

## VALUING NATURAL CAPITAL

Belize’s new coastal development plan takes full account of the huge value of natural ecosystems



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The Mesoamerican Reef off the coast of Belize supports species like hawksbill turtles and attracts tourists from around the world.

*“The coastal zone of Belize is undeniably one of the country’s greatest assets. It is treasured by the Belizean people for its economic and socio-cultural values, and wide range of ecosystem benefits. Belize’s first ever national integrated coastal zone management plan will help Belizeans to better understand the incredible value of our treasured coastal zone, and provide a sound science-based blueprint for long-term, sustainable management of our coastal and marine resources.”*

**Chantelle Clark-Samuels, Director, Coastal Zone Management Authority and Institute**

The beauty and diversity of Belize’s coastal ecosystems are world renowned, drawing tourists from around the globe. More than 40 per cent of the country’s population live and work along the coast and depend on these ecosystems for their livelihoods.

Fishing is a way of life and a vital source of food for many Belizeans. Commercial fisheries that depend on reefs and mangroves are worth an estimated US\$14-16 million a year. Tourism associated with coastal ecosystems contributed an estimated US\$150-196 million to the national economy in 2007 (12-15 per cent of GDP). Reefs and mangroves protect coastal properties from erosion and storm surges, saving an estimated US\$231-347 million through avoided damages each year. By comparison, Belize’s GDP in 2007 was US\$1.3 billion (Cooper et al., 2009).

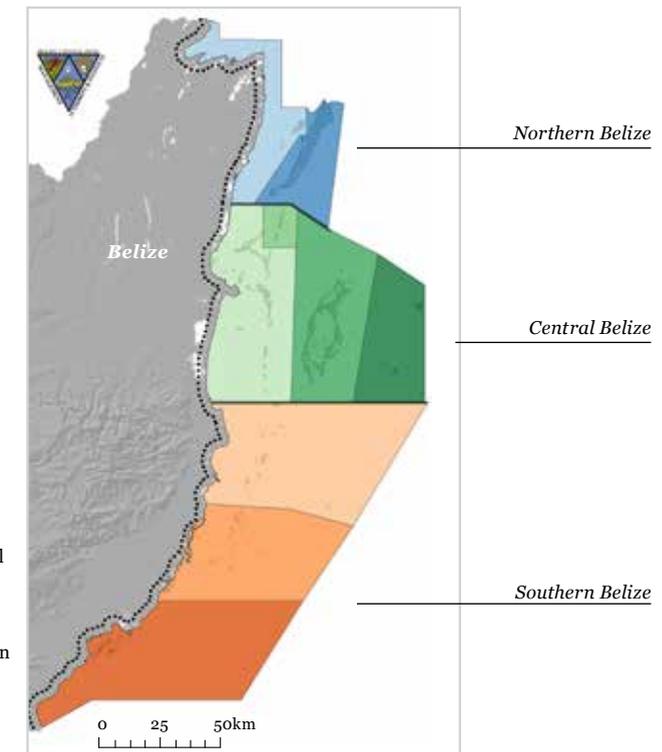
But too often, the benefits of natural ecosystems are overlooked in coastal investment and policy decisions. Unchecked development, overfishing and pressures from tourism threaten the country’s reefs, even as the threats of warming seas, fiercer storms and other climate-related changes loom larger.

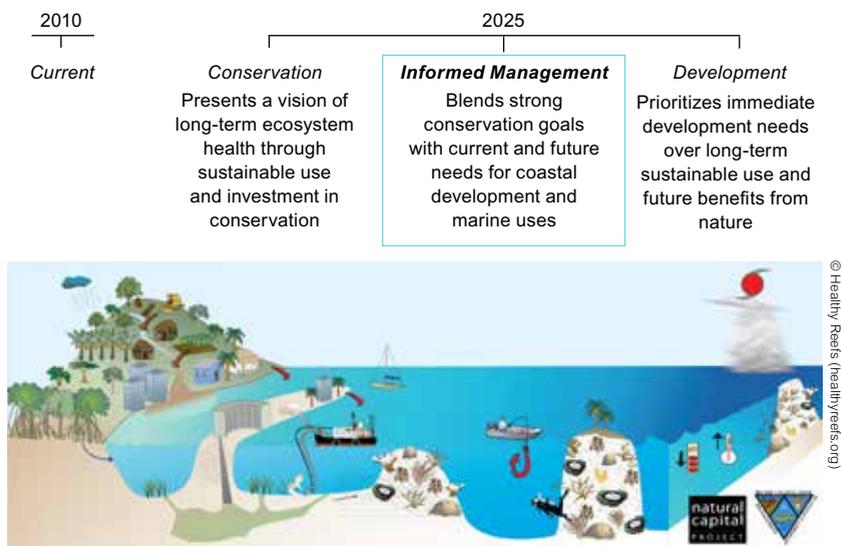
Fish populations will decrease if they lose the mangroves that provide critical nursery habitats. As reefs and mangroves decline, Belize’s low-lying cays and coastal properties will become

**Figure 62: Nine coastal planning regions of Belize** (Natural Capital Project, 2013).

**Key**

- Northern Belize**
  - Northern Region
  - Ambergris Caye
- Central Belize**
  - Central region
  - Caye Cauker
  - Turneffe Atoll
  - Lighthouse Reef Atoll
- Southern Belize**
  - South northern region
  - South central region
  - Southern region





**Figure 63: Three 2025 scenario storylines from the Integrated Coastal Zone Management Plan of Belize** (Natural Capital Project, 2013).

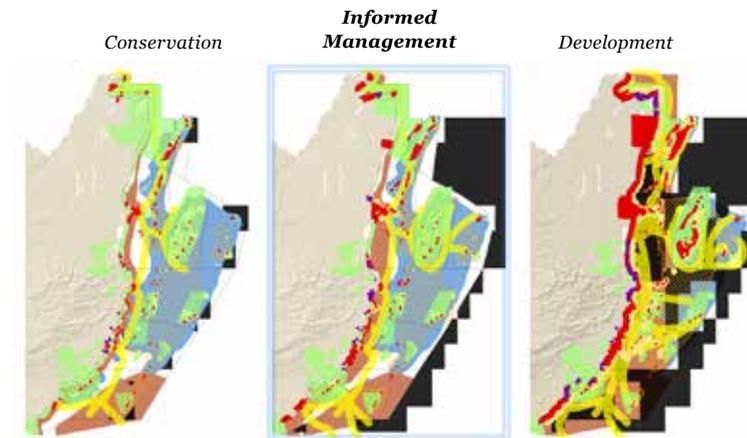
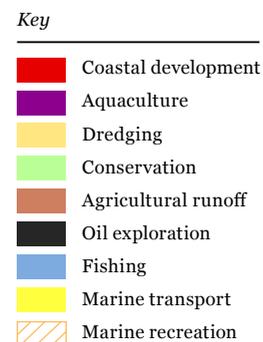
increasingly vulnerable to storms and erosion, and tourism will suffer (Cooper et al., 2009).

In 2010, Belize’s Coastal Zone Management Authority and Institute (CZMAI) began to develop the country’s first national Integrated Coastal Zone Management Plan in partnership with WWF and the Natural Capital Project (NatCap). The plan replaces *ad hoc* development decisions with informed, long-term management. It provides science-based evidence to help resolve conflicts between competing interests and minimize the risks to natural habitats from human activities.

Research was conducted into the benefits that coastal and marine ecosystem services provide for people, and the impacts that human activities have on them. Project staff consulted closely with the public at national and local levels, and coastal advisory committees – representing industries such as tourism and fishing, local and national government, and community development and environmental organizations – were formed in nine coastal regions. Through meetings, interviews and field trips, these committees provided local knowledge and data, shared their goals and values, and regularly reviewed the plan as it took shape.

To understand the implications of different development scenarios, the team used NatCap’s tool InVEST (Integrated Valuation of Ecosystem Services and Trade-offs) (Sharp et al., 2014). InVEST is designed to help policymakers and stakeholders incorporate the value of various ecosystem services into their decision-making, and better understand the trade-offs involved. For instance, by looking at how the level of coastal development in a

**Figure 64: Three future zoning schemes designed and discussed with stakeholders in Belize** (Natural Capital Project, 2013).



particular area will affect ecosystems like mangroves, seagrass beds and coral reefs, it is possible to compare the expected gains in tourist revenue against the potential loss in income for lobster fishers and the increased vulnerability to storms. The tool also shows the potential economic return on investment in protecting and restoring critical ecosystems.

By balancing conservation with current and future development needs, the plan could boost revenue from lobster fishing by US\$2.5 million; increase the functional area of coral reefs, mangroves and seagrass by up to 25 per cent; and double the value of these ecosystems for protecting the coast by 2025 (Cooper et al., 2009). In short, it will help the people of Belize to plot a wiser course for managing the incredibly valuable resources that their ocean and coast provide.

**Preserve natural capital:** Belize’s coastal and ocean ecosystems provide services worth up to US\$559 million per year – equivalent to 43 per cent of GDP (Cooper et al., 2009).

**Redirect financial flows:** The Integrated Coastal Zone Management Plan encourages investment that recognizes the true value of ecosystem services.

**Equitable resource governance:** The Integrated Coastal Zone Management Plan has been developed with local stakeholders, to balance competing demands and allow informed decisions on the use of natural resources.

