

2011 ECO-AUDIT

of the Mesoamerican Reef Countries

Are we protecting our most valuable natural asset?

The Mesoamerican Reef (MAR) provides a diverse array of goods and services to the people of Belize, Guatemala, Honduras, and Mexico. It is our shared heritage. Unfortunately, the health of the reef is declining, as documented by the *2008* and *2010 Report Cards* published by the Healthy Reefs Initiative. The decline stems, at least in part, from inadequate management of threats to coral reefs. This Eco-Audit **evaluates** our efforts to protect and sustainably manage the region's coral reefs; **celebrates** management success stories; and **documents** the extent to which recommended management actions have been implemented in Belize, Guatemala, Honduras, and Mexico. It seeks to **catalyze** faster, more effective management responses and to **increase accountability** within the public and private sectors and among nongovernmental organizations (NGOs).

AN INNOVATIVE, RIGOROUS PROCESS

The Healthy Reefs Initiative (HRI), in collaboration with the World Resources Institute (WRI) and local partners, developed and implemented this first-ever multinational Eco-Audit of the Mesoamerican Reef Countries.

Evaluation criteria are comprehensive and inclusive.

Twenty-two standardized management indicators were developed across seven themes, such as fisheries management and coastal zone management.¹ The Eco-Audit draws on input from a variety of NGOs, governmental agencies, and the private sector, and includes transparently verified and publicly available results. In September and October 2011, HRI and WRI convened four national workshops, whose purpose was for participants to collectively rank each indicator and to compile documents to verify the rankings.

Analysis is objective, science-based, and validated.

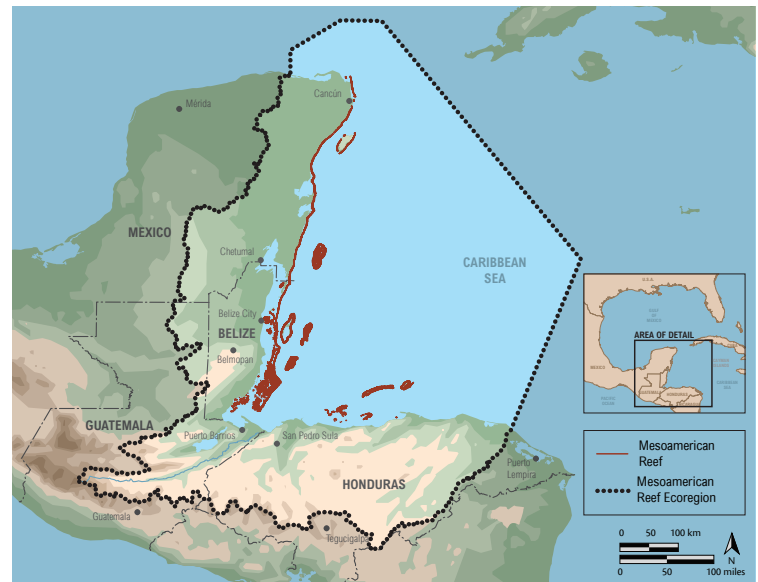
HRI and its regional partners are committed to maintaining audit standards that are unbiased, fact-based, transparent, and replicable. The financial and management auditing firm of PricewaterhouseCoopers Costa Rica (PwC)² reviewed the methodology and provided feedback on the processes, indicators, and quality of the verification documentation.

Data quality will be enhanced over time.

This first Eco-Audit establishes a baseline regarding the status of reef ecosystem management efforts. The results are intended to guide data collection and compilation for future Eco-Audits, which will occur every two years. These biennial Eco-Audits and the biennial HRI *Reef Report Cards* will occur in alternating years, thereby providing a routine accounting of reef health and efforts to improve it. As data collection becomes more complete and the database grows, we anticipate that the Eco-Audit will evolve, becoming more quantitative and comprehensive in its evaluation of management efforts.

A CALL TO ACTION

The results of the Eco-Audit are intended to instill a sense of urgency, accountability, and shared purpose among all institutions - NGOs, governments, and the private sector - with a stake and responsibility for maintaining the MAR as a healthy, biologically vibrant, and economically viable resource for generations to come. The audit seeks to hold high-level decision-makers accountable, while identifying actions needed to protect the MAR.



Mesoamerican Reef Ecoregion Map

WHAT IS AN ECO-AUDIT?

An eco-audit is a systematic multinational evaluation of the implementation of recommended reef management actions by governments, NGOs, and the private sector. This Eco-Audit includes 22 indicators across 7 themes and over 300 supporting documents within the following components:

- An orientation document that provides an overview of each indicator, including its justification, ranking criteria, and data collection methods (McField and Kushner 2011)³
- Detailed worksheets of Eco-Audit results and observations for each country
- Compilations of all publicly available verification documentation for each indicator by country

These products, along with additional information about the Eco-Audit, are available online at www.healthyreefs.org and www.wri.org/reefs.

Conducted by:



Funded by:



2011 ECO-AUDIT

of the Mesoamerican Reef Countries

REGION

BELIZE

GUATEMALA

HONDURAS

MEXICO

RESULTS BY THEME

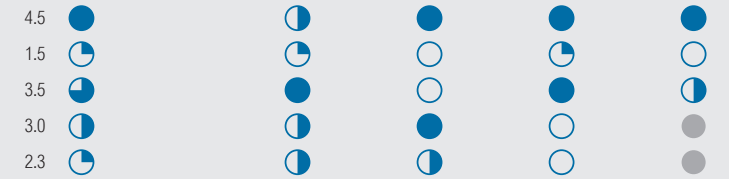


The 2011 Eco-Audit shows only a moderate degree of effort in implementing the *Reef Report Card* management recommendations. In general, threats along MAR are not being adequately managed. Averaging across the region and for all thematic areas, the overall score is 2.7 out of 5, which is in the Fair category. Research, Education, and Awareness received the only Good score; Marine Protected Areas (MPAs) and Ecosystem-based Fisheries Management both scored a solid Fair, while Global Issues and Coastal Zone Management both barely reached a score of Fair. Sanitation and Sewage Treatment, as well as Sustainability in the Private Sector, had the lowest overall scores of Poor.

Marine Protected Areas

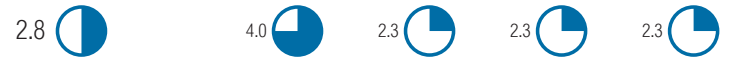


- Percent of a country's territorial sea included in gazetted MPAs
- Percent of a country's territorial sea included in fully protected zones
- Percent of mapped coral reef area included in fully protected zones
- Percent of MPAs with good management
- Percent of MPAs with good enforcement

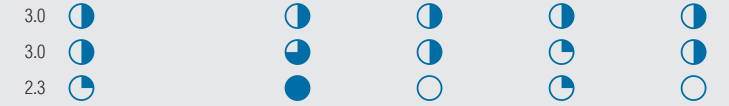


This theme explores the spatial extent of MPAs and the degree of management and enforcement capacity in those MPAs. In most countries, the extent of territorial sea included in MPAs scored Very Good. However, all countries scored Very Poor to Poor for the percent of territorial sea under full protection ("no take" areas). There was high variability among countries in their management and enforcement of MPAs. A lack of sufficient funding was cited by Eco-Audit Workshop participants as the key reason for this underachievement.*

Ecosystem-based Fisheries Management



- Harmonizing fisheries regulations among countries
- Special regulations for grouper / spawning sites
- Protection of key grazers (parrotfish)



This theme measures the extent of harmonization of fishing regulations for size limits and closed seasons, efforts to protect grouper spawning sites and parrotfish. The results varied considerably by country. Belize scored Good, as a result of full protection of almost all grouper spawning sites and protection of parrotfish (a key reef grazer). The other three countries received scores of Poor. A key regional success has been the harmonization of regulations for the lobster fishery by Belize, Guatemala, and Honduras.

Coastal Zone Management

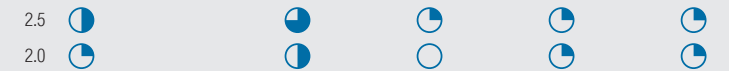


This theme measures the spatial extent of coastal zone management plans or steps toward developing such plans. Only Honduras scored Good, owing to its adoption of an integrated coastal zone plan for the Bay Islands—the country's most popular tourist destination. Theme scores reflect results for the one indicator, Coastal Zone Planning Regulations.

Sanitation and Sewage Treatment



- Standards for wastewater management / sewage treatment
- New infrastructure for sewage treatment



This theme explores the extent to which regional standards for wastewater management and sewage treatment have been developed, adopted by countries, and applied to the construction of new sewage treatment infrastructure. The Cartagena Convention's Protocol Concerning Pollution from Land-Based Sources is considered an important framework for countries to address land-based pollution and has been ratified by Belize, and signed by Guatemala and Mexico. Belize scored Good for adopting these standards and approving a new sewage treatment plant that meets these standards, while the other countries scored Poor.

Research, Education and Awareness



- Standardized monitoring of coral reef health and information management
- Economic valuations of coral reefs
- Availability of understandable information on reef condition and threats
- Interdisciplinary partnerships combine social and ecological research



This theme measures efforts to develop standardized methods to monitor coral reef health, implement economic valuations of coral reefs, disseminate information on reef condition and threats, and conduct interdisciplinary socio-ecological research. The high score reflects the long-standing efforts to monitor reef health across the region, complemented by good availability of information on reef condition and threats. The Atlantic and Gulf Rapid Reef Assessment program (AGRRA), which monitors coral reef health, has a publicly available database. Belize has implemented a national-extent valuation of coral reefs, as has Honduras for the Bay Islands.

RESULTS BY THEME continued

REGION

BELIZE

GUATEMALA

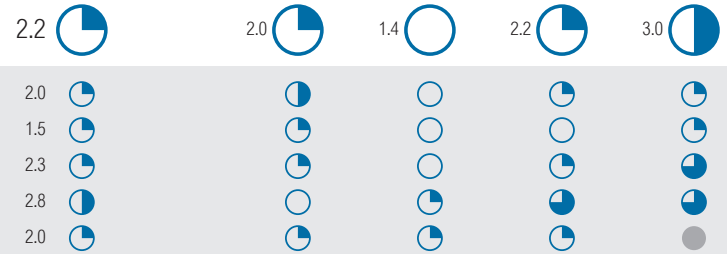
HONDURAS

MEXICO

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Sustainability in the Private Sector

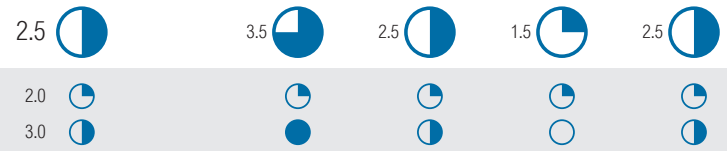
- Voluntary eco-standards program for marine recreation providers
- Participation of hotels in eco-certification schemes
- Adoption of seafood eco-labeling programs
- Government incentives for conservation and sustainable businesses
- Private sector assistance to MPAs



This theme measures the degree of development and implementation of eco-standards for marine recreation providers, eco-certification of hotels, seafood eco-labeling programs, government incentives to support conservation, and private sector support of MPAs. Individual indicator scores varied widely, with an average of Fair for government incentives for conservation and sustainable businesses, and Poor to Very Poor for hotel participation in eco-certification schemes. Mexico received a score of Good for their recent submission of the Sian Ka'an and Banco Chinchorro lobster fishery for Marine Stewardship Council certification, while most other countries showed less progress in this field. Overall, private sector assistance for MPAs shows a great opportunity for improvement.

Global Issues

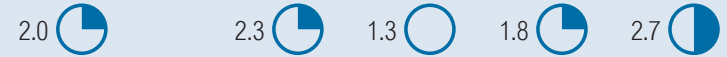
- Mapping of potentially resilient reefs to warming seas / coral bleaching
- Engagement in international / regional treaties that support conservation



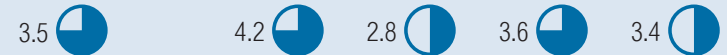
This theme measures the extent to which reef resilience to climate change and international treaties are being incorporated into marine conservation efforts. Although engagement in international and regional conservation treaties varies widely by country, it could provide a legal foundation for increased reef conservation. Efforts to map reefs that are potentially resilient to warming seas have been initiated, but are not yet adopted or fully incorporated into management plans.

RESULTS BY SECTOR

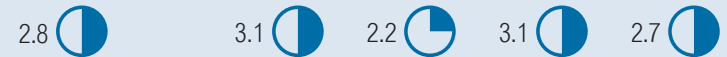
Private Sector



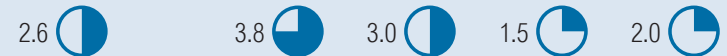
Non-Governmental Organizations (NGOs)



Government



Joint Government-NGO



The government, private, and NGO sectors each influence regional management in their own way, and partnerships among sectors will be a key to the long-term health of the reef. The results displayed above provide a general understanding of how these different stakeholder groups and organizations are contributing to conservation and management of the MAR. NGOs scored highest (Good), followed by government (Fair), particularly in Belize and Honduras. Overall, the Joint Government-NGO Sector received a Fair score; in Belize and Guatemala, the score was a level higher than for government alone, but in Honduras and Mexico the collaboration ranked a level lower. The private sector scored the lowest for the region (Poor), with only Mexico receiving a Fair score. Each sector result is an average of the indicators listed below.

- Private Sector:** marine recreation eco-standards; hotel eco-certification; seafood eco-labeling; and private sector assistance to MPAs.
- NGOs:** monitoring of reef health; valuation of reefs; availability of information; interdisciplinary partnerships; and mapping of reef resilience.
- Government:** territorial sea in gazetted MPAs; territorial sea in protected zones; mapped coral reef area in protected zones; harmonization of fisheries regulations; coastal zone management; wastewater / sewage standards; treatment infrastructure; incentives for the private sector; and regional/international engagement.
- Joint Gov't / NGO:** MPA management; MPA enforcement; special grouper / spawning site regulations; protection of grazers.

KEY

Results for each theme are an average of individual indicator results for that theme. Results for individual indicators were reported as whole numbers.



* Mexico's MPAs are managed by the National Commission of Protected Areas (CONANP), which is funded by the national government. In general, Mexico's MPAs are considered to have adequate or nearly adequate staff and equipment and moderate to good enforcement. The administrators of Mexico's MPAs were unable to complete the Eco-Audit survey due to competing demands on their time. As a result, indicator scores derived from the results of the Eco-Audit survey were left blank for Mexico for: MPA management; MPA enforcement; and incentives for the private sector. Average scores were calculated based only on ranked indicators.



A Call to Action

GOVERNMENT

MPAs. Most regional governments have successfully established MPAs, which often include coral reefs, but there is a vital need to increase the total marine area under full “no take” protection, particularly for sensitive coral reef habitats.

Harmonization. A key regional success has been the harmonization of lobster fishery regulations for Belize, Guatemala, and Honduras. Harmonization for other commercial species such as conch and grouper are needed.

Sewage Treatment. Coastal water quality has declined along the MAR in large part due to both point- and nonpoint-source pollution from the land. Countries need to adopt international sewage treatment standards for Class I waters, and increase the pace of installing new sewage treatment infrastructure.

Coastal Zone Management. Poorly planned and sited coastal developments are a growing threat to reef health. All countries need to develop and incorporate localized zoning plans and ordinances into comprehensive coastal zone management plans, supported by effective implementation and enforcement.

Tax Incentives. Governments should support reef conservation efforts by offering tax incentives—for example, to the private sector—for incorporating green technologies and eco-certification programs.

PRIVATE SECTOR

Eco-certification. The private sector in the MAR region includes a number of businesses directly dependent on maintaining healthy reefs, such as coastal hotels, dive centers, and restaurants. Industry groups and individual businesses need to select and fully participate in eco-certification programs.

Hotels. Only a few hotels in Mexico and Belize have been eco-certified (by Green Globe). Widespread adoption of this or another eco-certification scheme is needed throughout the region.

Seafood. The recent submission of the Sian Ka’an lobster fishery for Marine Stewardship Council certification represents a major conservation achievement for Mexico’s private sector. Belize, Guatemala, and Honduras still need to identify a national lead agency to develop seafood eco-labeling programs or adopt a regional branding scheme for sustainably harvested seafood.

Recreation. Voluntary eco-standards exist for marine recreation providers. Coral Reef Alliance (CORAL) eco-standards program has been adopted in Belize, Honduras, and Mexico, but more participation is needed from marine recreation providers. The program needs to be introduced in Guatemala.

MPAs. There is private sector assistance to some MPAs, but more financial, in-kind, and technical aid is needed for the majority of MPAs in the region.

PROJECT TEAM

Healthy Reefs Initiative (HRI) is a collaborative international partnership that aims to improve reef management and decision-making to effectively sustain an economically and ecologically thriving MAR ecoregion. HRI’s work in the MAR includes *Reef Report Cards* on ecosystem health, and encouraging the implementation of effective management recommendations. For more information, please contact Melanie McField (mcfield@healthyreefs.org).

The **World Resources Institute (WRI)** is an environmental think tank that goes beyond research to create practical ways to protect the earth and improve people’s lives. WRI’s work in coastal ecosystems includes the Reefs at Risk series, as well as the Coastal Capital project, which supports sustainable management of coral reefs and mangroves by quantifying their economic value. For more information, please contact Benjamin Kushner (bkushner@wri.org).

The project was implemented in collaboration with local **Eco-Audit Project Partners**. The full list of partners can be found in the *2011 Eco-Audit of the Mesoamerican Reef Countries: Description of Indicators*, available online.

For more information, visit HRI at www.healthyreefs.org and WRI at www.wri.org/reefs.

NGOs

Monitoring. Nongovernmental organizations are monitoring reefs regularly using a regionally accepted methodology. The number of sites could be expanded to be more representative of all reef types and management zones, with data made available in an accessible regional database, which could be developed by HRI.

Valuation. Economic valuations of the contribution of coral reefs have catalyzed improved coastal and fisheries management in Belize, and have recently been completed in the Bay Islands in Honduras. Mexico and Guatemala would benefit from economic valuations of their coastal resources.

Mapping Resilience. Warming seas prompt coral bleaching and are a severe, additional threat to reefs. It is vitally important that the four MAR countries finalize the mapping of reefs likely to be resilient to coral bleaching, so they can be incorporated into MPA and coastal zone management plans to better safeguard these “hope spots” for the future.

JOINT GOVERNMENT / NGO

Coordination. There must be a greater coordinated effort between governments and NGOs in all countries to improve management and enforcement in existing MPAs by developing management and financial plans, and ensuring adequate staff and equipment exist for enforcement of regulations.

Protection & Enforcement. There has been some success by both NGOs and governments to fully protect parrotfish and grouper spawning sites; in Belize, for example, they have been legally protected. Enforcement of parrotfish regulations is strong in Belize, but stronger enforcement of grouper spawning sites is needed. Guatemala, Honduras, and Mexico must still develop and adopt regulations for the full protection of grouper spawning sites and parrotfish.



A regional meeting should be held to build consensus, address data needs, and quantify targets for additional recommendations to be included in the *2012 Reef Report Card* and evaluated in the 2013 Eco-Audit.

NOTES

¹ Some indicators would have received higher scores if supporting documentation had been available. According to the indicator criteria, the lack of verification documentation necessitates a lowering of the score to the next criteria level that has supporting documentation.

² PwC Costa Rica is not executing the Eco-Audit process, therefore PwC is not expressing an opinion, attestation or other assurance form regarding the results of the MAR Eco-Audit, but is revising and giving recommendations on the Eco-Audit process, ensuring that it is sufficiently robust, replicable year after year, and consistent in order to be seen as credible for the intended users. The recommendations are on the process and not on which indicators should be included.

³ McField and Kushner. *2011 Eco-Audit of the Mesoamerican Reef Countries: Description of Indicators*. Healthy Reefs Initiative and World Resources Institute. 2011.

CREDITS

Photographs courtesy of M. McField / HRI; Kip F. Evans / Mission Blue, Ian Drysdale / HRI. Design by TRUTHstudio (www.truthstudio.com).