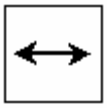
AMERICAN SAMOA: ENVIRONMENTAL TRENDS IN 2008

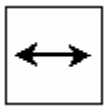
How healthy is our environment in American Samoa these days? We can get a sense of this by looking at some of the parts that make up our island environment. In the boxes below, an upward arrow indicates an environmental improvement. A downward arrow indicates a resource in decline or a worsening environmental problem.

THE MARINE ENVIRONMENT

Coral reefs. The status of coral reefs in American Samoa is mixed. One the positive side, the corals are in generally good condition, having recovered from massive cyclone damage in 1991. More recent damage occurred in Manu'a during cyclones in 2004 and 2005, but given the observed resilience of corals in the territory and the generally low level of human stressors here, regrowth is expected. There have also been improvements to local reefs: the removal of a shipwreck at Rose Atoll, a ban on the export of "live rock" (coral rubble), a ban on scuba-assisted fishing due to overfishing, and the establishment of a sanctuary for sea turtles and marine mammals in all territorial waters (0-3 miles offshore). At the same time however, local reefs show some signs of fishing pressure (there are few large fish or sharks). Another looming issue is global warming which warms nearshore waters causing the corals to bleach and/or die. Some warm-water bleaching now occurs annually and significant bleaching events occurred in 1994, 2002 and 2003. Recent episodes of coral disease are also of concern. Additionally, some coastal pollution continues – high counts of enterococci bacteria (mostly from streamside piggeries) often make swimming near streams unsafe, and the unsightly dirt and rubbish flowing from the streams and onto the reefs after heavy rainstorms is harmful to corals.

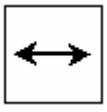


Pago Pago Harbor. For decades, our harbor has been an environmental write-off due to its degraded condition (frequent fuel spills, toxic fish, contaminated substrates, extensive sedimentation, eutrophication, noise, air pollution). In recent years things have gotten better. In 1991 the canneries were required to stop dumping their wastes into the inner harbor. Now their fish wastes are piped to the outer harbor and discharged in deep water (176 ft depth) where there is better circulation, and the cannery's high strength wastes are hauled daily to a dumping zone 5 miles offshore. This has made a noticeable improvement in water quality and we are now seeing some corals growing there again. Another big improvement is that the 9 shipwrecks in the harbor were finally removed in 2000 after rusting on the reefs for 9 years. Bear in mind that harbor recovery has a long way to go. Harbor sediments and some fish and invertebrates are still contaminated with heavy metals, and an old sunken ship still contains a cargo of fuel. Excessive quantities of dirt and plastics flood into the harbor after heavy rainstorms. Swimming in the inner harbor is not recommended.



Reef fish. Our reefs support large numbers of small to moderate-size fish (surgeonfish, parrotfish, damselfish, butterflyfish, etc.), but large fish and sharks are not often seen. To help reduce fishing pressure, the use of scuba-assisted fishing was banned in 2001. Consideration now needs to be given to developing effective Marine Protected Areas to provide long-term protection to fish stocks.

Sea turtles. Green and hawksbill turtles are the main species here, but their populations are in serious decline, both locally and throughout the South Pacific due to harvest, habitat loss of nesting beaches and incidental catches in fishing gear. Surprisingly, "our" green sea turtles are also vulnerable to harvest in Fiji. Tagging data show that most green sea turtles nesting at Rose Atoll migrate to feeding grounds in Fiji 800 miles away. Sea turtles are now officially listed as "threatened or endangered species", and the hawksbill is "rapidly approaching extinction" in the South Pacific, according to a scientific review. In 2003, a sanctuary for sea turtles and marine mammal was established in all territorial waters (0-3 miles offshore).



Whales. Humpback whales migrate here to mate and give birth to their young, mostly in September and October. Local populations are still few in number, probably because 95% of their stock was killed by whalers in the 1800's and 1900's. Although commercial whaling was banned in 1966, the recovery of southern-hemisphere populations has been slow, probably due to continued whaling in the Antarctic by Soviet factory ships as late as 1972.

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THE TERRESTRIAL ENVIRONMENT

Rainforests. 30% of our plants are endemic to the Samoan Archipelago. The island's steepness protects most of the rainforest from ever-expanding human activities, but the lowland rainforests that formerly covered the Tafuna plains have been replaced by plantations, houses and roads. Tutuila's rainforests have recovered from severe cyclone damage in 1991, but a growing concern now is that invasive, non-native plant species are beginning to out-compete native species in some areas. More recently, rainforests in Manu'a took a direct hit by Cyclone Olaf in 2005. Although there was massive damage to the landscape, recovery is underway.

Wildlife. In general, wildlife populations on Tutuila have recovered from previous cyclone damage in 1990 and 1991 when birds and fruit bats (flying foxes) were decimated. Their recovery was greatly aided by DMWR's ban on hunting that's been in effect since those cyclones. Some terrestrial species are not doing very well. The sheath-tailed bat was wiped out by the 1991 cyclone and has not been seen in recent years. Other rare birds include the many-colored fruit dove, friendly ground dove and spotless crake. The Pacific boa snake is also rare and now found only on Ta'u Island. Native land snails are disappearing due to an introduced species, the pink predatory snail.

Pest and weed species. Invasive pest and weed species are doing quite well. These are newly introduced species that out-compete the native species because the pests and weeds have no natural enemies on our islands. Some examples are the tamaligi trees that overtop the native forests, the noisy myna birds that populate our urbanized areas, the weedy vines that drape over our landscape, the toads that are everywhere, feral pigs, African snails, rats, etc.

Wetland loss. Wetlands are special habitats that occur in only a few places around the Territory. They support mangroves, fish, shellfish and other species not found elsewhere on the island, and wetlands are important in moderating stormwater runoff and sedimentation that would otherwise flow onto our coral reefs. The island's wetland areas continue to dwindle in size as people fill them in for other uses. The former mangrove area in Pago Pago Harbor is gone, and the other main wetlands at Pala Lagoon and Leone are threatened by human activities.

Population growth. The growth rate of people in American Samoa is a significant issue. The current population of 65,500 is growing rapidly at an annual rate of about 2.0%, which equates to an increase of 1,300 people per year (mostly infants). This growth rate is simply not sustainable on our small island. Environmental issues include: traffic congestion, loss of wetlands, solid and hazardous waste disposal, soil erosion and coastal sedimentation, fishing pressure, and a limited supply of drinking water.

SUMMARY: Island environments in this part of the world are subjected to a continuing cycle of damage and recovery from cyclones (hurricanes). These storms occur irregularly here, hitting at intervals of 1-13 years over the past 25 years. The impact of each one is generally patchy, with small refugia remaining here and there, and not all islands in the archipelago are hit at any one time. Because cyclones are a predictable feature of the local environment, it is likely that most native species living here can cope with this severe disturbance and recover, given enough time, and assuming that their recovery is not jeopardized by human activities. A full recovery cycle probably takes at least 10-20 years. But we also have other serious environmental issues to deal with over the next decade, such as overpopulation, climate change, invasive pest and weed species, overfishing, and land-based sedimentation that flows onto our coral reefs.

P. Craig