Samoa tsunamis obliterate some coral, spare others

By AUDREY McAVOY, Associated Press Writer Audrey Mcavoy, Associated Press Writer Sat Oct 17, 3:44 pm ET

HONOLULU – Scientists surveying American Samoa's coral reefs say Sept. 29's tsunami obliterated some corals and damaged others to the point that they may not recover.

Researchers say more assessments will be needed to get a full sense of how the disaster affected coral in the U.S. territory. But in at least one area, the damage was so severe, and the affected area already in such bad shape before the tsunamis, that the coral may never return.

There's an additional threat the surviving coral may suffer secondary damage weeks after the tsunamis if waves drag heavy debris from people's wave-wrecked homes — like refrigerators, tin roofs and other objects — across the reefs. Mounds of household goods dislodged by the giant waves are still sitting in the water off tsunami-torn villages.

Corals, which are colonies formed by small, fragile animals called polyps, provide vital habitats for fish, sea slugs, shrimp, sea worms and many other marine species that find food and take shelter among the reefs. This makes measuring the extent of the tsunami-inflicted damage important for understanding the disaster's effect on the broader environment.

Tsunamis generated by an 8.3-magnitude earthquake killed at least 32 people in American Samoa. About 150 were killed in nearby Samoa and Tonga.

A team led by Douglas Fenner, a coral reef monitoring ecologist with American Samoa's Department of Marine and Wildlife Resources, has surveyed about 20 sites around the territory so far. The condition of the coral they examined ranged from untouched to destroyed. Several spots lost 20 to 30 percent of their existing coral.

Fenner also found unblemished reef next to corals that were wiped out. That was the case near Leone, a town where at least 10 people died and dozens of homes were destroyed. He first saw that delicate corals to the left of the village were in perfect shape.

"Then I got right in front of the village and man, the coral had just been broken to bits," Fenner said in a telephone interview from the territory's capital, Pago Pago.

Paul Brown, marine ecologist with the National Park Service, said the reef off Faga'alu — an urbanized area near downtown Pago Pago — was in poor shape even before the tsunamis hit. Years of pollution and sediment in the area's runoff had led to poor water quality offshore, deprived corals of the sunlight they needed to grow and smothered the reef.

Only about 15 to 20 percent of the reef had living coral before Sept. 29. Then the waves tore 70 percent of the remaining away.

"The reef looks like a nuclear bomb went off. It was pretty catastrophic damage," said Brown. "When you have that level of impact, it will be decades, if at all, that that area recovers."

In contrast, damaged reefs that were healthy before the disaster should bounce back in three to four years, leaving no scars.

American Samoa's corals were generally fairly healthy before the tsunami, particularly compared to reefs in the Caribbean or those off the Hawaiian island of Oahu. Still, Brown said they weren't as pristine as corals in Kiribati, a small Pacific island nation, or the Line Islands, which are tiny Pacific atolls controlled by Kiribati and the U.S.

Fenner said he was optimistic for a recovery, given the relative health of the coral. He also noted corals have evolved to cope with tsunamis and other natural disasters.

"The reefs have learned to live with it," Fenner said. "So as long as we humans are not chronically damaging the reef and putting heavy stresses on it, hopefully it will recover well."

Coral reefs surround large parts of American Samoa's islands, which sit in tropical waters about 2,500 miles southwest of Hawaii. The islands, which are home to about 65,000 people and cover roughly the same land area as Washington, D.C., host 2 percent of the coral under U.S. jurisdiction.

A report issued earlier this month by the territorial governor's Coral Reef Advisory Group said refrigerators, mattresses, tin roofs and other household materials were still in the water off Poloa, a village slammed by the waves. There's possibility debris now languishing in streams and shorelines may collect on reefs if it's flushed out to sea, the report said.

Charles Birkeland, a University of Hawaii coral reef expert, said coral can grow back if its foundation is in good shape.

"But if you start grinding them with furniture and things, that scrapes the base. It's much worse," Birkeland said.