

## **Statement of Work**

### Natural Resource Condition Assessment for National Park of American Samoa

Funding Opportunity Announcement: P14AS00043

#### **1. Introduction and Overview**

This Statement of Work (SOW) pertains to a Natural Resource Condition Assessment (NRCA) in and adjacent to National Park of American Samoa (NPSA; Figure 1). The NRCA will provide an evaluation of current ecological conditions and discernible trends for natural resources and ecosystem processes, identify critical data and knowledge gaps, and highlight existing and potential threats to natural resources and ecosystems within the park. This assessment will rely on existing scientific data from multiple sources, as well as the best professional judgment of an interdisciplinary team of specialists, to evaluate current status and suggest future conditions for natural resources in the park.

The assessment will focus on a subset of terrestrial, aquatic and marine resources and processes selected by the park for particular attention. A list of topics and themes that will be addressed by this NRCA are provided in Table 2.

#### NRCA Background

Beginning in Fiscal Year 2003, the NPS Water Resources Division received an increase in base funding to assess watershed-scale natural resource conditions within NPS park units. The division's Natural Resource Condition Assessment Program is overseeing these assessments. As a result of input from NPS staff at parks and regional and national level offices, a determination was made to fund a comparable condition assessment for each of the 270-plus parks that have significant natural resources and related values. Each assessment will be generically titled "Natural Resource Condition Assessment for [park name]."

The Superintendent and resource managers at the park are the primary audience for the NRCA. It is anticipated that NPS managers will use the NRCA products, findings and conclusions to support:

- near-term strategic planning, such as prioritizing limited staff and budget allocations for natural resource protection and restoration;
- Resource Stewardship Strategy and State of the Park development;
- park reporting to the National Coral Reef Task Force;
- justifications for natural resources conservation project proposals;
- park efforts to communicate and partner with other stakeholders to address landscape scale resource management issues and educational outreach; and
- public information on park resources for website and social media and for NPS Centennial documents

#### National Park of American Samoa

General description of the park and important natural resource topics are provided in Appendix A.

#### **2. Statement of Work**

##### Objectives

The project seeks to interpret and synthesize existing scientific information into a form that park managers can readily apply for use in park decision making and resource planning. By incorporating

published research, data from the NPS Inventory and Monitoring Program, additional unpublished NPS data, potentially significant amounts of raw data and information from other agencies (including those within American Samoa), and relevant professional expertise, the assessment will provide managers and the public with the most current determination of resource and ecosystem conditions available.

The project will result in park specific reports and spatial data that: a) describe park resources in a regional context; b) provide an interdisciplinary evaluation of current resource conditions and discernible trends; c) document critical data gaps and research needs; and d) document high-priority resource management issues.

### Guidelines

The standards for NRCA documents are described in detail on the NPS NRCA website ([www.nature.nps.gov/water/nrca/guidance.cfm](http://www.nature.nps.gov/water/nrca/guidance.cfm)). The core document includes five chapters:

1. NRCA Background Information
2. Introduction and Resource Setting
3. Study Design and Scoping
4. Natural Resource Conditions (see below)
5. Discussion

Chapter 4 - Natural Resource Conditions contains the primary assessment analysis and supporting information for each topic, including:

- a. Description and Assessment Measure
- b. Data and Methods
- c. Reference Conditions/Values
- d. Resource Condition and Trend
- e. Level of Confidence
- f. Data Gaps/Research Needs
- g. Management Recommendations
- h. Sources of Expertise
- i. Literature Cited

Examples of completed reports can be accessed at the NPS NRCA website (<http://www.nature.nps.gov/water/nrca/reports.cfm>).

### Other Considerations

*Team Expertise* - The selected Partner should assemble a team with members that have substantial expertise in the natural resources, processes and ecosystems that are of greatest concern and importance in the park. Specifically, for the NPSA NRCA, the expertise should be particularly relevant to the primary topics described under Focal Themes and Resources (below). Expertise should also include experience and background by at least one member of the partner's team for each of the resource elements included in Table 2. Early in the project, one or more persons on the team will need to locate, gather and compile sources of data and information, including but not limited to, reports, gray literature, and GIS information, from agencies and institutions in American Samoa, some of which may still be on paper datasheets in various offices. Therefore, it may be of benefit to the partner to have at least one team member with several years of experience working at or with one or more natural resources agencies in American Samoa. Agencies and institutions that might have data include the Department of Marine and Wildlife Resources (DMWR); National Oceanic and Atmospheric Administration (NOAA), including the National Marine Sanctuary of American Samoa; American Samoan Community College (ASCC); US Department of Agriculture, including Natural Resources Conservation Service.

*Park-specific focus* - All NRCAs will result in a similar set of products as outlined in this SOW. However, each assessment project must consider park-specific variables such as:

- park purpose and significant resources, resource setting, and landscape context (current and historic land-use, adjacent land-use, fragmentation, regional context)
- status of park resource stewardship planning; for example, whether a park has in place a Resource Stewardship Strategy;
- types and amounts of scientific data and information available for use in the assessment;
- other related projects or studies ongoing at the park that may require coordination or data sharing with the NRCA.

*Ecological Framework* - NPS will collaborate with the Partner to identify the appropriate ecological framework to be used in the NRCA as described in the Guidelines. The framework to be used will be agreed upon between the Partner and the Coordinating Committee (described below) early in the project development process and will be included in the study plan. There are a number of frameworks that can be considered, including but not limited to an Environmental Protection Agency-Science Advisory Board (EPA-SAB) framework, and the NPS Ecological Monitoring Framework. A partial list of potentially useful assessment frameworks and methodologies is provided on the NRCA program website at [nature.nps.gov/water/nrca/frameworks.cfm](http://nature.nps.gov/water/nrca/frameworks.cfm). A review of completed NRCA projects will also provide additional examples on frameworks previously adopted.

*Reference Conditions* - An important part of the project involves the identification or development of appropriate reference conditions against which to assess the current status of identified resources. Reference conditions may be qualitative or quantitative based on existing data and knowledge for a given resource. An additional goal of the effort is to integrate resource condition evaluations across multiple ecosystem components, such as species, communities, and physical processes, to provide syntheses of overall ecosystem condition. Where applicable, ecosystem syntheses will be applied to relevant park areas, such as watersheds, ecosystem/habitat types, or park management zones.

*Scientific Integrity* - For many resources and processes, sufficient data will not exist to quantitatively assess condition. To maintain scientific credibility, available data and information will be combined with professional expertise to develop valid assessments. Additional credibility will be achieved through transparent, well-documented logic and assumptions, and by communicating a level of confidence associated with all findings and conclusions.

*Spatial (GIS) Component* - The report will incorporate a strong geospatial component for all topics for which spatial analysis and/or presentation will provide important additional supporting information. (For example, simple presentations of resources in formats that are readily available in existing NPS documents or from other sources may not be necessary unless they are specifically requested by the NPS.) All original spatial data and/or analyses developed by the partner will be delivered as part of the final report, and will include metadata and that meets Federal Geographic Data Committee (FGDC) standards for geospatial content.

### **3. Methods**

A project coordinating committee ('Committee') will be assembled by NPS to provide critical project collaboration between the Partner and NPS (Table 1). Additional members will be added to the committee at the discretion of the NPSA staff once the Partner is selected and prior to the first scoping meeting.

Based on this SOW, the selected Partner will:

- draft a Study and Implementation Plan that will be reviewed and approved by the NPS Committee for NPSA;

- in collaboration with NPS, determine the data and information sources most pertinent and useful to the project and compile those materials into the formats needed for project-related analyses;
- provide a multi-disciplinary synthesis of data and information describing current conditions for each topic. The final products will include a written report as well as all relevant spatial and non-spatial data, data analyses and metadata.

During the course of the project, the Partner and the Committee will communicate regularly to assure that NPS has adequate opportunities for input and review of draft products and findings. In addition, the Partner will keep NPS apprised in a timely manner of any potential deviations from the agreed-upon schedule.

Table 1. Preliminary members of the NPS project coordinating committee for the NPSA assessment. Other members may be added or substituted during the course of the project.

<b>Individual</b>	<b>NPS Affiliation</b>	<b>Position Title</b>
Sean Eagan	NPSA	Chief of Resources
Tavita Togia	NPSA	Terrestrial Ecologist
Tim Clark	NPSA	Marine Ecologist
Carlo Caruso	NPSA	Manu'a District Ranger
Visa Vaivai	NPSA	Inventory and Monitoring Biotech

### Project Phases

*Phase 1* - The Partner will organize several conference calls with NPS NPSA and PACN staff to establish specific goals and objectives for the assessment as directed by the priority resources and topics (described below). (Due to the remoteness of the park, site visits will be made if funding allows but are not required.) During and subsequent to these calls/visits, the Partner will work with NPS staff to identify existing sources of scientific data and information useful for the project, and both parties will develop a data-sharing and metadata development strategy for both spatial and non-spatial data.

*Phase 2* - Based on the results of the site visits and/or conference calls, the Partner will develop a comprehensive Study and Implementation Plan which will incorporate the goals, objectives, and data management strategy described above. The plan will be reviewed and accepted by the Committee before work proceeds.

*Phase 3* - The Partner will produce a draft written report ('NRCA') for the park in accordance with the NPS Requirements and Guidelines for NRCAs described below. (The Partner should be aware that the NRCA national guidelines are subject to change, though it will be the responsibility of the Committee to make the Partner aware of any substantial changes to the guidelines or directives during the project.) The final document will be prepared according to NPS publication directives for the Natural Resource Report series (<http://www.nature.nps.gov/publications/NRPM>). Ongoing communication between the Partner and the Committee will be maintained to assure the quality of the product, and will be the responsibility of both the Partner and NPS.

*Phase 4* - Upon delivery of the final draft, NPS will manage its peer review. The Partner and NPS will work together to address and respond to reviewers' suggestions until both NPS and the Partner approve the final document.

*Phase 5* - NPS will coordinate the final publication process through the NPS Natural Resource Publication program identified above.

#### **4. Focal Themes**

A list of priority natural resource elements has been selected by park staff for inclusion in the NRCA (Table 2), and all of these topics should be addressed (i.e. included in Chapter 4). Initial meetings and conversations between the Partner and the Committee will determine the relative amount of effort to be directed to each area and may result in a prioritization of this list.

#### **5. Products**

The Partner, in collaboration with the NPS, will produce the following:

1. A Study/Implementation Plan that includes:
  - a. specific objectives and scope of the project based on potential themes, individual park needs, available data, park site visits, and NPS NRCA Guidelines;
  - b. the ecological environmental assessment framework the Partner intends to utilize;
  - c. data management strategy;
  - d. detailed implementation schedule and budget.
2. A final written report for the park in accordance with NPS publication standards ([www.nature.nps.gov/publications/NRPM](http://www.nature.nps.gov/publications/NRPM)) that includes all of the elements described above under NRCA Guidelines. In addition, the report will include an Executive Summary (5 pages or less), References, and relevant Appendices as determined by the Partner and the Committee. (Suggested appendices include long species lists [e.g. plants], web links, data sources, relevant legislation or management directives, metadata, citations, complex maps or graphics, and expert contact information.)
3. All spatial and non-spatial data and analyses developed for the assessment, with metadata. (Existing data with metadata can be referenced, but metadata must be created in cooperation with park staff for data that are utilized but have no existing metadata.)
4. A final presentation to park staff and their invited associates.

Table 2. Potential resource elements to be addressed in the NPSA NRCA.

Resource Elements	Priority 1=high 2=Medium 3=low	Comments
<b>AIR AND CLIMATE</b>		
Air Quality	3	Air Quality is generally good in American Samoa. Occasional trash burning and Sunday morning Umu fires create localized smoky areas. This part of the assessment is required by the Washington Office, but will be conducted internally and provided to the study partner for inclusion in the NRCA report.
Climate - see Disturbance events at bottom	2- 3	Climate change is very important and several efforts are addressing this. There is a National Atmospheric Observatory climate station at Tula (NOAA) on Tutuila. Shorter weather data sets exist at Tafuna Airport and at the park. It is likely that the Navy kept some records from 1900 to 1951.
<b>GEOLOGY AND SOILS</b>		
Subsurface and Surface Processes – <i>Base Geology</i>	3	No recent dynamic processes affecting changes to landscape.
<b>WATER</b>		
Hydrology: <i>Sedimentation and Erosion</i>	2	Erosion has a large non-anthropogenic component, but increasing upslope development, especially on Tutuila, may be exacerbating the problem.
Fresh/ground water Quality	2	Septic systems leak into park waters on Tutuila especially in Vatia and Fagasa. Leachate from a dump affects the reef water quality in Ofu and Olesega. There is some stream WQ data available. Data sources include: NPS I&M water quality.
Marine Water Quality (including temperature, acidity)	2	Increasing temperature and acidity has impacts on coral reefs. Crown of Thorns (COT) outbreaks, which may be related to nutrient loading, may lead to a phase shift to an algae dominated system. Sewer treatment out flow and leaky septic tanks are a problem. Data sources include: NPS I&M data; CIMAS turbidity data from Lew Gramer (NOAA).

Resource Elements	Priority 1=high 2=Medium 3=low	Comments
<b>BIOLOGIC INTEGRITY - TERRESTRIAL</b>		
Invasive Species (Terrestrial and Marine)	1	NPSA staff would like a meta-analysis of invasive species patterns/presence and their effects on ecosystem integrity. An inter-island and regional comparison, history of invasions, and bio-security are also of concern. NPSA staff are concerned that excessive time would be spent on comparing Samoa's islands to Hawaii, but perhaps conditions on some HI islands could be used as reference conditions. It may be more valuable to do comparisons with closer islands like Samoa, Tonga, and Fiji. This should be as comprehensive a treatment of all invasive life forms as is possible, however primary focus should be on species affecting ecological integrity.
Focal Communities: <i>Vegetation</i>	1	There are disparate sources of vegetation data including several sets of plot data. NPSA staff requests a metadata analysis of these data to determine comparability and then use appropriate data to assess condition of focal vegetation types; this topic needs to be prioritized by island - Tutuila and Tau are highest priority. Data sources include: NPS I&M; USFS FIA plots; Dr. Webb's plots; Dr. Hughes' plots; Dr. Whistler's plots; NPS climate change plot; vegetation maps by NPS I&M and DMWR.
Focal Species: <i>Fruit Bats (Samoa and Tongan)</i> <i>Sheath tailed bat ( Probably extirpated)</i>	1	Fruit bats are the only animals specifically named in the enabling legislation for NPSA. The first task is to assess the community health of the Samoan and Tonga bat. A lower priority would be to determine if there has been successful re-introduction of the sheath tailed bat. Data sources include: DMWR and Dr. Nelson dissertation.
Focal Communities: <i>Terrestrial Birds</i>	1-2	There is mist-netting data both within and outside of the park for landbirds; communities differ on Tutuila vs. outer islands. NPSA's questions/requests include: (1) Status of rarer species: spotless crane (Tau), blue crowned lory (Manu'a) , pacific black duck (Aunu'u), shy ground dove (Manu'a); (2) A timeline of the spread of exotic Myna and red vented Bulbul; (3) Are the abundant species changing as the percentage of exotic trees in the forest increases? Data sources include: NPS I&M monitoring data, old USFWS transect data by John Engbring, and the Institute for Bird Populations.

Resource Elements	Priority 1=high 2=Medium 3=low	Comments
Focal Communities: <i>Seabirds (especially ground nesting ones)</i>	1-2	There is scattered data and it is known that rats negatively affect nest success. This issue is most important on Mt. Lata (Tau) but is also important on Ofu and Tutuila. NPSA's questions include: (1) Which species of petrels and shearwaters consistently nest on Mt. Lata? (2) Is the park in danger of extirpating certain petrels or shearwaters? (3) Are there cost effective actions to help these birds?
Focal Species: <i>Coconut Crab</i>	1-2	This is a native edible species and its decline is common on islands across the Pacific. NPSA questions/requests include: (1) A summary of existing population/ecological information; (2) Are there other factors contributing to decline other than human consumption?
Focal Species: <i>Samoan Swallowtail Butterfly</i>	2	This is an endemic, rare butterfly. NPSA's questions/requests include: (1). A summary of likely factors contributing to decline: (2) Comparison to similar swallowtail in Fiji. Data sources include: Robert Peck (US Geological Survey [USGS]) & Mark Smaedek (ASCC)
Focal Communities: <i>Fungi</i>	3	There are several endemic species, but very little information is available.
Focal Communities: <i>Ants</i>	3	NPSA has both native and nonnative ants. NPSA's questions include: (1) How "invasive" are the nonnatives? (2) What other non-native ants might try to invade? Data sources include: Paul Banko (USGS) & Mark Smaedek (ASCC).
At-risk Species: <i>Listed terrestrial snails</i>	2-3	There is limited information available. NPSA staff would like whatever information can be located. Data sources include: Rebecca Rundell and Robert Cowie specimen collection.
<b>BIOLOGIC INTEGRITY - MARINE</b>		
Focal Communities: <i>Reef Fish – especially larger species that are part of Samoan Fishery.</i>	1	There are several sources of fish survey data, but these have not necessarily been compiled nor analyzed collectively; data integrity in some cases may be an issue. NPSA's primary question is to identify functional group diversity and trends in change. A secondary question is if NPSA is in danger of losing some species. There is much more harvest data than ecological data (fishery-dependent vs. fishery-independent); data sources include: NPS, NOAA Coral Reef Ecosystem Division (CRED), DMWR.



Resource Elements	Priority 1=high 2=Medium 3=low	Comments
Decline and Disease: <i>Coral Reefs</i>	1	Increasing ocean acidity and temperature will potentially eliminate many species. NPSA questions/requests include: (1) adaptation mechanisms and genetic “toughness”; (2) determining which of the recently listed ESA species have been identified in park water; (3) which listed corals are in American Samoa as a whole; (4) are there existing ocean temperature-coral response models to which the data for this region could be fit? Data sources include: NPS I&M; NOAA CRED; several researchers: Fenner, Palumbi, Gates, etc.
Focal Species: <i>Sea Turtles (Green and Hawksbill)</i> <i>(perhaps habitat rather than populations?)</i>	2	NPSA’s questions/requests include: (1) indications of regional patterns & trends; (2) GIS analysis of nesting habitat loss (reduction of sandy beaches); (3) Does Ofu have the best nesting habitat?; (4) Are there any helpful actions that NPSA can/should be taking in park waters or on land?; (5) What percentage of turtle nests are affected by artificial light? Data sources include: DMWR; NPS ranger Carlo Caruso; USFWS turtle data.
Algal community expansion <i>Native macroalgae communities expanding</i>	2	Macroalgal communities are expanding and are taking over coral reefs. This is likely due to nutrient loading from leaking septic tanks and land development (changing water quality of surface and groundwater runoff); the problem is focused on Tutuila, particularly in Vatia Bay. NPSA’s questions include: (1) What are the key indicators that a system is near the tipping point?; (2) Once a system becomes algal dominated, are there actions that can facilitate coral to re-establish?
Focal Communities: <i>Marine Invertebrates (sea cucumbers, giant clams, Echinoderm, especially COTs)</i>	2	Sea cucumbers and giant clams are both in decline due to overharvesting. NPSA is requesting a summary of abundance data on cucumbers and clams. These species are data poor, but the I&M benthic transects may be useful. NPSA is 100% engaged in Crown of Thorns (COTS), and there is data. NPSA may request an overview of the effectiveness of the NPS’s and the island’s COTS eradication effort.
Focal Species: <i>Whales and Dolphins</i>	3	Transitory through park waters.
Focal Species <i>Sharks and Rays</i>	3	Declining island wide; the data is scarce to non-existent.

Resource Elements	Priority 1=high 2=Medium 3=low	Comments
<b>HUMAN USE</b>		
History of human use (marine and terrestrial resources)	2	Since NPSA’s enabling legislation authorizes subsistence use, NPSA’s questions/requests include: (1) what were people collecting/hunting in each decade on an island by island basis?; (2) a summary of territorial laws that affect resource take such as ASG 2013 shark fin ban, 2014 sea cucumber moratorium, 1990s ban on fishing using SCUBA gear. Data sources include: NPS Ethnographic study & DMWR data.
<b>LANDSCAPE PROCESSES</b>		
Landscape Dynamics <i>Landbird Habitat</i>	2	NPSA staff requests an investigation of the relationship between land bird abundance and vegetation survey data.
Extreme Disturbance Events: <i>Resilience of focal plant populations/communities (and perhaps stressed coral reefs) to cyclones</i>	2	American Samoa has the following disturbances: Cyclones – Cat 5 several times a century; tsunamis – once a century; and drought. NPSA’s questions include: (1) how does the frequency of disturbance influenced the current flora and fauna assemblages?; (2) A changing climate will cause changes in disturbance event frequencies; which species will be most affected? (3) Which invasives become problematic after which types of disturbances? (4) Which rare species are most likely to be affected by which types of disturbances?
Night Sky and Noise	3	These two are generally not large issues. The NPS night sky and sounds programs did collect data in 2012 and reports are expected. Two minor questions include: What percentage of turtle nest might be affected by artificial light?; (2) Does the noise from the tuna cannery affect park wildlife and how? There might not be any data on this topic.

## 6. Roles and Responsibilities

The Partner will:

- collaborate with NPS and other partners in identifying sources of information;
- review park, I&M network, regional, NPS-wide data sources, and other relevant data sources for each resource topic prioritized for each park;
- compile, assess, and summarize existing information to assess the ecological condition of priority resources;
- communicate with NPS to identify watershed, habitat and/or ecological assessment framework(s) to use in the project;
- organize and lead the conference calls or meetings identified in the SOW;
- conduct work and report findings in a manner that meets Department of the Interior policy and guidelines for integrity of scientific and scholarly activities (<http://www.doi.gov/scientificintegrity/index.cfm>);
- meet NPS publication format guidelines and standards;
- ensure all geospatial data products are in compliance with FGDC standards for geospatial content; submit geospatial products to the Committee for NPS review when the project is 75% completed;
- provide metadata in compliance with Federal Geographic Data Committee (FGDC), including the documentation of processing steps involved in creation of final GIS products (if applicable);
- assure the ability of NPS to share or distribute products both internally and with external partners, allowing for confidentiality of T&E species information and for copyrights or permissions;
- create cartographic products in a format that adheres to the National Park Service's Graphic Identity Program standards (<http://imgis.nps.gov/templates.html>).
- provide NPS all supporting data, including GIS-related coverages, metadata, documentation, reports, etc. from the project.
- clearly acknowledge NPS in any published material and presentations.

The NPS will:

- assign a Key Official and NPS Project Manager. The NPS Project Manager is the NPS point of contact for the Partner, will lead the Committee, and will coordinate between the Partner and other NPS park unit staff, the NPS Pacific West Regional Office (PWRO), and the Pacific Island Inventory and Monitoring Network (PACN I&M). The NPS Project Manager will participate in project management decisions throughout the duration of the project and serve as a liaison with Partner personnel regarding compliance with NPS resource management objectives and policies pertinent to the conduct of this project;
- participate in project development and planning, review interim and final products in a timely manner and participate in meetings as needed;
- assign, as appropriate, other NPS staff including NPSA park staff, PACN and other I&M staff, PWRO staff, and/or NPS Water Resources Division (WRD) staff to collaborate with the Partner to provide guidance, technical assistance, and logistical coordination as needed;
- coordinate and collaborate with the Partner during information/data collection and status assessment to ensure that the synthesis is consistent with the project goals. Such collaboration may include: access to GIS data layers and information, limited GIS assistance by NPS staff, participation in the development and review of the interim and final reports;
- provide NPS source data and information where available for the subject Park including data located in Servicewide NPS databases, relevant NPS unpublished documents, and unpublished spatial and non-spatial data located at NPSA and PACN I&M;
- clearly identify and acknowledge Partner in all published material and presentations;
- coordinate and complete the publication process according to NPS NRTR guidelines.

## 7. Projected Project Schedule

Table 3. Projected Timeline and Responsibilities.

<b>Milestone</b>	<b>Description</b>	<b>Date</b>	<b>Responsible</b>
Project Initiation		September 2014	Partner/NPS
Site Visit/Scoping Meeting	NPS and Partner convene to share NPS data	As soon as possible after funding, no later than Nov. 1 2014	Partner/Committee
Development and Acceptance of Study Plan, including data mgmt., data sharing, and metadata	NPS and Partner discuss and agree on indicators, datasets, methodologies and data management	Feb. 1, 2015	Partner/Committee
Information Collection and Review	Acquire and prepare for analysis (if necessary) all necessary data and information	March 1-June 1, 2015	Partner
Assess Resources	Conduct resource assessments to develop initial findings regarding condition of resources	May 1 - Dec 31, 2015	Partner
First Draft Report	Submit first draft of NRCA with Committee input as needed	Dec. 31, 2015	Partner
Draft Report Review	Committee provides timely response and input	March 1, 2016	Committee
Draft Report Revision	Submit final draft report for NPS peer review	June 1, 2016	Partner
NPS Peer Review	NPS submits final draft report to selected peer reviewers	June 1-Oct. 1 2016	NPS
Prepare Final NRCA	Incorporate peer review and NPS comments and submit Final Report	Nov. 1, 2016	Partner
Present Findings	Present findings and final report to NPS	Nov. 1, 2016	Partner
Final Publication	NPS publication in NRR series	Feb 28, 2017	NPS

## 8. General References

Craig, Peter 2009 Natural History Guide to American Samoa, 2009, 3rd Edition, National Park of American Samoa.

## APPENDIX A. GENERAL INFORMATION FOR NATIONAL PARK OF AMERICAN SAMOA

Located some 2,600 miles southwest of Hawaii, this is one of the most remote national parks in the United States. There are no federally-owned lands; parkland is leased from native villages and from the American Samoa Government. The park preserves the only mixed-species paleotropical rainforest in the United States, plus habitat of flying foxes (fruit bats) and Indo-Pacific coral reefs. In keeping with the meaning of the word Samoa—"sacred earth"—the park helps protect fa'asamoa, the customs, beliefs, and traditions of the 3,000-year-old Samoan culture. American Samoa is a unincorporated US territory. Most resource protection laws are set by the American Samoan Government and apply to the National Park lands. Subsistence harvesting for personal consumption is permitted in both park land and water, unless a territorial law trumps it and bans all harvesting (this is true for fruit bats). The national park service has no ability to enforce regulations; the American Samoan government has limited capacity to enforce regulations due to the remoteness of these areas.

The National Park of American Samoa has lands and waters that are largely undeveloped and lack the usual facilities of most national parks. There are secluded villages, rare plants and animals, coral sand beaches, and vistas of land and sea. The 13,500-acre park includes sections of three islands—Tutuila (too-too-EE-lah), Ta'u (tah-OO), and Ofu (OH-foo).

On the main island of Tutuila, the park encompasses the north-central part of the island, from the steep ridgeline (approximately 300 meters) above Pago Pago (PAHNG-oh PAHNG-oh) Harbor to the north coast. The sheer cliffs of Pola Island are home to seabirds like frigate birds, boobies, white terns, tropicbirds, and brown noddies.

Sixty miles east of Tutuila are the Manu'a Islands: Ta'u, Ofu, and Olosega. The island of Ta'u, according to Samoan tradition, is the birthplace of all Polynesia. The first people on the Samoan Islands came by sea from southeast Asia some 3,000 years ago. From the sacred site of Saua, it is believed the ancient people voyaged by sea to settle all of the Polynesian islands. From Saua around Si'u Point is the dramatic southern coast of Ta'u, where waves crash against the rocky coast and sea cliffs stair-step to the 3,170-foot (966-m) summit of Lata Mountain, the highest point in American Samoa. The top of Mt. Lata is a cloud forest, where most trees and shrubs are less than 2 meters tall. This is an ideal location for ground nesting seabirds, except for the presence of non-native rats. National park lands on Ofu lie along the southeast coast. There are hundreds of species of fish, corals, and other marine life in its fringing reef.

The question of how many islands NPSA works on is complex:

- NPS currently leases land on three islands - Tutuila, Tau and Ofu.
- Congress gave NPSA the authority to lease additional lands on Tau, Ofu and Olosega.
- As the strongest field-going resources agency, NPS regularly works beyond its boundaries.
- The seaward boundary of the national park is 1/4 mile from the mean high tide line. On Tutuila this is mostly deep coral reef from 4 to 30 meters deep. On Ofu it is primarily shallow reef shelf less than 1 meter deep. On Tau the ocean floor is up to 100 meters deep only 1/4 mile off shore.

Table 4. Acreage leased by NPSA on each island.

Island	Terrestrial acres leased	Potential additional terrestrial acres	Marine acres (approx.)	Potential additional Marine acres (approx.)	Terrestrial Data	Marine Data
Tutuila	2,530	0	1,250	0	high	high
Tau	3,700	1,550	1,150	0	low	low
Ofu	73	500	400	600	low	high
Olosega (bridge to Ofu)	0	1,000	0	900	low	low
Aunu'u	0	0	0	0	*	

\* has a National Natural Landmark (NNL), a wetland and a rare duck species

Figure 1. Location of American Samoa.

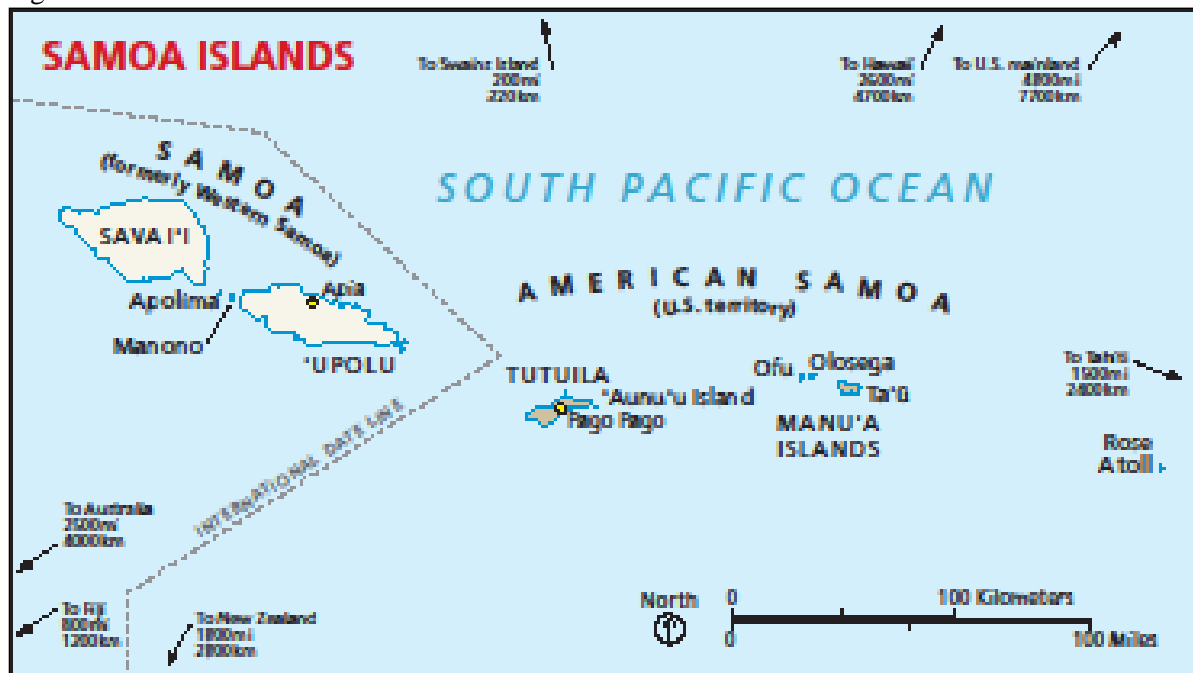


Figure 2. Location of National Park American Samoa on Tutuila Island.

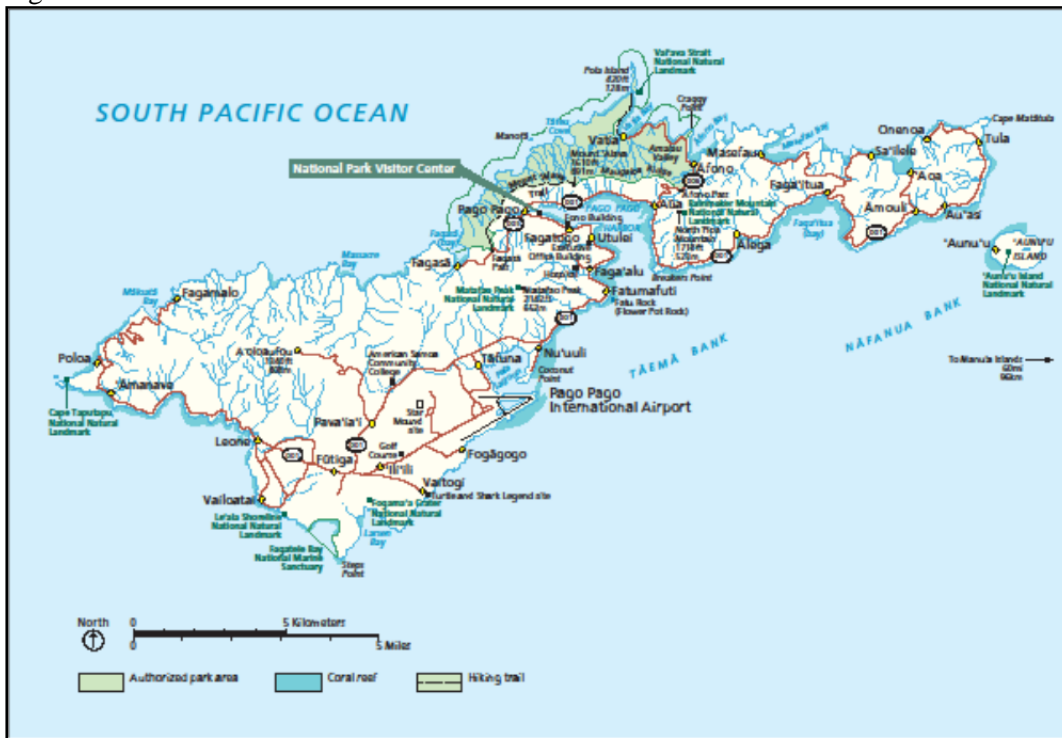


Figure 3. Location of National Park American Samoa on Ta'u, Ofu and Olosega Islands.

