

WWF International Corals Initiative

# Fiji Barrier Reef marine ecoregion

Geographic location: Fiji

## Background

Fiji comprises about 844 islands and islets, and is thought to include over 10,000 km<sup>2</sup> of reef. The Fiji Barrier Reef marine ecoregion includes a diversity of marine habitats, including estuaries, mangrove communities, sea grass beds, macroalgal assemblages, and sand and mudflats. An abundance of coral life thrives throughout in the form of fringing, platform, patch, barrier, oceanic ribbon, atolls, near atolls, and drowned coral reefs. Research has recorded close to 300 species of coral, over 475 species of molluscs, and almost 2,000 fish species, although the actual number of species of fish and coral is likely to be much greater. Fiji's coral reefs are thus rightfully recognized as being world class in ecological significance.

## People

Fiji's coral reefs are important to customary marine owners who rely on the reefs for subsistence, livelihood and source of income. Conventionally legislated marine reserves have failed to protect intrinsic cultural, economic, and biological values of the marine ecosystem. This has motivated resource communities to want to define and manage their customary fishing areas. Efforts to strengthen and incorporate traditional management regimes have thus increased, particularly in isolated islands where under-funded and under-staffed authorities cannot adequately police the use of marine resources and other marine-based activities.

## Main threats and issues

Despite the presence of customary marine tenure at the level of many villages, the marine systems are showing increasing signs of overexploitation. Forty-five percent of the 1,170 Fijian villages are located on the coast and are highly dependent on coastal resources for food and livelihood security. Subsistence catches are estimated at 17,000 tons per year. Most fishing is done with hand

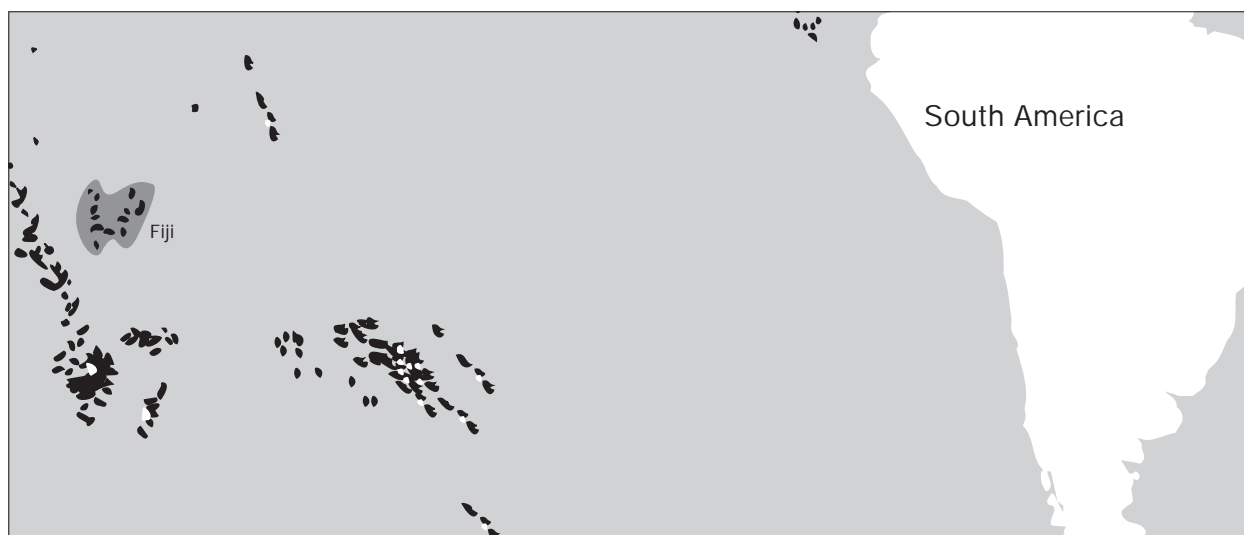
lines, but a wide variety of other techniques are used such as traps, fences, spears, gill nets, hand lines and poisonous plants.

Nearshore fisheries are also heavily targeted by commercial fleets, which probably contribute another 6000 tons to the annual fish catch. Target stocks have declined significantly in many areas, presumably due to overfishing. Emperors, mullet and trevally have declined and the Bumphead parrotfish is now locally extinct in many parts of Fiji. The giant clam was last recorded alive over 50 years ago, and numerous other edible molluscs and other invertebrate species have suffered. Fiji is also the major exporter of live coral and fish for aquaria in the Pacific. Efforts are underway to ensure that this industry is carried out sustainably.

Pollution from urban centres is likely to have a significant impact on inshore marine habitat health. Industrial pollution is especially severe near Suva. Other land-based activities harming reef health include waste from mines, agriculture, sugar and timber processing, mangrove clearing for development and sewage. This region was particularly hard hit by coral bleaching in 2000. The long term impacts on the structure and health of fish communities is not clear, but it appears that the ornamental coral industry and dive industry were negatively affected.

## Conservation context

Fiji, like many other South Pacific countries, has its coastal and foreshore waters and resources managed under dual ownership. The state owns the land beneath the sea and the marine biodiversity, while Fijian tribal units own the right to fish the marine biodiversity. The rights of the Fijian tribal units are confined to recognised fishing grounds, usually from the low water mark and including the fringing reefs within coastal waters and around isolated islands. Commercial fishing activity in



any fishing area requires a licence from the Fisheries Department. This license is issued following the production of a letter of consent from the chief of the "i qoliqoli" or the chief of the holders of customary fishing rights to the particular area.

However, the present management systems to oversee and administer marine living resources within the inshore fisheries have not been effective to date. This is largely due to government focusing its efforts and resources on offshore fishing where much of the national income is generated. Opportunities must therefore be identified to influence national policy on marine protected areas (MPAs).

### WWF and MPAs in the Fiji Barrier Reef ecoregion

WWF South Pacific is based in Suva and has been involved in marine conservation in Fiji since 1997. The Fiji marine program currently focuses on work with policy makers and with local resource owning communities. WWF has been engaged in extensive consultation to ensure the full participation and commitment of relevant stakeholders toward the development and implementation of a shared vision for the ecoregion. WWF has focused on community mobilization and capacity building for MPA management, biodiversity assessments and monitoring, policy analysis and design, advocacy for a legal structure supporting MPAs, and alternative livelihoods.

One result is Fiji's first legally recognized MPA in the Ulu-nikoro Marine Protected area, Ono Island, Kadavu, on the Great Astrolabe Reef. WWF has been working with local communities to assist with the design and implementation of marine reserves and no-take zones to protect reefs and other ecosystems within resident landowners' customary marine areas. This community-level work is based upon the traditional practice of setting aside tabu areas (seasonal no-take zones), practiced by many

Pacific Islanders, banning traditional poisons for fishing, and banning burning to clear land. Members of the community have been trained as fish wardens and are responsible for enforcement of relevant components of the fisheries legislation.

### MPA value

*At the Verata reserve site in the Tailevu Province, there was over a 300% increase in target clams inside the reserve after one year, and a 100% increase in nearby harvest areas.*

As successes become established, and as lessons are shared, then more communities are expected to come forward to have Community Managed areas designated. The ultimate aim is to have all traditional fishing areas (from the coast to 12 miles out to sea) managed as community regulated and monitored systems, and designed to create an effective network of MPAs.

Other activities include a study, with the University of South Pacific, of the impact of the aquarium trade, and separate research on the impact of climate change and coral bleaching. WWF is also working closely with the regional International Coral Reef Action Network (ICRAN). A WWF project has recently been chosen as an initial demonstration site to share lessons on the aquarium trade. Moreover, the Fiji Barrier Reef has great potential to support a tourism program to market internationally the coral reefs and their biodiversity, and use revenues from tourism to help cover recurring management costs.

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