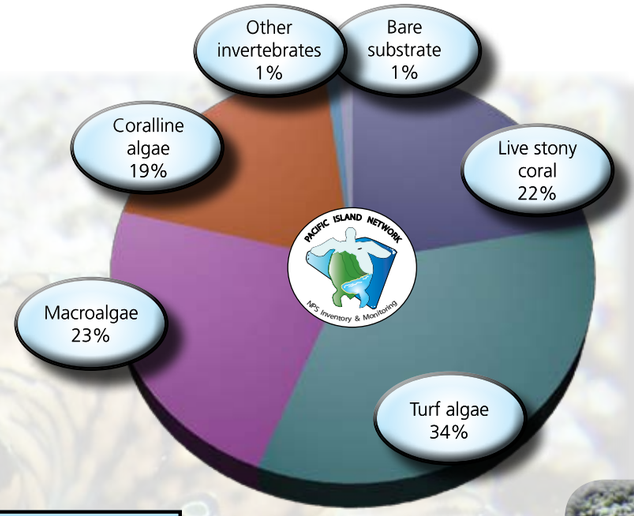
Coral Reefs at the National Park of American Samoa

The National Park of American Samoa has some of the greatest marine biodiversity of any U.S. park with over 975 fish and 250 coral species. Large table corals (*Acropora* sp.) over three meters in diameter, and mound corals (*Porites* sp.) standing up to seven meters tall and 25 meters long can be found in nearshore marine waters. The marine boundaries of the park contain nearly 20% of American Samoa's nearshore waters. The park was created on three islands to preserve and protect the cultural and natural resources of American Samoa.

Major Threats

- Overfishing
- Sedimentation and habitat degradation
- Climate change

Modern fishing techniques have replaced many traditional methods, and have resulted in unsustainably high fish yields



Composition of coral reef habitat

Status and Trends: Coral reef monitoring began in 2007. Live coral cover at 30 monitoring sites was found to be moderately high (22%) in 2008. This likely reflects high coral biodiversity, relatively fast coral growth rates, and large areas of suitable shallow habitat for corals. Bleaching events occurred in 1994, 2002, and 2003, which affected both shallow and deep corals. There has also been minor bleaching in back reef pools and lagoons for the past three years. Crustose coralline algae is critical settlement substrate for juvenile corals and many other reef organisms, and is important for maintaining reef structure. Fortunately, monitoring data have shown a fairly healthy 19% cover of this algae. Two percent cover of macroalgae suggests that herbivorous fish populations are maintaining low levels of algal abundance. Overall fish biomass is roughly 1/3 the levels occurring on unfished reefs in the Pacific, and large fish are extremely rare.

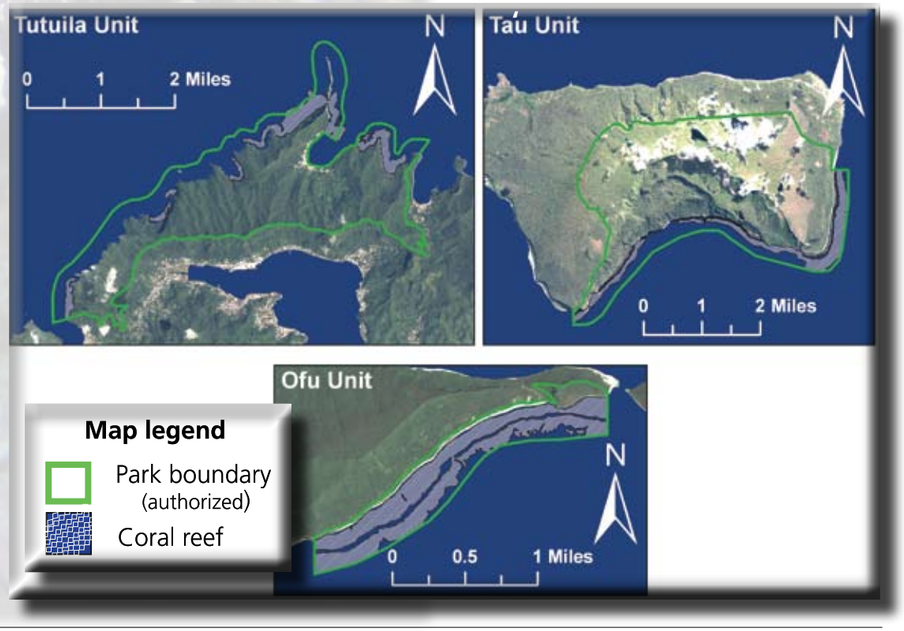
Plate corals and these algae have calcium-based skeletons threatened by rising ocean temperature, and acidification

Reefs are important nursery habitats for juvenile fish

Fast Facts

- The park contains over 250 species of corals and a very high diversity of other marine invertebrates, fishes, and plants
- Some of the most immense coral colonies in the world live at NPSA
- Some coral populations in park waters seem resilient to high ocean temperatures and may serve as 'refuge populations'

These soft corals, common on Tutuila Island, are less sensitive to conditions of high sedimentation and poor water quality



Action: Research in the park by the NPS and many partners has made important contributions to understanding and managing coral reefs during climate change. Coral reef and reef fish monitoring have been implemented by NPS and cooperators including a nearshore fisheries study.