Improving the information base for better management of coral reefs

Coastal ecosystems of Belize are threatened by both local threats (coastal development, pollution, sediments, overfishing) and broader scale threats (transboundary sediment and pollution, coral bleaching, coral disease). Pressure on the reefs will continue to grow as development increases, but better management can help reduce the threat and protect these valuable ecosystems in order to maintain their sustainable use.

The *Reefs at Risk in Belize* project was developed to improve access to information on coral reefs in Belize in support of better management of coastal resources.

Information available on threats to and condition of coral reefs in Belize is limited and uneven, but is improving. Several Belizean NGOs have done assessments of resources within selected marine protected areas, and have detailed information for these areas. During 2004, the Wildlife Conservation Society, Belize Audubon Society, Coastal Zone Management Authority and Institute and World Wildlife Fund held a series of threat assessment and mapping workshops where coastal resource users (stakeholders) and scientists mapped known threats to coral reefs in Belize. One workshop was held for each of the four major reef systems – the Belize Barrier Reef, Glover’s Reef, Lighthouse Reef, and Turneffe Atoll.

These detailed assessments and “expert mapping” of threats have been complemented by an analytical approach implemented under the Reefs at Risk in Belize project. Reefs at Risk Belize is centered on the use of a geographical information system (GIS) to visualize and analyze the relationship between human activities (pressures) and coral reef health. The project has developed a series of standardized indicators of human pressure on coral reefs from coastal development and marine-based threats and from land-based sources of sediment and pollution. The analysis of land-based threats includes a watershed-based analysis for all watersheds discharging along the Mesoamerican barrier reef region. This atlas provides an opportunity to compare modeled estimates of threat with those derived from expert opinion.