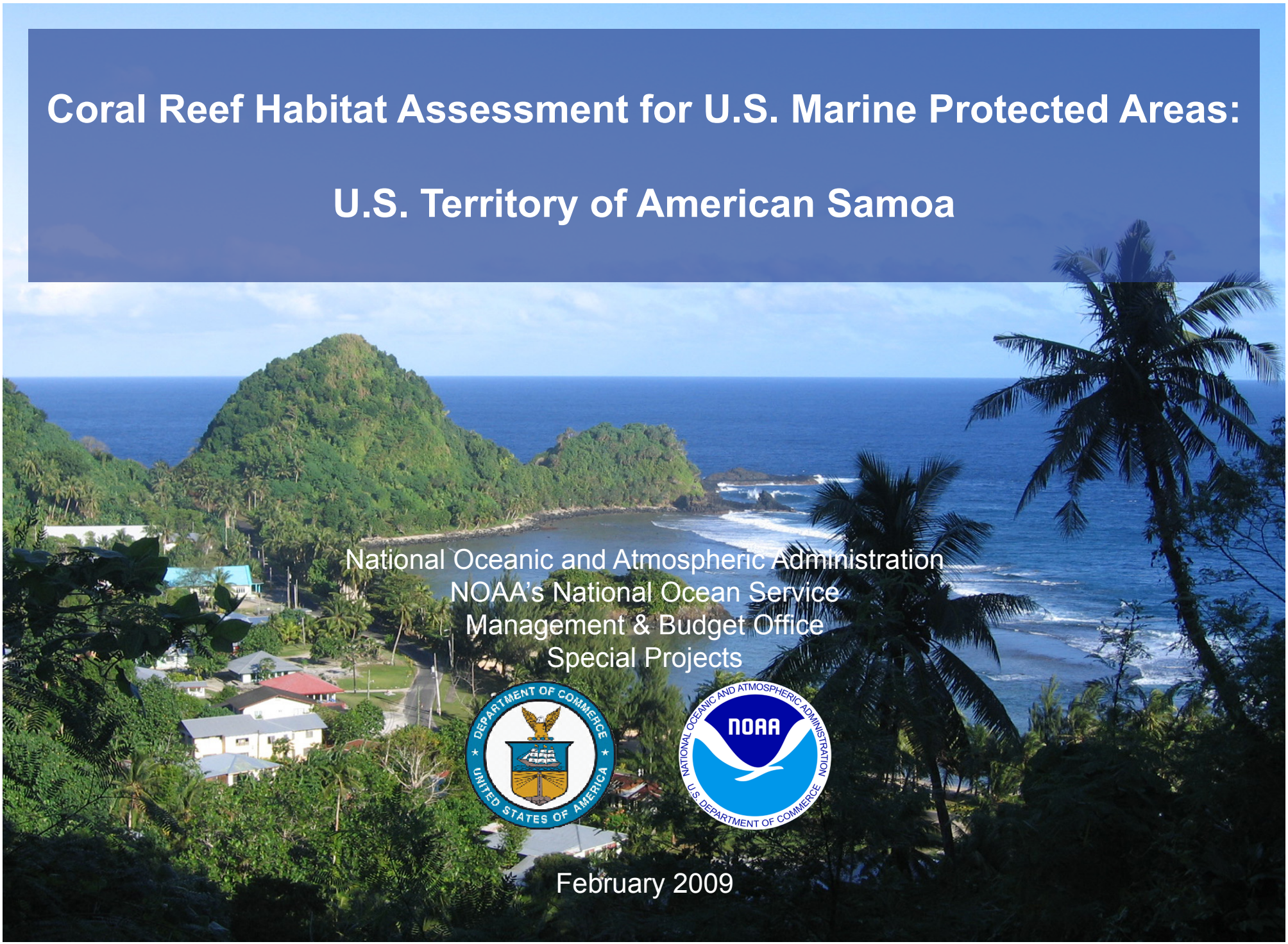
Coral Reef Habitat Assessment for U.S. Marine Protected Areas:

U.S. Territory of American Samoa



National Oceanic and Atmospheric Administration
NOAA's National Ocean Service
Management & Budget Office
Special Projects

February 2009

Project Overview

About this Effort

The United States Coral Reef Task Force (USCRTF), in both its National Action Plan to Conserve Coral Reefs (2000) and its National Coral Reef Action Strategy (2002), established a key conservation objective of protecting at least 20% of U.S. coral reefs and associated habitat types in no-take marine reserves. NOAA's Coral Reef Conservation Program has been supporting efforts to assess current protection levels of coral reefs within Marine Protected Areas (MPAs) and quantify the area of U.S. coral reef ecosystems protected in no-take reserves. The official federal definition of an MPA, signed into law by Executive Order 13158, is "any area of the marine environment that has been reserved by federal, state, tribal, territorial, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein." A significant source of information for these assessments has been the National MPA Center's Inventory of Marine Managed Areas (MMAs) in the U.S (2006a)[1]. This report provides a preliminary assessment of the areal extent of coral reef habitat and associated habitat types within MPAs, as well as the level of protection afforded them, by using GIS-based MPA boundaries from the MMA Inventory–MPA Classification System (2006a,b), and U.S. Coral Jurisdiction benthic habitat data developed by NOAA's National Centers for Coastal Ocean Science Biogeography Team (2005).

More information on the state and territory sites included in this assessment, including their goals and objectives and how they are established and managed is available in the NOAA Coral Reef Conservation Program Technical Memorandum, *Report on the Status of Marine Protected Areas in Coral Reef Ecosystems of the United States: Volume 1 Marine Protected Areas Managed by U.S. States, Territories and Commonwealths* (Wusinich-Mendez, D and C. Trappe. 2007). This document (pdf, 5.26 MB) is available for download at http://www.coralreef.noaa.gov/Library/Publications/cr%5Fmpa%5Freport%5Fvol%5F1.pdf.

1 Data for the MMA Inventory were collected by many individuals from a variety of sources. As a result, the content and level of detail of the overview text may vary from site to site.

NCCOS Benthic Habitat Mapping Effort

The National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) initiated a coral reef research program in 1999 to map, assess, inventory, and monitor U.S. coral reef ecosystems (Monaco et al. 2001). These activities were implemented in response to requirements outlined in the Mapping Implementation Plan developed by the Mapping and Information Synthesis Working Group (MISWG) of the Coral Reef Task Force (CRTF) (MISWG 1999). NOS's National Centers for Coastal Ocean Science (NCCOS) Biogeography Team was charged with the development and implementation of a plan to produce comprehensive digital coral-reef ecosystem maps for all U.S. States, Territories, and Commonwealths within five to seven years. In response to Executive Order 13089 and the Coral Reef Conservation Act of 2000, NOS is conducting research to digitally map biotic resources and coordinate a long-term monitoring program that can detect and predict change in U.S. coral reefs and their associated habitats and biological communities (Monaco et al. 2001).

Acknowledgments

American Samoa / Coral Reef Advisory Group
American Samoa / Department of Commerce / Coastal Zone Management Program
American Samoa / Department of Marine and Wildlife Resources

National Park Service
NOAA / Coral Reef Conservation Program
NOAA / National Marine Sanctuary Program
NOAA / NOS / Special Projects
NOAA / NOS / NCCOS / Biogeography Team
NOAA / NOS / Ocean and Coastal Resource Management
NOAA / NOS / National Marine Protected Areas Center
U.S. Fish & Wildlife Service

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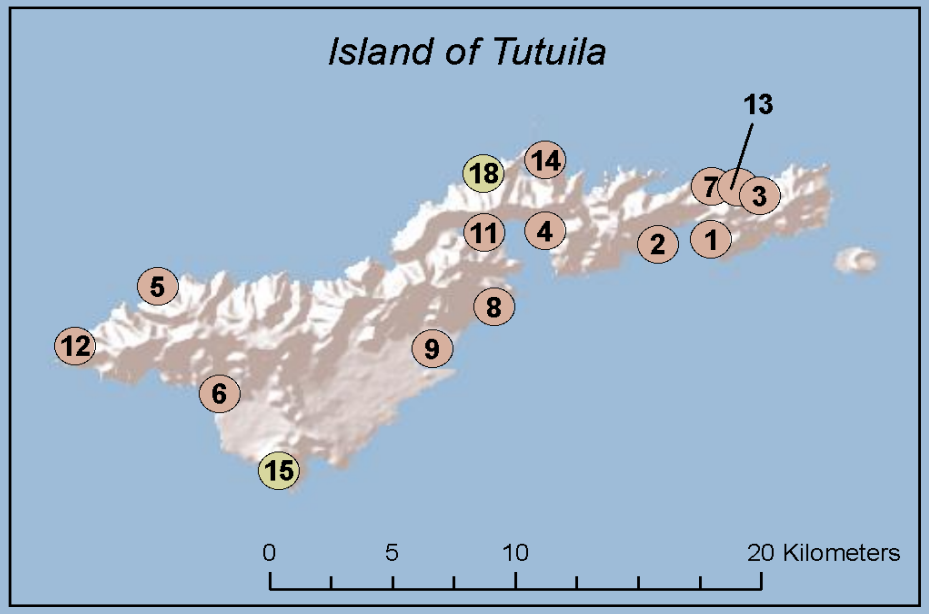
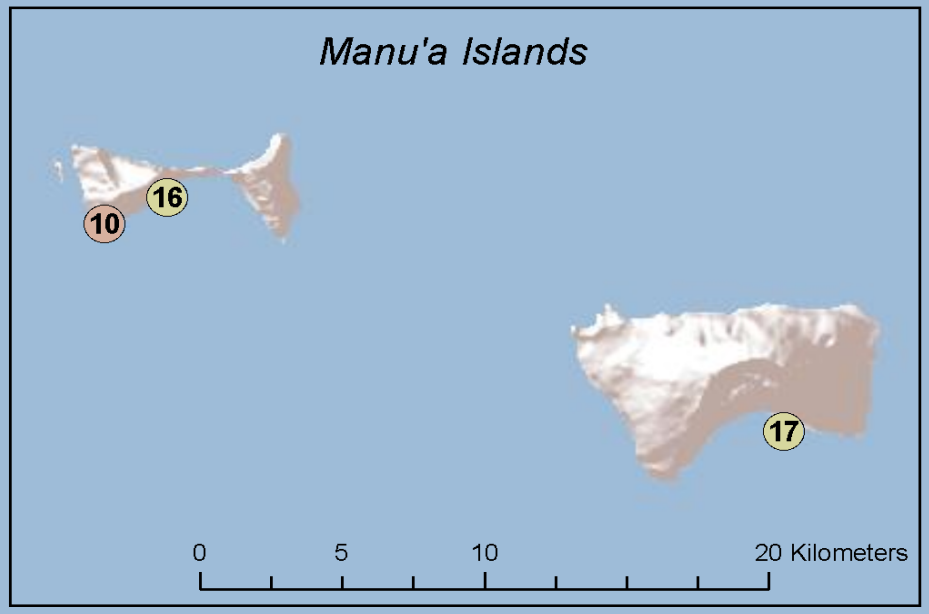
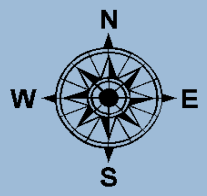


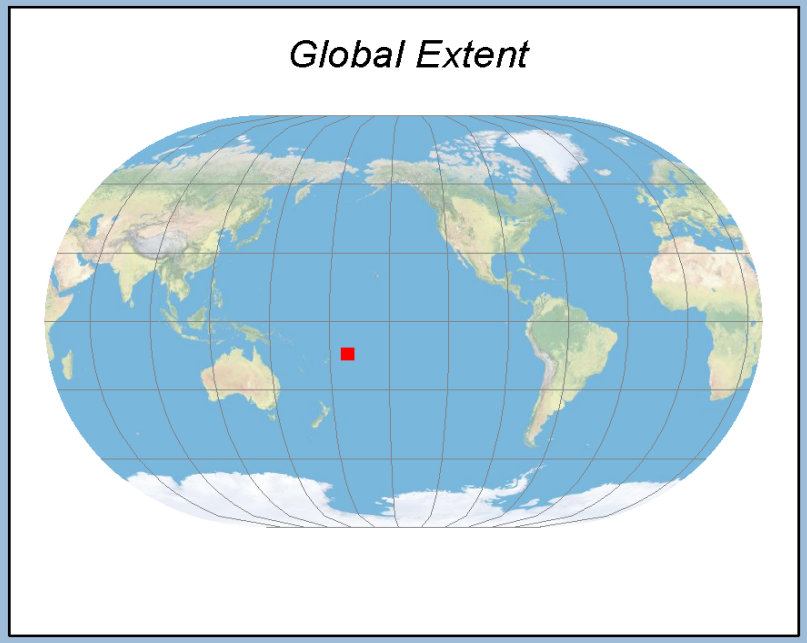


U.S. Territory of American Samoa: Locations of MPAs

Federal MPA

Territory MPA





Notes: MPA numbers correspond to list in table of contents.
Rose Atoll not depicted.

U.S. Territory of American Samoa

Introduction

As the southernmost U.S. Pacific Territory, American Samoa lies approximately 4,200 kilometers (km) south of Hawaii in the South Pacific. The territory is composed of seven islands (five volcanic and two coral atolls) surrounded by shallow water habitats consisting primarily of fringing reefs and a few offshore banks and two coral atolls (ASCRAG 2007). Currently there are 17 MPAs established in the territory (see map on page 1) with 11 sites designated as No-take areas (Appendix B)[1]. No-take MPAs allow human access and even some potentially harmful uses, but totally prohibit the extraction or significant destruction of natural or cultural resources.

The table below shows the total area of each biological benthic cover type: 1) for all of American Samoa, 2) for all MPAs in American Samoa, and 3) for only No-take MPAs in American Samoa. The percentages of the mapped benthic habitat within American Samoa's MPAs and American Samoa's No-take MPAs are also listed. About 24% of the 61 square kilometers of mapped coral reef ecosystem (defined below) in American Samoa are within MPAs and only about 15% are within No-take MPAs. To view the totals for individual sites, see Appendix C.

1 In this report, "No-take" MPAs are MPAs that have one of the following "Levels of Protection" under the U.S. MPA Classification System: 1) No Take, 2) No Impact, 3) No Access, or 4) Zoned Multiple-Use With No-Take Area(s). Out of 14 'Zoned Multiple-Use With No-Take Areas' in the U.S. Coral Jurisdictions only the USVI East End Marine Park had delineated No-take zones and thus was the only site from this category to be included in the "No-take" calculations.

Cover Types and Characterization

Coral	Substrates colonized by live, reef building corals and other organisms. Habitats within this category have at least 10% live coral cover.
Coralline Algae	An area with 10% or greater coverage of any combination of numerous species of encrusting or coralline algae. May occur along reef crest, in shallow back reef, relatively shallow waters on the bank/shelf zone, and at depth.
Emergent Vegetation	Composed primarily of red mangrove and hau trees. Generally found in areas sheltered from high-energy waves, such as shoreline/intertidal or reef flat zones.
Macroalgae	Substrates with 10% or greater coverage of any combination of numerous species of red, green, or brown macroalgae. Usually occurs in shallow back reef and deeper waters on the bank/shelf zone.
Seagrass	Habitat with 10% or more of seagrass.
Turf	A community of low lying species of marine algae composed of any or a combination of algal divisions dominated by filamentous species lacking upright fleshy macroalgal thali.
Unclassified	Areas differentiated from other biological cover types because the major geomorphological structure is primarily terrestrial or artificially created (i.e., artificial).
Uncolonized	Substrates not covered with a minimum of 10% of any of the above biological cover types. This habitat is usually on sand or mud structures. Overall uncolonized cover is estimated at 90%–100% of the bottom.
Unknown	Cover uninterpretable due to turbidity, cloud cover, water depth, etc.

Benthic Cover Type	Total Mapped Benthic Habitat (km^2)	Total Mapped within All MPAs (km^2)	Percent of Mapped Area within all MPAs	Total Mapped within No-take MPAs (km^2)	Percent of Mapped Area within No-take MPAs
Coral	38.526	7.369	19.13%	3.068	7.96%
Coralline Algae	14.988	4.952	33.04%	3.594	23.98%
Emergent Vegetation	0.277	0.263	94.95%	0.263	94.95%
Macroalgae	2.590	1.666	64.32%	1.492	57.61%
Seagrass	0.000	0.000	0.00%	0.000	0.00%
Turf	4.963	0.743	14.97%	0.667	13.44%
Unclassified	200.128	0.680	0.34%	0.204	0.10%
Uncolonized	10.613	2.120	19.98%	1.794	16.90%
Unknown	418.272	162.450	38.84%	152.857	36.54%
Coral Reef Ecosystem*	61.344	14.993	24.44%	9.084	14.81%

* Coral Reef Ecosystem is defined as mapped coral, coralline algae, emergent vegetation, macroalgae, seagrass, and turf.

U.S. Territory of American Samoa

Methods

The Coral Reef Habitat Assessment for U.S. Marine Protected Areas in American Samoa was conducted between August 2005 and August 2007 through the following actions:

1. *Created a Coral Jurisdiction MPA GIS Database utilizing the U.S. Marine Managed Areas Inventory*

   The Marine Managed Areas (MMA) Inventory contains information on more than 1,500 sites, and is the only such comprehensive dataset in the nation. The term "marine managed area," which was defined through a public comment process, generally refers broadly to an area of the marine environment with a marine resource conservation purpose. The MMA Inventory data collection is a joint collaboration between the National Oceanic and Atmospheric Administration (NOAA) and the Department of the Interior that began in 2001. Its purpose is to gather and make publicly available comprehensive information on place-based marine conservation efforts under U.S. federal, state, territorial, local, and tribal jurisdiction. For more information on the MMA Inventory, visit http://www.mpa.gov/helpful_resources/inventory.html.

2. *Identified which MPAs are No-Take Reserves utilizing the MPA Classification System*

   The National Marine Protected Areas Center has developed a Classification System that provides agencies and stakeholders with a straightforward means to describe MPAs in purely functional terms using five objective characteristics common to most MPAs:

   Conservation Focus – legally established goals, conservation objectives and intended purpose(s).
   Level of Protection – level and type of legal protections afforded to the site's natural and cultural resources and ecological processes.
   Permanence of Protection – length of time protections remain in effect.
   Constancy of Protection – year-round, seasonal or rotating.
   Ecological Scale of Protection – range from entire ecosystems and their associated biophysical processes, to focal habitats, species, or other resources deemed to be of economic or ecological importance.

   For most MPAs in the U.S. and elsewhere, these five functional characteristics provide an accurate picture of why the site was established, what it is intended to protect, how it achieves that protection, and how it may affect local ecosystems and local human uses.

3. *Used GIS software to identify area of spatial overlap between benthic habitat data and Coral Jurisdiction MPA boundaries*

   The National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) initiated a coral reef research program in 1999 to map, assess, inventory, and monitor U.S. coral reef ecosystems (Monaco et al. 2001). These activities were implemented in response to requirements outlined in the Mapping Implementation Plan developed by the Mapping and Information Synthesis Working Group (MISWG) of the Coral Reef Task Force (CRTF) (MISWG 1999). NOS's Biogeography Team was charged with the development and implementation of a plan to produce comprehensive digital coral-reef ecosystem maps for all U.S. States, Territories, and Commonwealths within five to seven years. In response to Executive Order 13089 and the Coral Reef Conservation Act of 2000, NOS is conducting research to digitally map biotic resources and coordinate a long-term monitoring program that can detect and predict change in U.S. coral reefs and their associated habitats and biological communities. For more information on benthic habitat data produced by the NOS Biogeography Team, visit http://ccma.nos.noaa.gov/about/biogeography/proj_theme.html.

4. *Calculated areal extent of benthic habitat data within Coral Jurisdiction MPA GIS boundaries*

   The areal extent of benthic habitat data within MPAs was calculated in the Eckert IV WGS84 projection, using the polygon area calculation operation in XTools Pro 3.2.0 extension for ArcMap™ 9.1 GIS software.

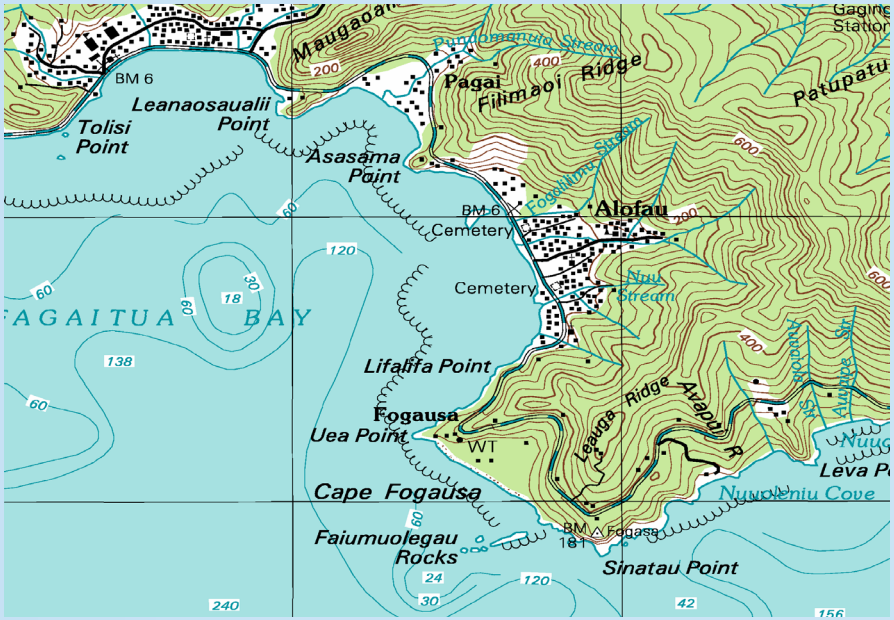
Alofau

Management Agency: American Samoa Department of Marine and Wildlife Resources

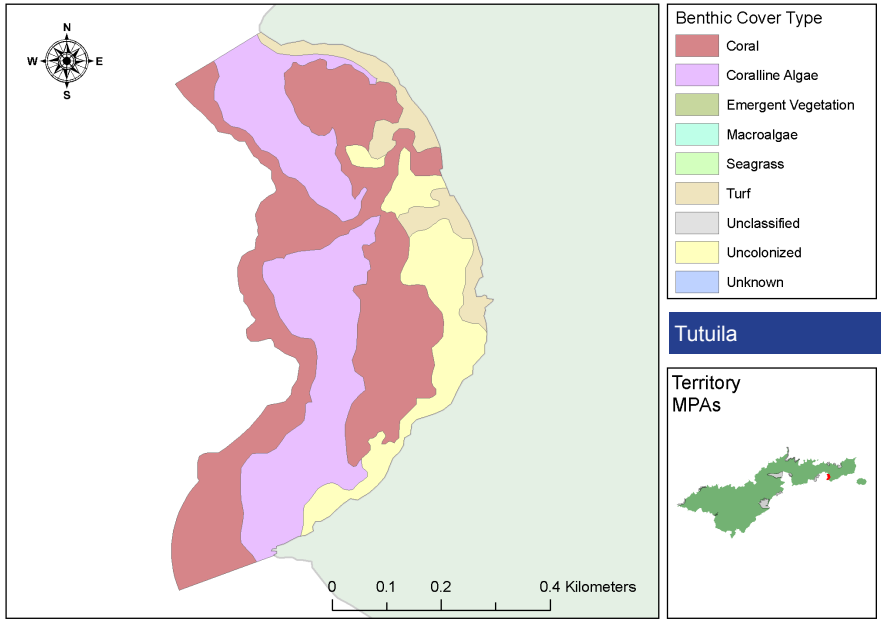
Overview

The village of Alofau is on the northeast side of Tutuila Island on Fagaitua Bay. Alofau has a reef area that extends from 250 yards offshore to almost half a mile into the ocean to a water depth of about 500 feet. This reef area is bound by Asasame Point in the north and Uea Point in the south. Alofau joined the Community-based Fisheries Management Program (CFMP) of American Samoa's Department of Marine and Wildlife Resources in 2001, and has agreed to designate the entire reef area described above as Alofau's Fisheries Reserve Area.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.



Alofau CFMP Reserve



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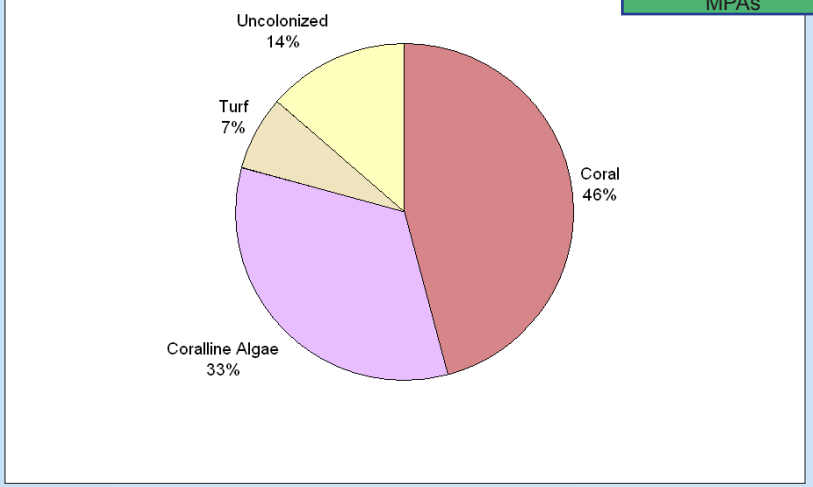


This site contains 0.2% of the total area of American Samoa's MPAs

Amaua & Auto

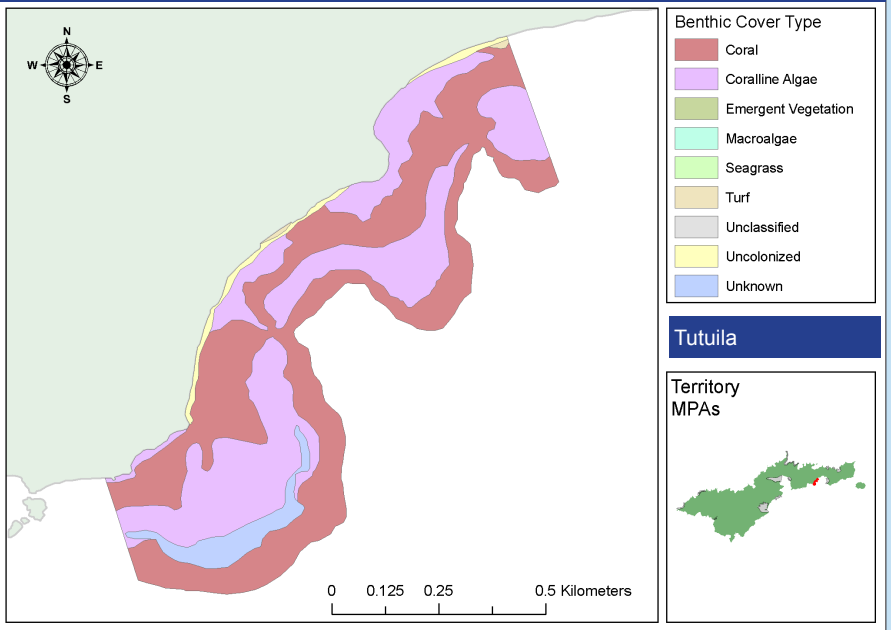
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The villages of Amaua and Auto are on the northeast side of Tutuila Island on Fagaitua Bay. The Fish Reserve of Amaua and Auto is bound by Fagaiiili Point in the south and the village of Amaua in the north. This reserve sustains a culturally important fishery that includes fish, clams, snails, and sea urchins. Some of the village's common fishing activities are carried out at depths of 10 to 20 feet when the tide is high. Conversely, at low tide, these depths can become very shallow, reaching not more than a foot high.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Amaua & Auto CFMP Reserve



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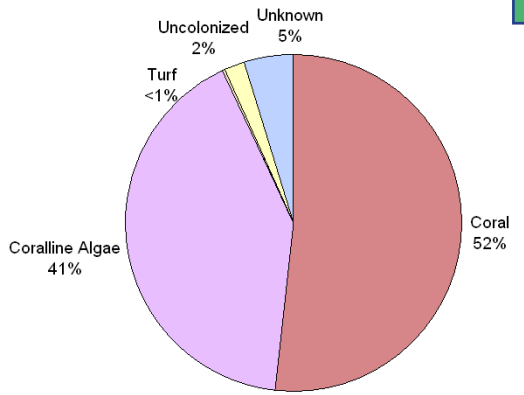


Aoa

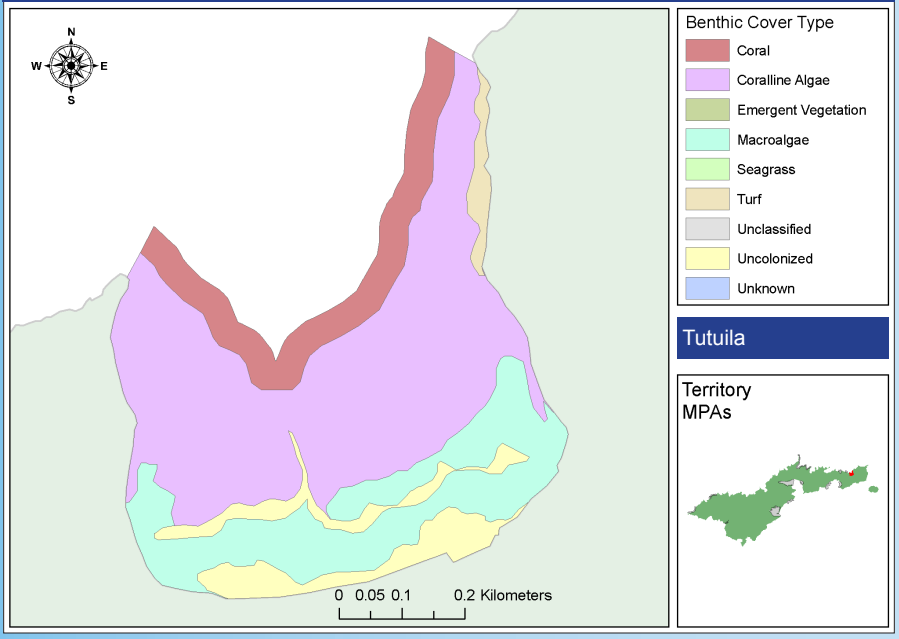
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Aoa is on the northeast side of Tutuila Island on Aoa Bay. The Aoa Village Marine Protected Area was established under the Community-based Fisheries Management Program in 2005 to "Increase the availability of fish and marine resources for Aoa village." The enclosed bay between Motusaga Point in the west and Palau Point in the east has been designated as the protected area for it is easily enforced by the bay community of Aoa. The Aoa Village Marine Protected Area extends seaward approximately 50 yards from the reef drop-off.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Aoa CFMP Reserve



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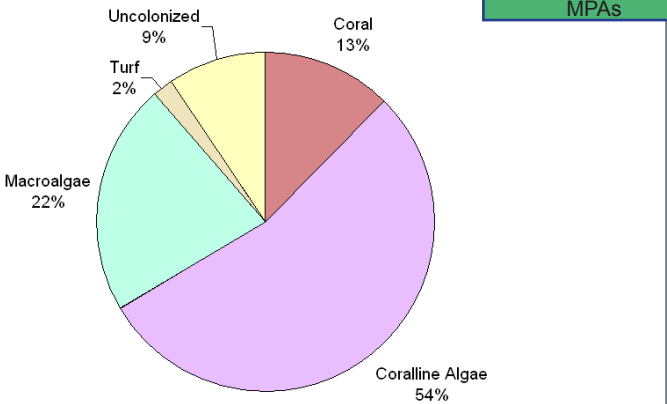


Aua

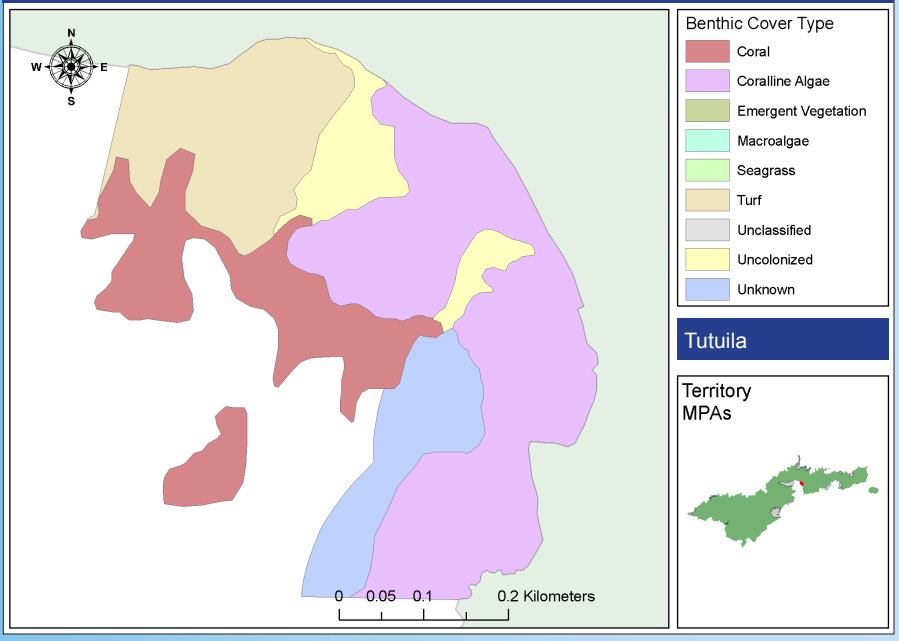
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Aua is on the northeast side of Tutuila Island overlooking Pago Pago Harbor. The Aua Community-based Fisheries Management Program (CFMP) Reserve is bound by the village of Lepua in the north and Aua Point in the south. This reserve sustains both finfish and shellfish fisheries, and participates in the Territorial Monitoring Plan, which surveys corals and fish species.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Aua CFMP Reserve



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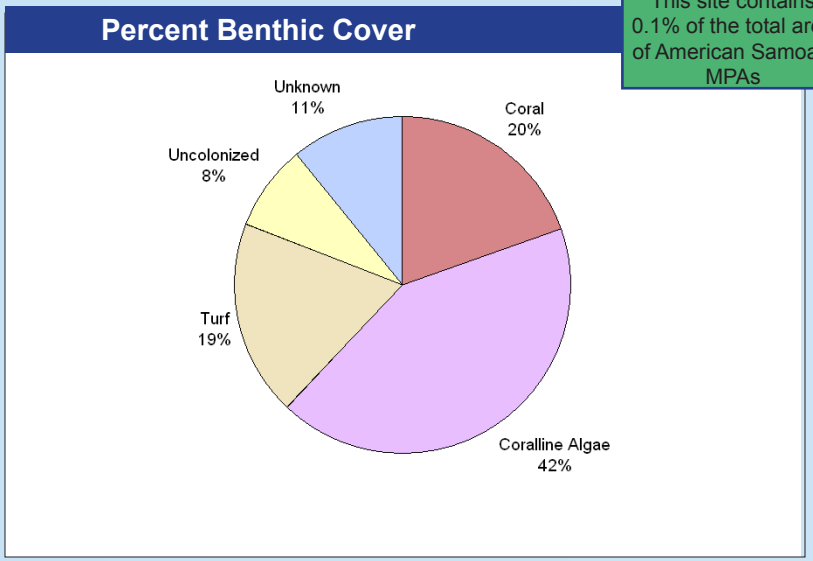

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Fagamalo

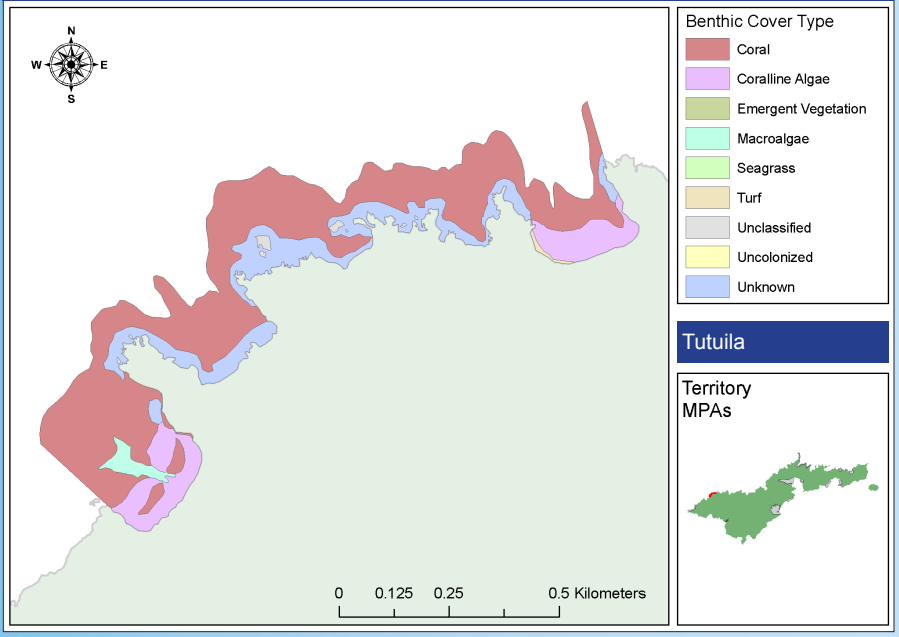
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Fagamalo is located at the southwestern end of the island of Tutuila. The Fagamalo Marine Protected Area is bound by Vaoaga Point in the west, Nu'u-o-Manu in the east, and has a seaward boundary that extends 75 yards from the reef drop off. This MPA was established under the Community-based Fisheries Management Program in 2002 to address two important issues threatening Fagamalo's reef and marine resources: 1) the continued use of illegal and destructive fishing methods in the region, and 2) an increase in the number of fishing boats in the region.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Fagamalo CFMP Reserve



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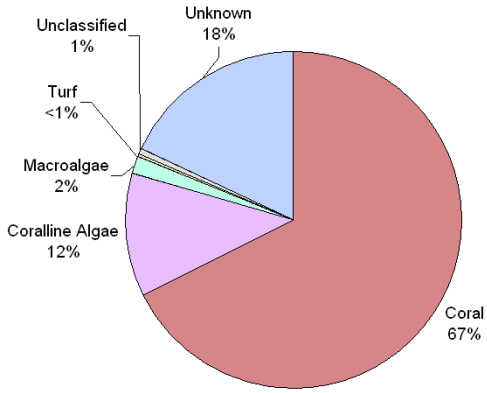


Leone Pala

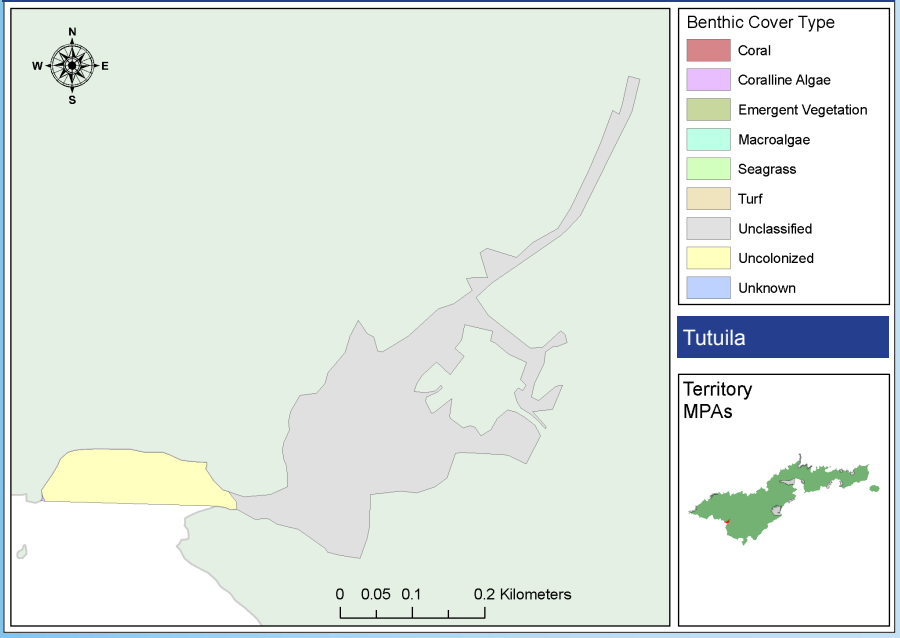
Management Agency: American Samoa Department of Commerce

Overview

The village of Leone is located on the southwestern side of Tutuila Island. The Leone Pala Special Management Area (SMA) is a mangrove swamp known as Leone Pala Lagoon. The lagoon receives its water from the Leafu Stream and discharges to Leone Bay. This wetland has been designated a Special Management Area due to its important role as fish and wildlife habitat, its historical significance, and its function as a focal point for the village of Leone.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Leone Pala SMA



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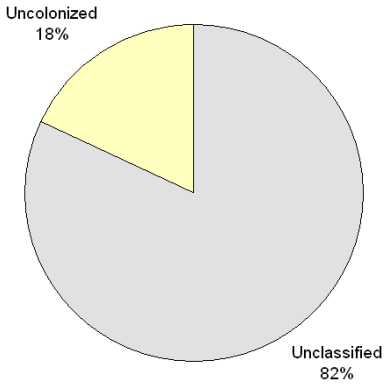


Masausi

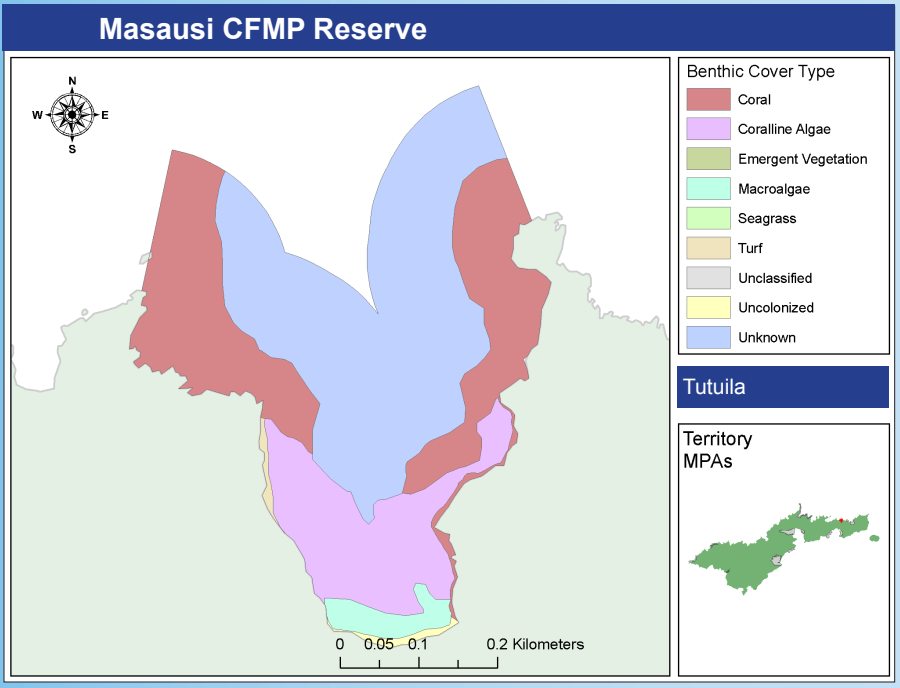
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Masausi is on the northeast side of Tutuila Island. The Masausi Marine Protected Area is bound by Puputagi Point in the west and Folau Point in the east. Fishing boats reach this protected area through one primary channel that is not accessible during high tide or rough weather. This reserve was established to conserve Masausi's marine resources, which include fish, clams, snails, and sea urchins.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Masausi CFMP Reserve



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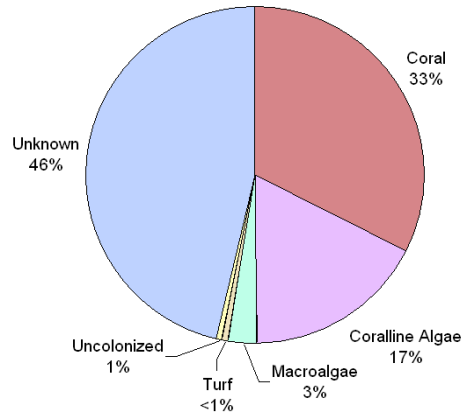


Matu'u & Faganeanea

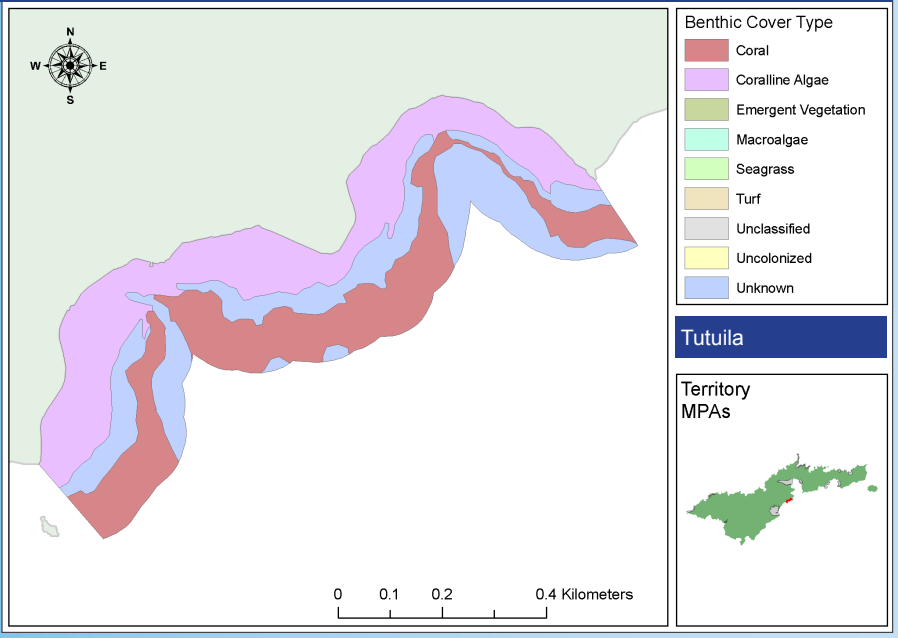
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The villages of Matu'u & Faganeanea are on the south central side of Tutuila Island. The Matu'u & Faganeanea Village Marine Protected Area is bound by Utulaina Point in the southwest, Matautuloa Point in the north-east, and has a seaward boundary that extends 75 yards from the reef drop off. This MPA was established under the Community-based Fisheries Management Program in 2005, and is a popular site for the annual palolo worm harvest, which usually occurs in October or November.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Matu'u & Faganeanea CFMP Reserve



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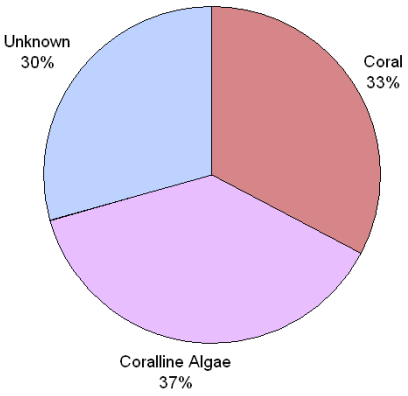

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Nu'uuli Pala

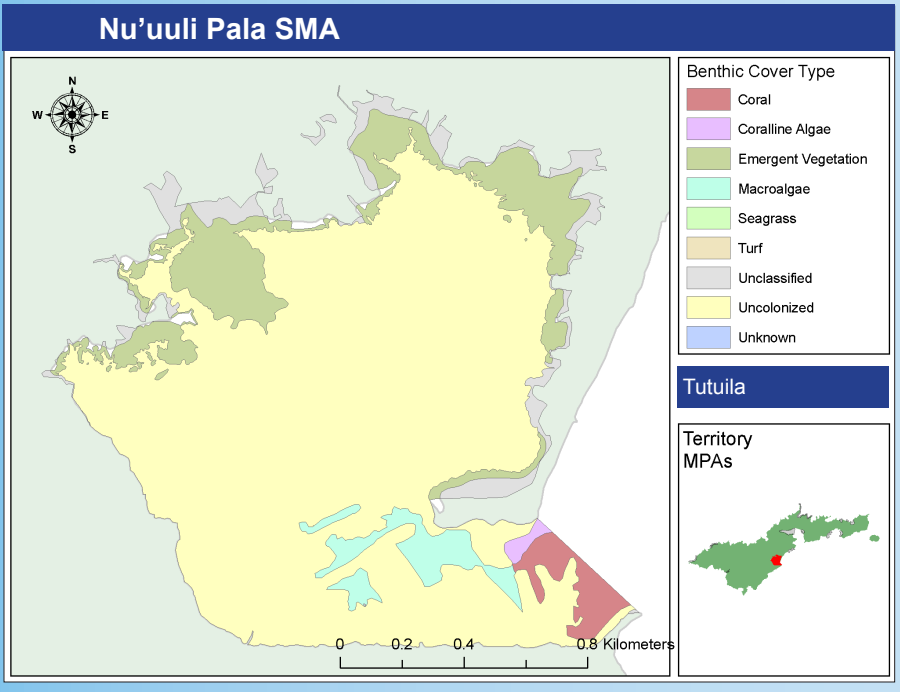
Management Agency: American Samoa Department of Commerce

Overview

The village of Nu'uuli is located on the south central side of Tutuila Island. The Nu'uuli Pala Special Management Area (SMA)—also known as Nu'uuli Pala Lagoon—is the largest mangrove swamp on Tutuila. The largest mangrove swamp on the island of Tutuila. Excluding the lagoon, Nu'uuli Pala covers 50 ha (123 acres) of which approximately 40 ha are covered with Oriental and Red mangroves. Also, within the wetland there is a narrow strip of salt water marsh.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Nu'uuli Pala SMA



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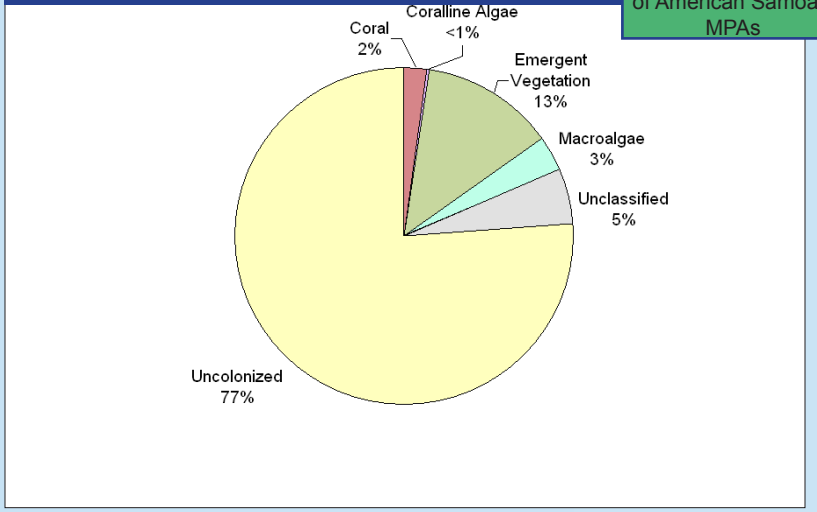


This site contains 1.2% of the total area of American Samoa's MPAs

Ofu Vaoto Marine Park

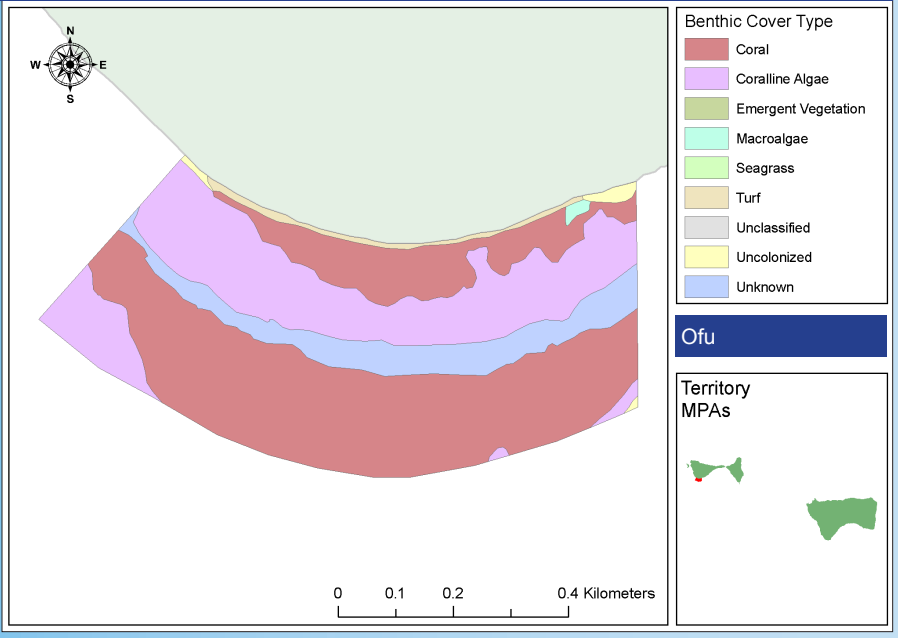
Management Agency: American Samoa Department of Parks and Recreation

Overview

The Ofu Vaoto Marine Park is located on the south side of Ofu Island. The boundaries of the park extend approximately one half mile from Fatuana point to the west end of the Ofu airport runway and from the mean high water line seaward to the ten fathom depth curve. This unique habitat includes a high diversity of corals (in particular blue coral), fish, and hawksbill turtle nesting sites. Regulations for the park prohibit fishing or shellfish harvesting. However, there is an exception that allows Ofu Island residents to continue subsistence fishing and shellfish harvesting in the park in accordance with territorial fishing regulations.

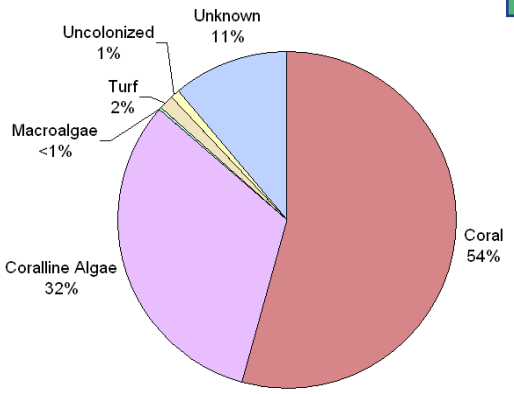
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Ofu Vaoto Marine Park



This site contains 0.2% of the total area of American Samoa's MPAs

Percent Benthic Cover



Pago Pago Harbor SMA

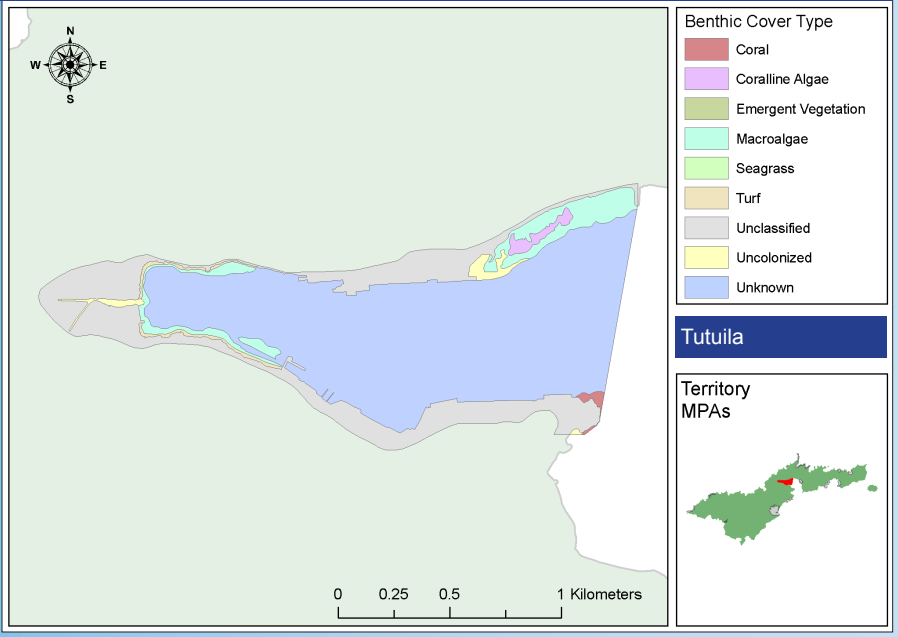
Management Agency: American Samoa Department of Commerce

Overview

Pago Pago is located on the south central side of Tutuila Island. As the most developed area in American Samoa, Pago Pago Harbor has the most pollution in American Samoa. Additionally, Pago Pago Harbor is the deepest harbor in the South Pacific. One consequence of this depth is that the harbor experiences poor water circulation, which, in turn, leads to long residence times for contaminants. The Pago Pago Harbor Special Management Area was designated in response to these conditions, and any proposed development or action within the management area is evaluated and approved based on how well it promotes a safe and productive harbor, with good water quality and protected natural resources.

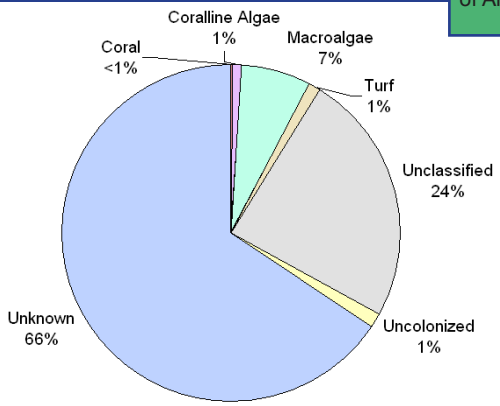
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Pago Pago Harbor SMA



Percent Benthic Cover

This site contains 0.9% of the total area of American Samoa's MPAs



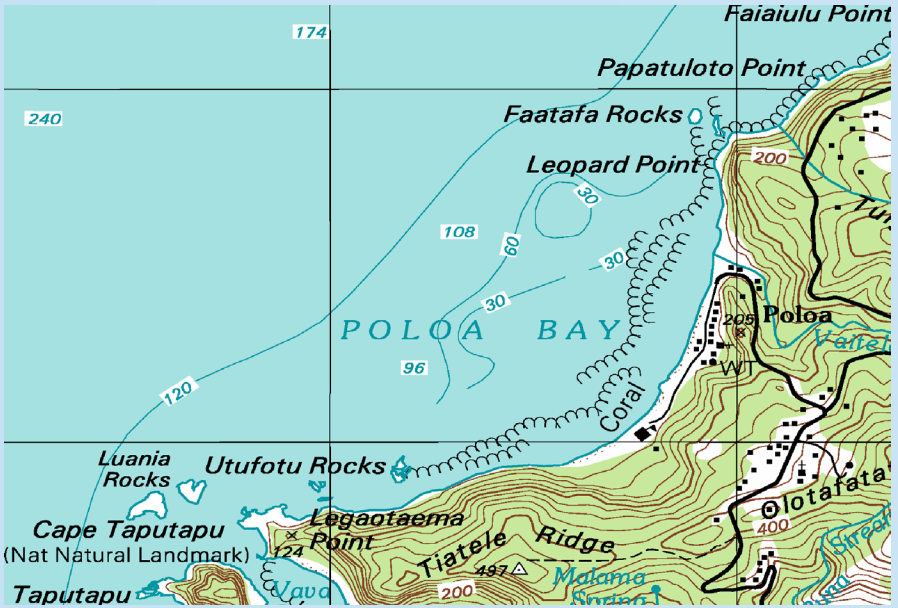
Poloa

Management Agency: American Samoa Department of Marine and Wildlife Resources

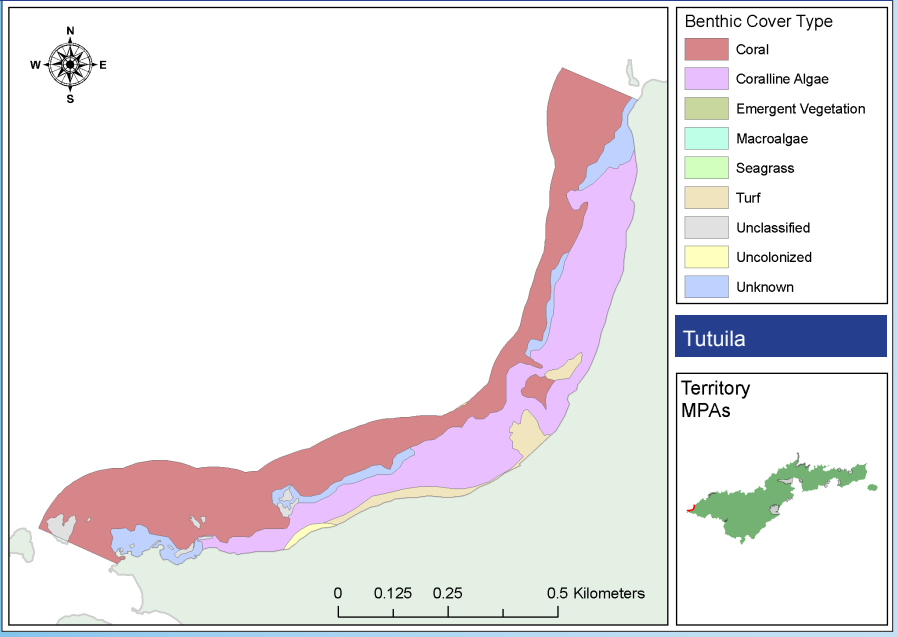
Overview

The village of Poloa is located at the southwestern end of Tutuila Island. The Poloa Village Marine Protected Area is bound by Legaotaema Point in the southwest, Leopard Point in the northeast, and has a seaward boundary that extends 100 yards from the reef drop off. The Poloa MPA was established to conserve, protect, and manage Poloa's living marine resources, such as fish and shellfish that use this area as their nursery grounds.

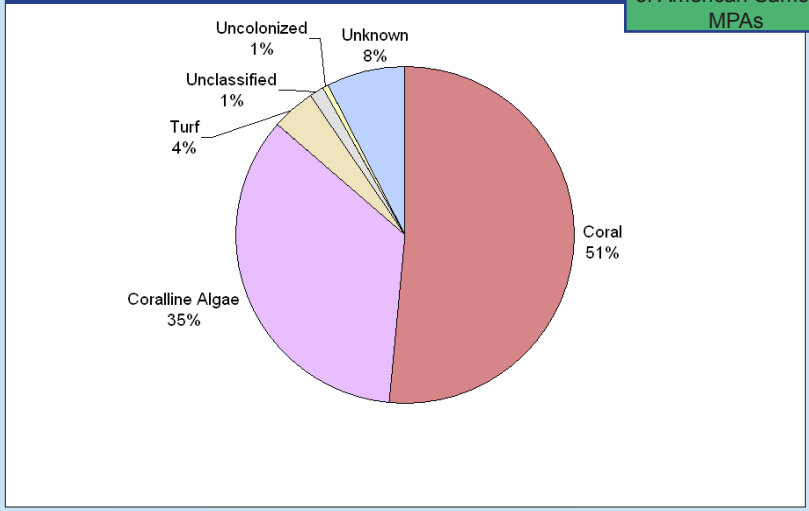
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.



Poloa **CFMP Reserve**



Percent Benthic Cover



This site contains 0.2% of the total area of American Samoa's MPAs

Sa'ilele

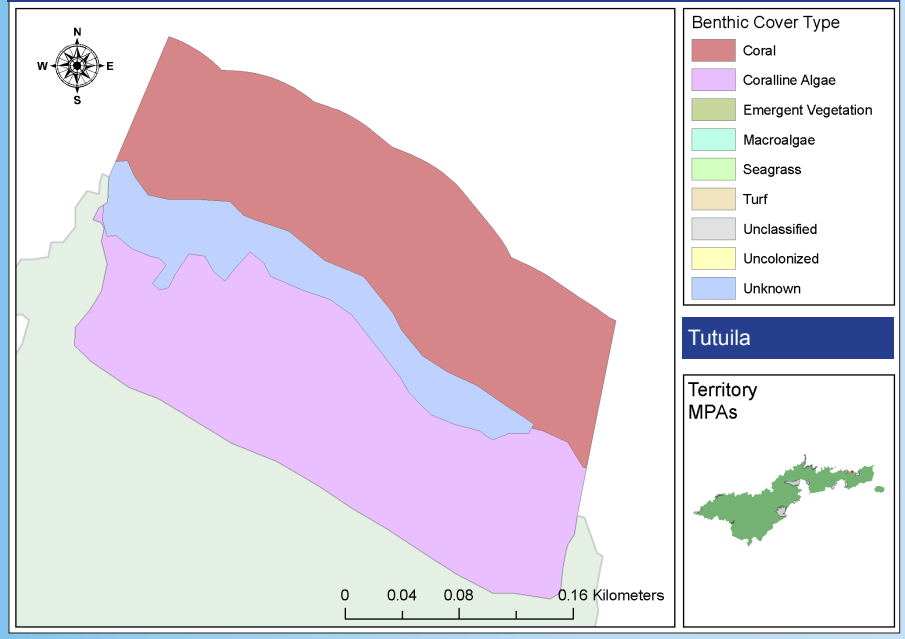
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Sa'ilele is located at the northeastern end of Tutuila Island. The Sa'ilele Community-based Fisheries Management Program Reserve is bound by Malo Point in the west and Leanmanu Point in the east. The Sa'ilele CFMP Reserve was designed to assist the village of Sa'ilele with the management and conservation of its inshore fishery resources.

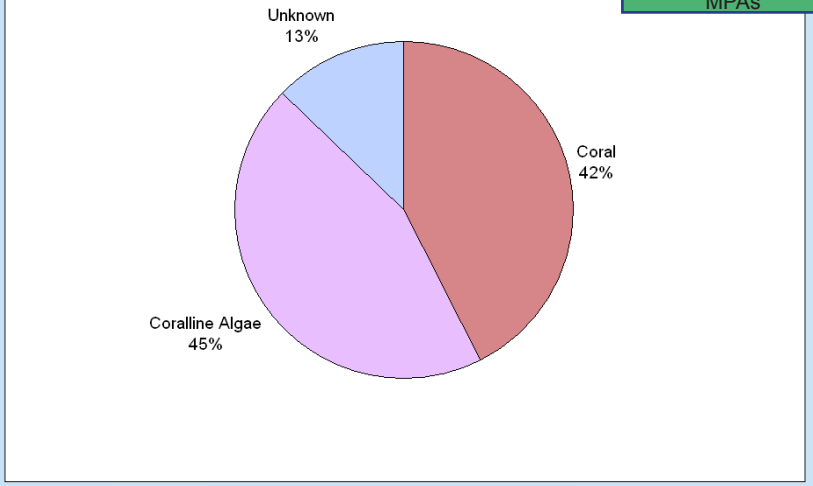
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Sa'ilele CFMP Reserve



Percent Benthic Cover

This site contains <0.1% of the total area of American Samoa's MPAs



Vatia

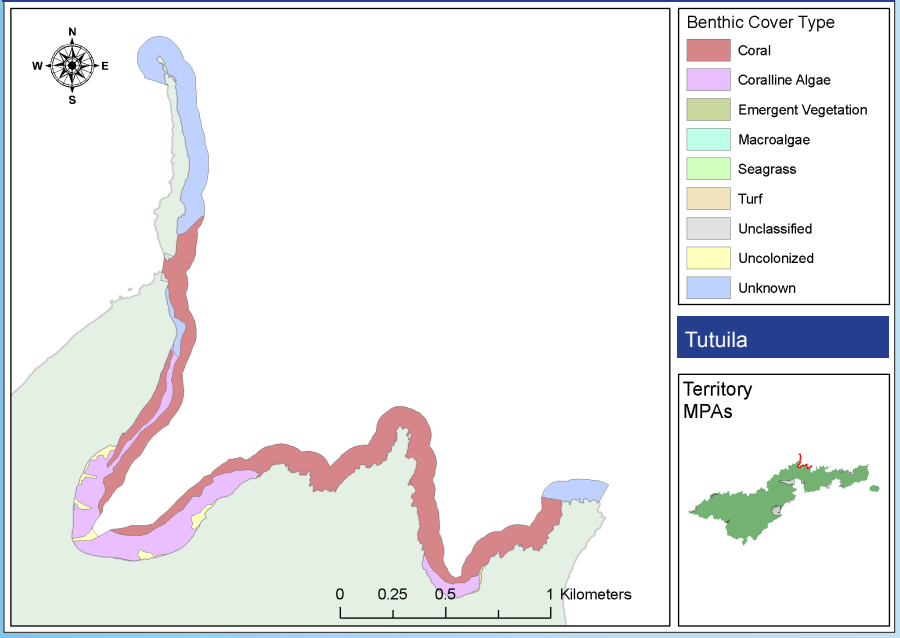
Management Agency: American Samoa Department of Marine and Wildlife Resources

Overview

The village of Vatia is located on the northeastern side of Tutuila Island. The Vatia Community-based Fisheries Management Program Reserve is bound by Matalia Point in the west and Craggy Point in the east. The Vatia CFMP Reserve was designed to assist the village of Vatia with the management and conservation of its inshore fishery resources.

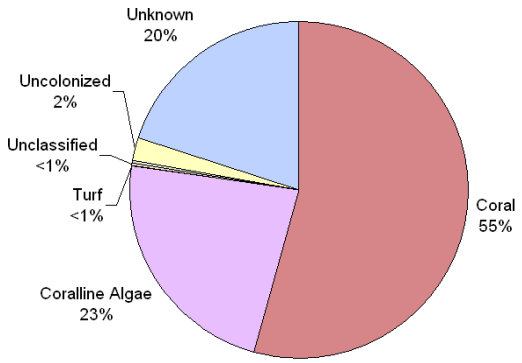
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Vatia CFMP Reserve



This site contains 0.4% of the total area of American Samoa's MPAs

Percent Benthic Cover



Fagatele Bay National Marine Sanctuary

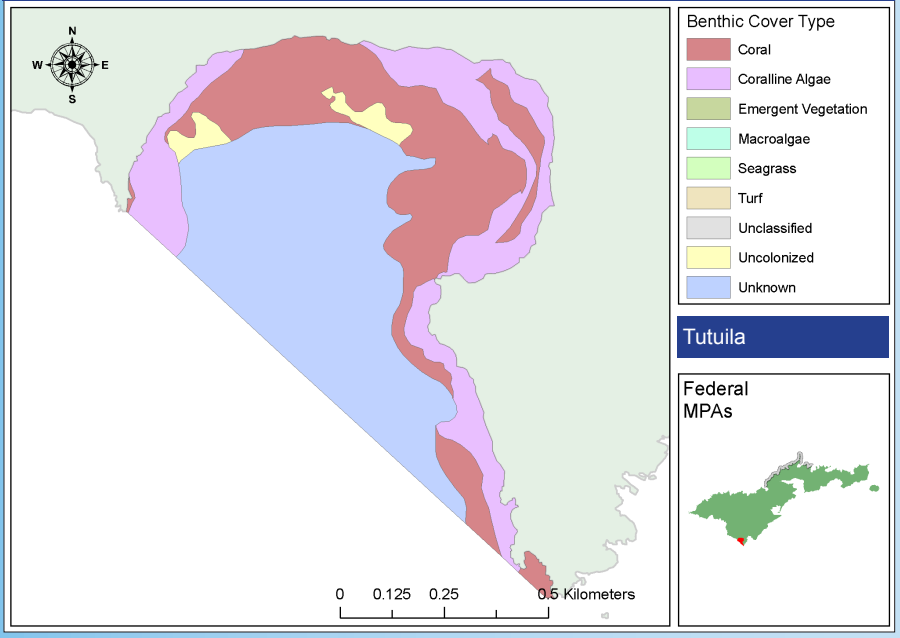
Management Agency: National Oceanic & Atmospheric Administration

Overview

The Fagatele Bay National Marine Sanctuary is located on the southwest side of Tutuila Island. The sanctuary is composed of a fringing coral reef ecosystem nestled within an eroded volcanic crater. Nearly 200 species of coral are recovering from a devastating crown-of-thorns starfish attack in the late 1970s, which destroyed over 90% of the coral. Since then new growth has been compromised by two hurricanes, several tropical storms, and coral bleaching.This cycle of growth and destruction is typical of tropical marine ecosystems. For more information, visit the sanctuary website at http://www.fbnms.nos.noaa.gov

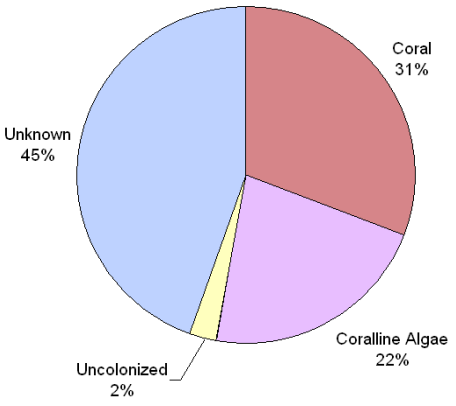
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Fagatele Bay National Marine Sanctuary



Percent Benthic Cover

This site contains 0.4% of the total area of American Samoa's MPAs



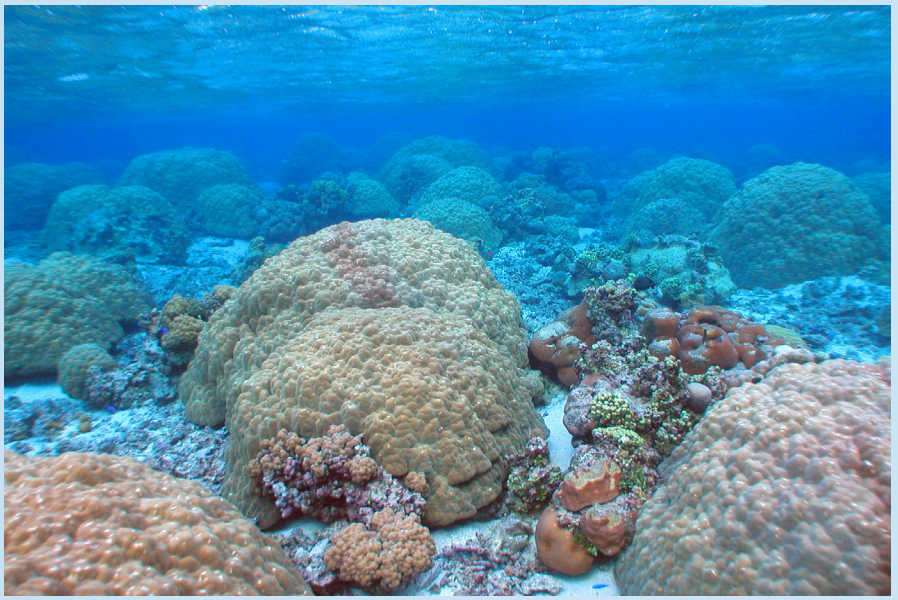
National Park of American Samoa: Ofu Unit

Management Agency: National Park Service

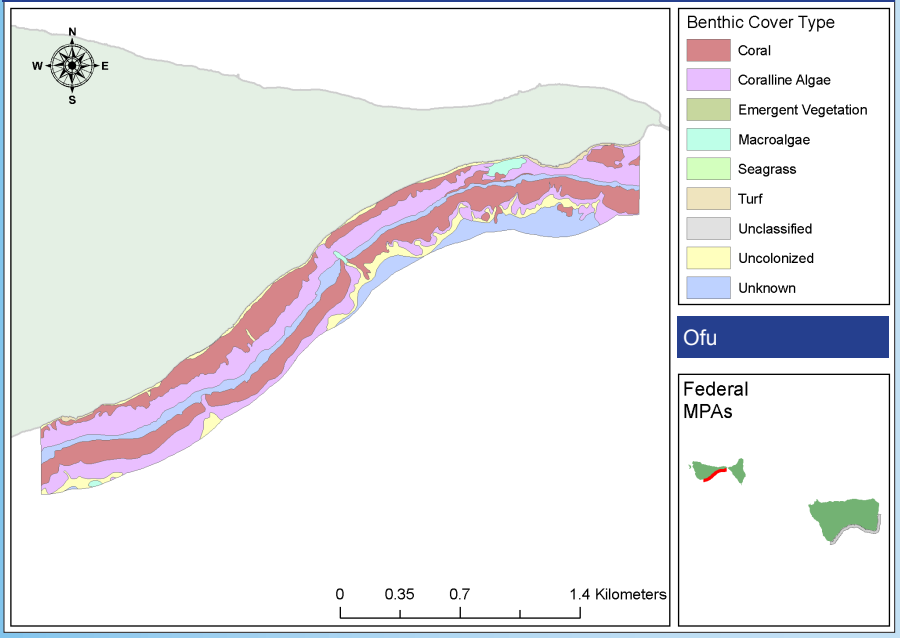
Overview

The National Park of American Samoa is composed of three units located on three islands—Tutuila, Ofu, and Ta'u. The Ofu Unit of the park is on the south side of Ofu Island, between Fatuana Point and Asaga Strait. This is the smallest unit of the park, with about 70 acres of land and approximately 350 acres of offshore waters. The U.S. congress established this national park "to preserve and protect the tropical forest and archaeological and cultural resources of American Samoa, and of associated reefs, to maintain the habitat of flying foxes, preserve the ecological balance of the Samoan tropical forest, and, consistent with the preservation of these resources, to provide for the enjoyment of the unique resources of the Samoan tropical forest by visitors from around the world."

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

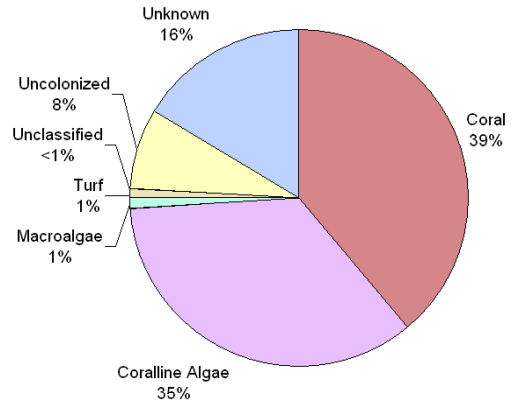


National Park of American Samoa: Ofu Unit



This site contains 0.9% of the total area of American Samoa's MPAs

Percent Benthic Cover



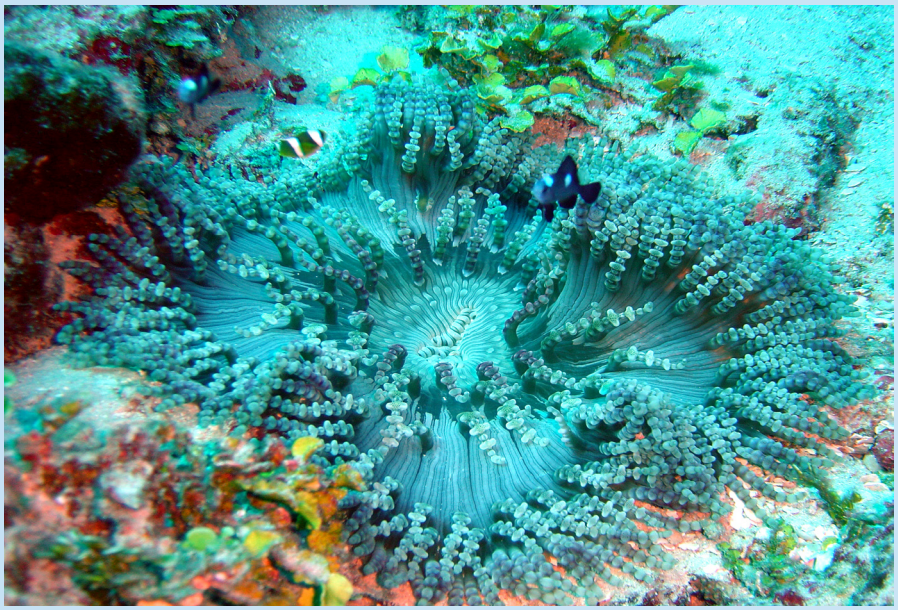
National Park of American Samoa: Ta'u Unit

Management Agency: National Park Service

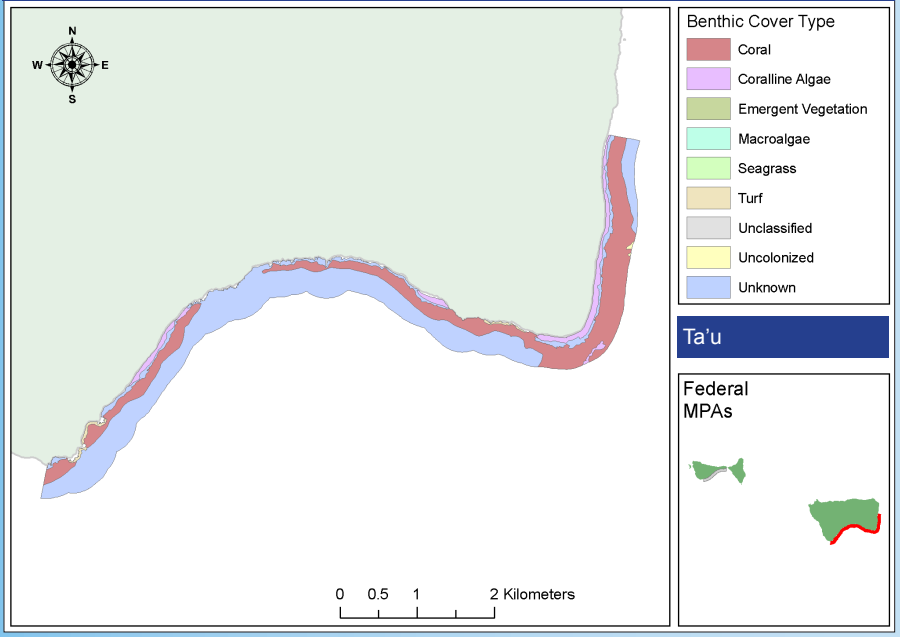
Overview

The National Park of American Samoa is composed of three units located on three islands—Tutuila, Ofu, and Ta'u. The Ta'u Unit of the park is on the southeastern side of Ta'u Island, between Siufaalele Point and Saua. This is the largest unit of the park, with approximately 5,400 acres of land and approximately 1,000 acres of offshore waters. The Ta'u Unit's seaward boundary extends into the Pacific Ocean about one-quarter mile along Ta'u Island's eastern and southern coasts. The National Park of American Samoa was officially established in 1993 when a 50-year lease was signed.

Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

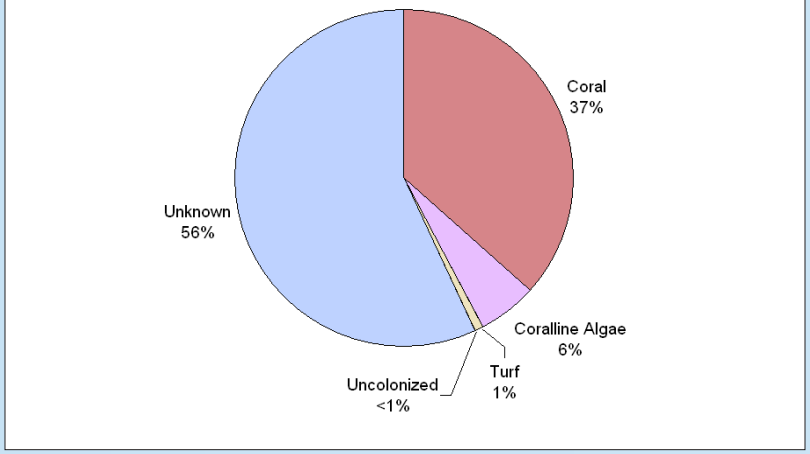


National Park of American Samoa: Ta'u Unit



Percent Benthic Cover

This site contains 2.7% of the total area of American Samoa's MPAs



National Park of American Samoa: Tutuila Unit

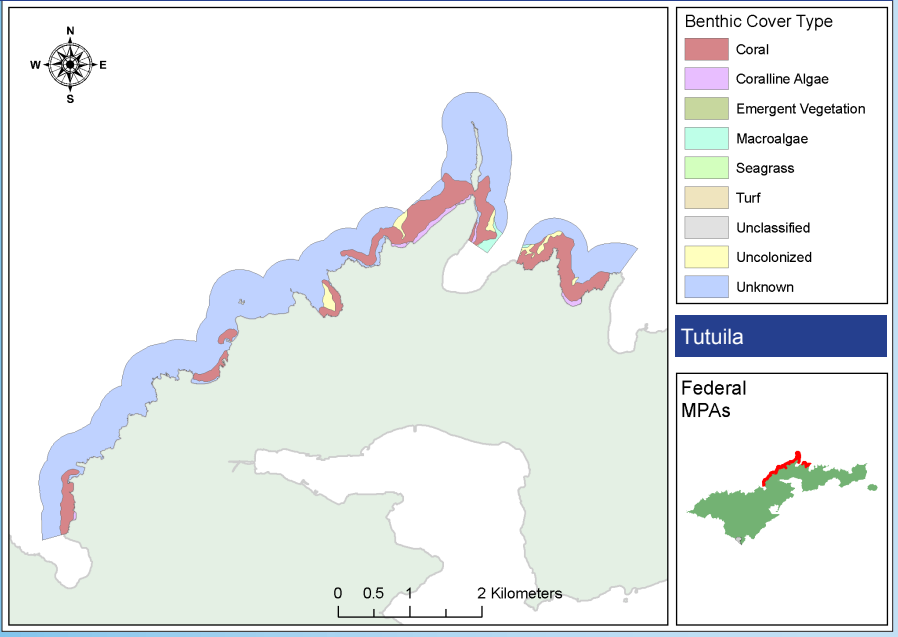
Management Agency: National Park Service

Overview

The National Park of American Samoa is composed of three units located on three islands—Tutuila, Ofu, and Ta'u. The Tutuila Unit of the park is on the north central side of Tutuila Island, between the villages of Fagasa in the west and Afono in the east. This unit contains approximately 2,500 acres of land and approximately 1,200 acres of offshore waters. With more than 800 native fish and more than 200 coral species, the coral reefs of this national park shelter the greatest marine biodiversity in the U.S. and its possessions.

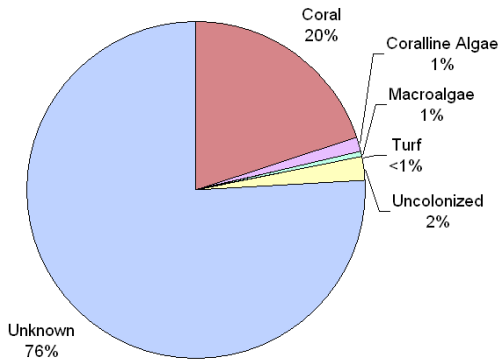
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

National Park of American Samoa: Tutuila Unit



Percent Benthic Cover

This site contains 3.7% of the total area of American Samoa's MPAs



Rose Atoll National Wildlife Refuge

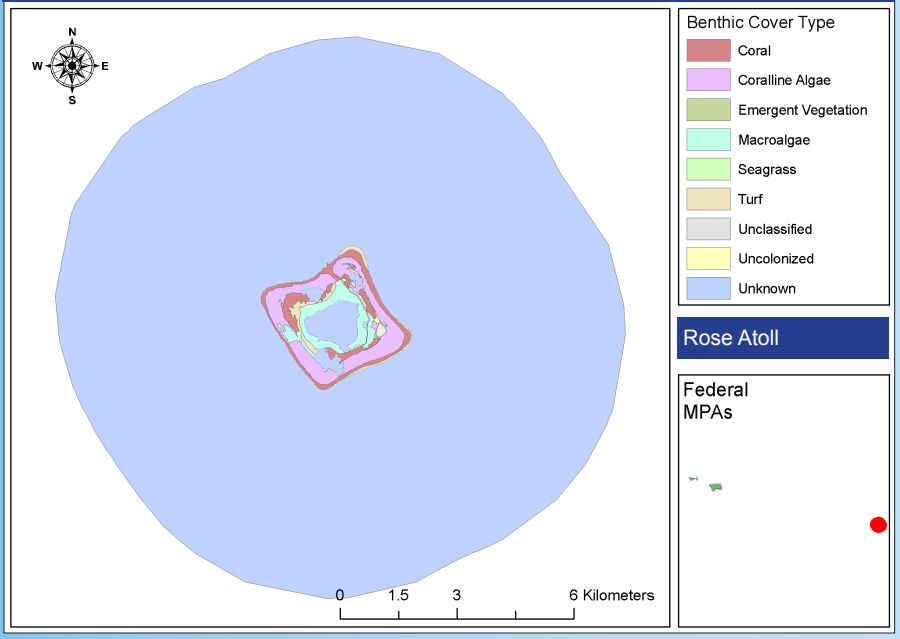
Management Agency: U.S. Fish & Wildlife Service

Overview

Rose Atoll is at the east end of the Samoan archipelago, 180 miles east of Pago Pago, American Samoa. It is the smallest atoll in the world with about 20 acres of land and 1,600 acres of lagoon. The square reef protects two small, emergent islands: Rose Island and Sand Island. Rose Island, the larger of the two, is low, sandy, and thickly vegetated with shrubs, vines, and trees. It is an important nesting area for the threatened green sea turtle and the endangered hawksbill sea turtle. The Rose Atoll National Wildlife Refuge is American Samoa's first Marine Protected Area, established in 1973. The refuge is closed to the public to protect fragile seabird colonies, endangered species, and coral reef habitats.

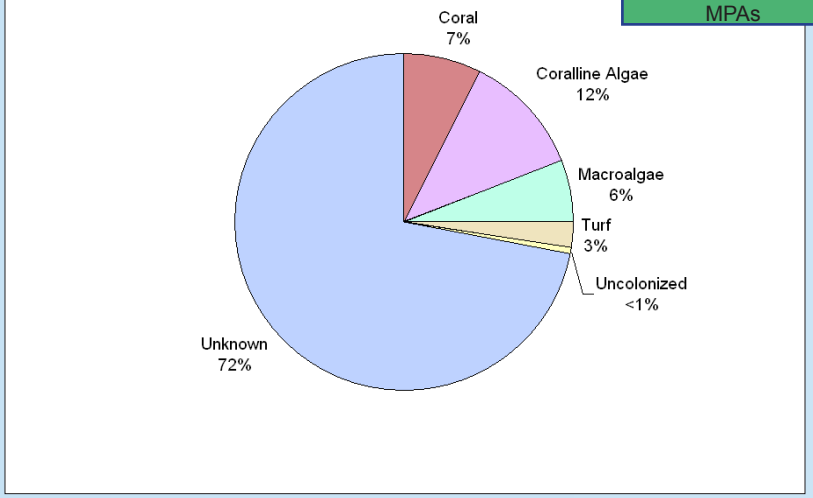
Source of Overview: U.S. Marine Managed Areas Inventory (2006a), NOAA's National Marine Protected Areas Center.

Rose Atoll National Wildlife Refuge



This site contains 88.1% of the total area of American Samoa's MPAs

Percent Benthic Cover



Appendix A: National MPA Classification System

The National Classification System was developed by the National MPA Center in an effort to develop a "straightforward and consistent language to accurately describe the many types of MPAs occurring in our waters and to understand their effects on ecosystems and the people that use them" (NOAA National MPA Center, 2006b). A full description of the classification system is available at www.mpa.gov. The system describes MPAs in purely functional terms using five objective characteristics common to most MPAs:

1) Conservation Focus – each site was assigned one or more of the following three attributes:
   a. *Natural Heritage* – established and managed to sustain, conserve, restore and understand the biodiversity, populations, communities, habitats, ecosystems, processes and services of an MPA or MPA zone
   b. *Cultural Heritage* – established and managed to protect and under stand submerged cultural resources
   c. *Sustainable Production* – established and managed to support the continued extraction of renewable living resources

2) Level of Protection Afforded – each site was assigned one of the following six attributes:
   a. *Uniform Multiple-Use* – Consistent level of protection and allowable activities throughout the MPA
   b. *Zoned Multiple-Use* – Some extractive activities allowed throughout entire site, but use marine zoning to allocate specific uses to compatible places or times
   c. *Zoned Multiple-Use with No-Take Areas* – Multiple-use MPAs that contain one or more zones where resource extraction is prohibited
   d. *No-Take* – MPA sites that allow human access but prohibit resource extraction throughout the area
   e. *No Impact* – MPAs that allow human access but prohibit all activities that could harm the site's resources or disrupt the service they provide
   f. *No Access* – MPAs that restrict all human access to the area unless specifically permitted for designated special uses

3) Permanence of Protection – each site was assigned one of the following three attributes:
   a. *Permanent* – MPAs whose legal authorities provide protection in perpetuity
   b. *Conditional* – MPAs that have the potential to persist over time but whose legal authority has a finite duration and must be actively renewed
   c. *Temporary* – MPAs that are designed to address relatively short-term conservation and management needs by protecting a specific habitat or species for a finite duration with no expectation or mechanism for renewal

4) Constancy of Protection – each site was assigned one of the following three attributes:
   a. *Year-round* – MPAs that provide constant protection throughout the year
   b. *Seasonal* – MPAs that protected specific habitats and resources during fixed seasons or periods
   c. *Rotating* – MPAs that cycle among a set of fixed geographic areas in order to meet short-term conservation and management goals

5) Ecological Scale of Protection – each site was assigned one of the following two attributes:
   a. *Ecosystem* – MPAs whose legal authorities and management measures are intended to protect all of the components and processes of the ecosystem(s) within its boundaries
   b. *Focal Resource* – MPAs whose legal authorities and management measures specifically target a particular habitat, species complex, or single resource

Appendix B: American Samoa MPA Classification

Site Name	Conservation Goal	Level of Protection	Permanence of Protection	Constancy of Protection	Scale of Protection	Management Plan
Alofau*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Amaua & Auto*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Aoa*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Aua*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Fagamalo*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Leone Pala*	Natural Heritage	Uniform Multiple Use	Permanent	Year Round	Ecosystem	No
Masausi*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Matu'u & Faganeanea*	Natural Heritage	Uniform Multiple Use	Permanent	Year Round	Ecosystem	No
Nu'uuli Pala*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Ofu Vaoto Marine Park*	Natural Heritage	Uniform Multiple Use	Permanent	Year Round	Ecosystem	No
Pago Pago Harbor*	Natural Heritage	Uniform Multiple Use	Permanent	Year Round	Ecosystem	No
Poloa*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Sa'ilele*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Vatia*	Sustainable Production	No Access	Conditional	Year Round	Ecosystem	Yes
Fagatele Bay National Marine Sactuary**	Natural Heritage & Cultural Heritage	Zoned Multiple Use	Permanent	Year Round	Ecosystem	Yes
National Park of American Samoa**	Natural Heritage & Cultural Heritage	Uniform Multiple Use	Permanent	Year Round	Ecosystem	Yes
Rose Atoll National Wildlife Refuge**	Natural Heritage	No Access	Permanent	Year Round	Ecosystem	Yes

* Territory MPA
** Federal MPA

Appendix C: Benthic Cover (km^2) by Site

	Coral	Coralline Algae	Emergent Vegetation	Macroalgae	Seagrass	Turf	Unclassified	Uncolonized	Unknown	Total
Alofau*	0.154	0.113	0.000	0.000	0.000	0.024	0.000	0.046	0.000	0.337
Amaua & Auto*	0.251	0.200	0.000	0.000	0.000	0.001	0.000	0.010	0.023	0.485
Aoa*	0.043	0.186	0.000	0.078	0.000	0.007	0.000	0.033	0.000	0.346
Aua*	0.046	0.098	0.000	0.000	0.000	0.045	0.000	0.019	0.026	0.234
Fagamalo*	0.206	0.036	0.000	0.005	0.000	0.001	0.002	0.000	0.055	0.305
Leone Pala*	0.000	0.000	0.000	0.000	0.000	0.000	0.073	0.016	0.000	0.089
Masausi*	0.066	0.035	0.000	0.006	0.000	0.001	0.000	0.001	0.095	0.204
Matu'u & Faganeanea*	0.108	0.124	0.000	0.000	0.000	0.000	0.000	0.000	0.098	0.331
Nu'uuli Pala*	0.047	0.008	0.263	0.071	0.000	0.000	0.112	1.587	0.000	2.087
Ofu Vaoto Marine Park*	0.209	0.124	0.000	0.001	0.000	0.006	0.000	0.003	0.043	0.385
Pago Pago Harbor*	0.006	0.015	0.000	0.110	0.000	0.015	0.402	0.022	1.083	1.653
Poloa*	0.183	0.124	0.000	0.000	0.000	0.015	0.005	0.002	0.027	0.356
Sa'ilele*	0.036	0.038	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.086
Vatia*	0.388	0.165	0.000	0.000	0.000	0.001	0.002	0.017	0.142	0.715
Fagatele Bay National Marine Sactuary**	0.220	0.156	0.000	0.000	0.000	0.000	0.000	0.018	0.319	0.713
National Park of American Samoa: Ofu, Olosega Unit**	0.646	0.583	0.000	0.018	0.000	0.013	0.001	0.128	0.274	1.663
National Park of American Samoa: Ta'u Unit**	1.787	0.269	0.000	0.000	0.000	0.041	0.000	0.005	2.752	4.835
National Park of American Samoa: Tutuila Unit**	1.325	0.087	0.000	0.045	0.000	0.001	0.000	0.134	5.024	6.617
Rose Atoll National Wildlife Refuge**	1.648	2.591	0.000	1.332	0.000	0.572	0.083	0.079	152.478	158.782

* Territory MPA
** Federal MPA

Note: Area calculated in Eckert IV, WGS84 using XTools Pro 3.2.0 extension for ArcMap™ 9.1

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U.S. Geolgical Survey. pg. 4, 15, 16

U.S. Fish & Wildlife Service. pg. 22

Vailtautolu, S. pg. 6, 7

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