
Biodiversity concerns in the management of inshore fisheries in Barbados

Patrick McConney

Principle: Ecological connectivity across island marine jurisdictions influences national and regional management strategies for conserving biodiversity.

Experience: Management of inshore fisheries for sea urchins, reef fish and sea turtles.

Barbados is the most eastern of the Caribbean islands, part of a mosaic of marine jurisdictions in the wider Caribbean. Few marine boundaries have been negotiated, and management regimes for shared resources have generally not been formalized. The precautionary approach would be to assume ecological connectivity across national boundaries, until proven otherwise, and manage fisheries resources on this basis. Local or national initiatives to maintain biodiversity through fisheries management may provide benefits elsewhere in the region rather than locally, especially if aimed at early life history stages.

The relatively small inshore fisheries of Barbados illustrate some of the issues that confront small island developing states (SIDS) and the challenges of incorporating biodiversity into fisheries management within a multiple use coastal zone.

A multifleet, multispecies fishery for offshore pelagics is predominant. Commercially, the most important species is the small, pelagic, four-wing flyingfish, which usually comprises about 55% of total annual landings. Dolphinfish is next, usually comprising about 30% of the total annual landings. The main inshore fisheries have been for reef fish, coastal pelagics, sea urchins, sea turtles, spiny lobster and a small fishery for conch. Catches in the inshore fisheries are small in terms of weight, but some are valuable due to high unit price, relatively low investment for entry into the fisheries and the opportunity to earn alternative income from fishing for those in the pelagic fisheries or other industries. These inshore fisheries also experience the most interaction with other coastal uses and impacts

Fishing in Barbados is under the jurisdiction of the Fisheries Division of the Ministry of Agriculture and Rural Development. It is not a major contributor to the economy, based on the official statistics, which suggest fishing provides 0.5-1.0% of Gross Domestic Product (GDP) annually. However, as for the eastern Caribbean in general, the true value of the fishing industry is seldom accurately estimated due to deficiencies in available information on catches and prices. Other “green” or ecological/environmental values such as biodiversity are totally ignored in the national system of economic accounting.

Biodiversity conservation is not an explicit stated objective for any of the fisheries of Barbados, but it is embedded in each of them. This is because maintaining biodiversity is seen as a means to an end, not a parameter routinely measured or monitored along the way by fisheries managers.

The inshore fisheries for shallow shelf reef fish, sea urchins and sea turtles exemplify the position of biodiversity in fisheries management in Barbados today. The sea urchin and sea turtle fisheries were closed, temporarily and indefinitely respectively, as part of the 1997-2000 Fisheries Management Plan. Some important principles emerging from the experience of managing inshore fisheries include:

- The need for multi-stakeholder participation in fisheries management planning.
- Marine protected areas and ecosystem approaches to management.
- The use of genetic research to determine stocks and management units.
- Acknowledging the cultural context and importance of fisheries biodiversity to fishers.
- Highlighting conservation of biodiversity in environmental education.
- Incrementally increasing the severity of conservation legislation in order to facilitate learning by experience, especially if fishers first oppose it.
- Encouraging environmental NGOs to facilitate co-management.
- Protecting all stages of life history, taking trans-boundary connectivity into account.

Since UNCED and ratification of the CBD, the government of Barbados, local non-governmental organizations (NGOs) and civil society have engaged in several initiatives to assess and protect biodiversity. Biodiversity featured prominently at the 1994 United Nations Conference on Small Island Developing States, held in Barbados. Delegates emphasized the extreme vulnerability of their countries' biological diversity and included this issue in the Barbados Programme of Action produced by the conference. A multi-stakeholder National Commission on Sustainable Development (NCSD) was set up in Barbados and a project for the preparation of a National Biodiversity Strategy and Action Plan (NBSAP) was implemented.

Fishing industry stakeholders actively participated in workshops used to assist the drafting of the NBSAP. The resulting and related documents contain descriptions of the fisheries resources and the issues related to conserving their biodiversity. The NBSAP process is presently at the point of formulating details of the action plans. However, this exercise has

largely been subsumed in the existing Fisheries Management Plans of 1997-2000 and 2001-2003, reflecting recognition of the importance of fisheries biodiversity.

