

## A New Approach To Marine Reserve Enforcement

**M**ARINE RESERVES have become an increasingly popular choice for nations trying to combat overfishing, but often they draw criticism for ineffective enforcement systems.

The tiny nation of Palau is trying to change that.

With the help of organizations like WildAid, the Nature Conservancy and the Sea of Change Foundation, a nonprofit with roots in the dive industry, Palau is putting together an elaborate “control and vigilance system” to combat overfishing. It includes high-power video cameras, a robust VHF marine radio network with the strategic placement of buoys, patrol vessels and a floating barge to provide a constant presence and fast-response capacity throughout two “Marine Managed Areas” in the northern part of this island country located in the western Pacific Ocean.

The best part of the enforcement system, advocates say, is that it is practical, affordable and feasible to put in place, in the case of Palau over a four-year timeframe.

The Northern Reef Project is focused on an area that is home to some of Palau’s most productive fishing grounds and encompasses 3,930 square kilometers (1,517 sq miles) of territorial waters around the Palauan states of Kayangel and Ngarchelong. Its waters include important habitats of coral reef systems, barrier reef, patch reefs, sea grass, nesting beaches, unique atoll forests; and offer spawning and aggregation sites for nationally protected fish species and breeding areas for seabirds among other species. Given the decline in fisheries, both states have recently established marine law enforcement programs to reverse trends and protect their near-shore territorial waters.



Palau is a popular dive destination known for its work in ocean conservation.

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## diving notes and news

A recent critical first step of the Northern Reef Project has entailed the establishment of the VHF marine radio network: the core of enforcement operations. The network not only links the control center with the two patrol vessels dedicated to Ngarchelong waters and Ranger at ports, but also holds potential for linking tourism operators and fishers into the control and vigilance system over time.

If the project is successful, supporters say, it could be duplicated in fisheries all over the world.

“It’s important to the entire marine environment worldwide,” says Wayne Brown, CEO of Aggressor Fleet and Dancer Fleet and board member for the Sea of Change Foundation. “If we encourage the growth of marine life in that area, it will have a snowball effect.”

The project is composed of two steps: First, setting up a control cen-

ter for enforcement operations at Todai, on the northern rim of Ngarchelong.

Second, installing a high-power video camera at Todai to provide 10-nautical-mile (18.5 kilometers) coverage. The video camera provides coverage of key access waterways for vessels traveling into Northern Reef territorial waters. Once a vessel is detected, the control center can inform rangers moored at any one of four proposed buoys throughout the Ngarchelong Marine Managed Area for interdiction. Ideally, the patrol vessel can intercept the vessels without having to travel a long distance from the buoy. Four moorings were chosen based on bathymetry and the strategic location of Ebiil, spawning aggregations and territorial boundaries. Ebiil is home to one of the most important fish aggregation sites in Palau.



Brown says many countries have taken steps to protect their natural resources but Palau has a long history of marine conservation.

In 2009 it created the first shark sanctuary — banning commercial fishing operations from catching any shark.

“Palau ‘gets it,’” Brown says.

Palau’s shark sanctuary covers 230,000 square miles (595,700 sq km), about the size of France. Maldives, Honduras and The Bahamas later set up their own shark sanctuaries.

For more information, check out Sea of Change Foundation, [seaofchange.com](http://seaofchange.com); WildAid, [wildaid.org](http://wildaid.org); and Nature Conservancy, [nature.org](http://nature.org). 