

Guam's Special Marine Preserves

by Tim Rock

Surrounded by an azure sea, the island of Guam in Western Micronesia is blessed with one of the world's richest coral reef marine environments. It thrives with more than 700 fish species and nearly 400 kinds of corals. This great natural biodiversity attracts divers from all over Asia and other parts of the world. Combined with its historic past that includes shipwrecks and remnants from WWII, WWI and even the gold bearing Manila Galleon trading days and Guam is a real treasure chest for undersea explorers.

For people living on Guam, this bonanza has made divers of many. It is Micronesia's most developed and populated island with 150,000 people and a million Japanese and Asian tourists annually. Not surprisingly, locals and tourists head to the 236 square miles of reefs found surrounding Guam.

Add to this the fact that consistently warm and clear water make year 'round diving possible. Dive training on the island is also the most advanced and readily available of anywhere in the Pacific.

There are some areas that are really worth checking out as many can be done by both boat and shore and are protected from fishing. Thus, the marine life is more abundant in these areas.

The betterment of Guam's diverse underwater world has been the thrust behind a series of nature preserve set up around the island. What these areas do is keep fishing to a minimum, allowing breeding stocks to prosper and make more fish.

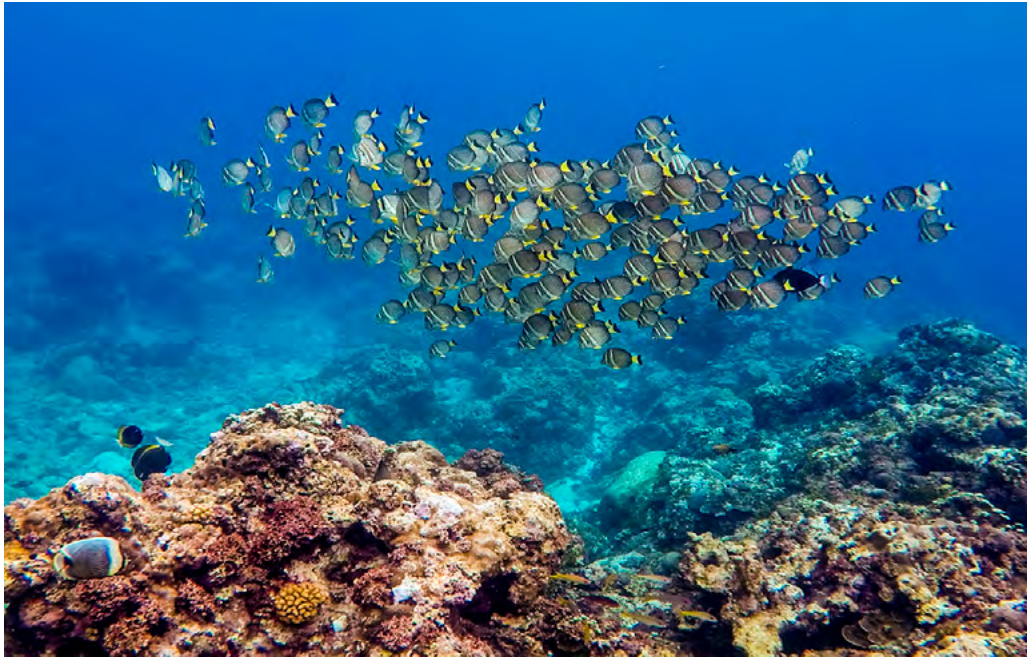


The island has seen a sharp decline in the last 20 years in its breeding fish; that is, the larger fish that make offspring. This is due to a number of factors including unrestricted fishing around the entire island, reef damage from poor building practices and natural causes, like typhoon damage.

The preserves include the Achang Reef Flat in southern Guam, south east of Cocos Island. This area is a prime spot for young fish to grow, as there

are many mangroves and other natural protections for the juveniles. The Sasa Bay is another mangrove area in the eastern part of Apra Harbor. This has long been a breeding ground for fish including hammerhead sharks.

The Piti Bomb Holes, which actually includes most of Piti Bay including Camel Rock, Fish Eye Marine Park and the Piti Channel, is another prime site for fish with over 200 species in this compact



area inside the reef. This is one of Guam's most accessible sites that is a favorite of introductory scuba divers and snorkelers.

Tumon Bay including the areas around Gun Beach and Two Lover's Point is the next site set aside for protection. The inner reef at Tumon is like a miniature aquarium, with many colorful reef tropicals. Ocean currents, making the sea full of nutrients and thus, a good site for young fish to prosper, constantly flush these protected waters.

The final area is known as Pati Point in northern Guam. This site was set aside a while ago by the military and the results are refreshing. There are schooling fish, sea turtles and

lots of other signs that preserves do work at the Pati site. The corals here are also quite healthy and the view of Guam's coastline makes this a fine place to visit. Waves and strong currents make it hard to come here on a consistent basis, which is probably good for the fish.

The preserves are trying to reduce fishing pressure. For over a decade, biologists studied Guam's reefs and decided that the increased population on the island meant more fishermen. Local tastes seem to lean toward the full-grown and juvenile fish, which made it hard for some fish to repopulate reefs once most of them were caught. The preserves have been called egg banks, places where fish

can lay and hatch youngsters without predation from man.

Overall, the addition of these new preserves up and down the coast means that fish from these protected sites should also move into the unprotected regions. This means fishermen will be able actually show better catches in a short period of time. This also means people like divers should see more and bigger fish on the reefs. Overall, Guam's reefs should indeed prosper from these new preservation areas.

One of Guam's most popular dive sites is the north end of the Piti Bay. Sometimes called the Bomb Holes, it is really an area of collapsed reef flat. It has been dubbed Fish

Eye Marine Park due to the fact that there is Fish Eye underwater observatory there. This walk-in site has more than 200 fish species, as it is a marine park and incubator for fish and invertebrates. This place is so special, as recently as last year, a new butterflyfish unknown to science was found there. Divers can see the healthy reef on the south side of the observatory, feed the fish and even snorkel around the observatory itself. A visit to the unique observatory can also be done before or after diving. This is also a great place to snorkel.

The entire Piti Bay is a preserve and there are many off and unusual critters to see at the bay's south end including juvenile



crocodilefish, a slew of nudibranchs, decorator carbs, boxer crabs and even the occasional harlequin shrimp.

And one area not many think of as a dive site is in the hotel district. An easy walk-in snorkel or dive is at Ypao Beach Park next to The Hilton Resort and Spa at the south end of Tumon Bay. The clear waters and brilliant white sand make this a great place to enjoy the many corals and fishes. It is, of course, an excellent place for snorkeling. Set next to one of Guam's nicest public parks, one can have lunch before or after the dive at beach side.

North of here at Gun Beach, this site is considered a fun boat dive or beach dive. Named for the WWII gun emplacement near the cliffline that sits on its shore, this sloping reef has a lot of fish life and is great for fish photography. This is a favorite snorkeling site stopover for some dolphin tours.

One can dive deep or shallow here. Healthy coral gardens are found to the right. Manta rays have been known to come here to feed on the outgoing tide at the major cut in the reef. Look for tiny creatures like coral hermit crabs and colorful



Christmas tree worms that hide when touched but then unfold into a treelike formation of appendages. In a shallow haloclinal area, one can seasonally see baby blacktip sharks who like the protection of the limestone caves in the upper reef area at the bay's north end. Both Tumon and Sasa Bay near the harbor are juvenile shark nurseries.

The preserves seem to be doing as well as can be in the face of what is happening worldwide to the oceans. Guam's reefs have had a tough go of it in the past five years. That's because Guam and other Mariana and Micronesian islands have been



affected by the longest global coral bleaching event on record. The western Pacific is not alone. It has been impacting reefs around the world for three years. In 2017, there is hope it is finally coming to an end. However, Guam is not in the clear yet. Warm waters once again hit the reefs and preserves in August through October.

"For 2017, we are holding our breath (to see the recovery)" says Laurie Raymundo, PhD, from Guam's UOG Marine Lab. She and her colleagues have been monitoring the corals around the island for the duration of this bleaching and she says



Guam has definitely lost some coral cover as a result. Both hard and soft corals have been affected as well as sea anemones and other coral-related creatures.

Coral bleaching occurs when ocean temperatures increase. When the waters get too warm, corals spit out the algae that live inside. Normally, these algae provide corals with most of the energy they need to live. Corals that have lost their algae are sick and are white-looking or “bleached” because the algae give healthy corals their bright colors. Soft corals sometimes turn a brilliant yellow, which is pretty to see but a real sign they are fighting for their

lives. Sea anemone tentacles also turn white as they struggle to live.

Raymundo says Guam’s corals have had certain degrees of damage. Some colonies, especially in the staghorn family, have totally died out in some spots. While fish may still be living in the dead coral structures, sooner or later these stands will collapse and fish will move elsewhere. Other have exhibited the “Phoenix Effect” where some, but not all, of the colony dies. The remaining corals regrow and try to take hold again. This can be seen in many areas in Guam’s Tumon Bay Marine Preserve, especially at the south end. Affected soft corals can be

seen farther north near the Westin Cut. And, while beautiful to photograph, the sea anemones have also bleached white but as of the last week of December 2017, most anemones are now regaining color as trade winds have brought cooler waters back to the reefs and preserves.

The preserves have also meant an uptick in the sea turtle populations it seems. Many greens and hawksbills are found in the Tumon and Piti waters. Some tour operators have even started turtle viewing tours for snorkelers.

But Guam also faces a commitment issue. The island only has 8 rangers to protect and enforce

conservation laws on land and sea and 4 are scheduled for retirement soon. Compared to Palau, which has 120-plus conservation rangers, Guam is stretched pretty thin as the most populous island in Micronesia.

For the diver, these preserves mean Guam’s beautiful reefs should have more and bigger fish in the years to come. As Guam is one of the richest ocean areas on earth, with the preserves, it can only get richer.

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White Balance

Digital cameras have opened up new possibilities to underwater photographers. For available light photography manual white balance is an invaluable tool for restoring colours. But when you use it without a filter you are not making the most of the technique. You're doing all the hard work without reaping the full rewards. These three photos are all taken of the same wreck in the Red Sea. The left hand image was taken on slide film, which rendered the scene completely blue. The middle image is taken with a digital SLR without a filter, using manual white balance. The white balance has brought out some of the colour of the wreck, but it has also sucked all the blue out of the water behind the wreck, making it almost grey. The right hand image is taken with the same digital camera and lens, but this time using an original Magic Filter. The filter attenuates blue light meaning that the colours of the wreck are brought out and it stands out from the background water, which is recorded as an accurate blue.

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