



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL OCEAN SERVICE

National Marine Sanctuary of American Samoa  
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MEMORANDUM FOR: John Armor, Director  
Office of National Marine Sanctuaries

FROM: Atuatasi Lelei Peau, Acting Superintendent  
National Marine Sanctuary of American Samoa

**Lelei Peau**

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THROUGH: Allen Tom, Regional Director  
Pacific Islands Region

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SUBJECT: Completion of Sanctuary Management Plan Evaluation

Pursuant to section 304(e) of the National Marine Sanctuaries Act (NMSA; 16 U.S.C. § 1434(e)), the National Oceanic and Atmospheric Administration (NOAA), Office of National Marine Sanctuaries (ONMS), National Marine Sanctuary of American Samoa (NMSAS) staff conducted an evaluation of the progress made toward implementing the NMSAS Final Management Plan finalized in October 2012 (“2012 Management Plan”). ONMS also considered the prioritization of management goals. Based on this review, ONMS has determined that there is no urgent or immediate need for revisions to the management plan or the regulations at this time. This evaluation demonstrates the sustained relevance of the goals, objectives, and priorities of the existing management plan.

### Background

The 2012 Management Plan represents the culmination of a multi-year process that included extensive public involvement. It identifies a series of management strategies and activities under each action plan. The 2012 Management Plan was developed to guide sanctuary management over the next 5-10 years utilizing the principles of adaptive management in implementing and evaluating each action plan. NMSA section 304(e) requires NOAA to conduct a periodic review of the sanctuary management plans and goals (16 U.S.C. § 1434(e)). Specifically, NOAA must (1) evaluate the substantive progress toward implementing the management plan and goals for the sanctuary including an evaluation of the effectiveness of site-specific management techniques and strategies; (2) include a prioritization of management objectives; and (3) revise the management plan and regulations as necessary to fulfill the purposes and policies of the NMSA.

### Result of Management Plan Evaluation

In summer and fall 2017, NMSAS staff reviewed the substantive progress made in implementing the eight action plans identified in [the 2012 management plan](#)<sup>1</sup>. The full result of this

<sup>1</sup> <https://americansamoa.noaa.gov/management/reports.html>



management plan evaluation can be found in a spreadsheet populated by staff that records the level of completion for each of the strategies in the management plan and is summarized below.

The current management plan is organized around eight action plans, each of which contains strategies to implement. For the purpose of this evaluation, strategies that state "throughout the life of the management plan" were rated as "*completed and ongoing*" if tasks associated with these strategies have been achieved for the previous 5-year time period, but will also continue in the future. Strategies were rated as "*initiated and ongoing*" if tasks associated with these strategies were started (but not yet completed) and continue to be implemented. Additionally, some strategies were modified from their original form in order to achieve their underlying objective, or if they were found to be no longer relevant or had become lower in priority. In a few cases, a strategy may not have been initiated due to resources being allocated to higher priority activities.<sup>2</sup> These uninitiated activities are labelled as "*not initiated*." Notwithstanding these limited modifications, the 2012 Management Plan, which is premised on adaptive management implementation, remains adequate to effectively guide NMSAS's programmatic activities necessary to achieve the goals of the sanctuary.

Summarized below is the status of each strategy under the 2012 Management Plan action plans. Further detail on the sanctuary's progress towards achieving these strategies can be found in the spreadsheet accompanying this memorandum.

#### **Cultural Heritage and Community Engagement Action Plan**

Seventeen out of 23 strategies in this action plan were completed, or are completed and ongoing. Five strategies are initiated and ongoing. Only one strategy was not initiated (Activity CH&CE-4.6). Although maritime heritage and cultural resources are an important component of the NMSAS, the development of a specific plan for these resources (Activity CH&CE-4.6) has not yet been possible due to limited resources and expertise.

#### **Marine Conservation Science Action Plan**

Eleven out of 13 strategies in this action plan were completed, or are completed and ongoing. Two strategies are initiated and ongoing.

#### **Climate Change Action Plan**

Thirteen out of 16 strategies in this action plan were completed, or are completed and ongoing. Three strategies were not initiated. It was determined that a greenhouse gas emissions inventory (Activity CC-1.3) and forming a sanctuary advisory council "green operations working group" (Activity CC-1.4) with limited volunteer member time, was not as high of a priority as other advisory council initiatives. Therefore, the resources associated with the Climate Change Action Plan were reallocated to respond to other advisory council initiatives. For example, the sanctuary advisory council planned two workshops and helped write a final report for a climate change vulnerability assessment and adaptation strategies project for the sanctuary and territory that involved local and federal agency partners, community leaders, managers and subject matter experts. In addition, investigating the feasibility of implementing techniques to reduce stress from climate change and ocean acidification on coral reef ecosystems that involved a major

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<sup>2</sup> Of the 118 tasks described in the 2012 Management Plan, only six were not initiated for various reasons, primarily because other tasks were considered to be a higher priority during the time period of 2012-2017.

engineering project to pump cool water onto coral reefs during times of heat stress (Activity CC-3.3) was determined to be cost prohibitive.

#### **Operations and Administrative Action Plan**

All 14 strategies in this action plan were completed, or are completed and ongoing.

#### **Ocean Literacy Action Plan**

Seventeen out of 19 strategies in this action plan were completed, or are completed and ongoing. One strategy is initiated and ongoing. Only one strategy, developing and implementing a visitor experience survey and evaluation (Activity OL-1.3), was not initiated. The strategy was put on hold when the associated sanctuary advisory council working group that was intended to conduct this work disassembled. The sanctuary advisory council formed a new Ocean Literacy Working Group in May 2018 to review NMSAS outreach, education, and community programs and develop recommendations for the next five years.

#### **Resource Protection and Enforcement Action Plan**

Fourteen out of 20 strategies in this action plan were completed or are completed and ongoing. Five strategies are initiated and ongoing, including actions related to the recent outbreak of coral-eating crown-of-thorns starfish that in the late 1970s and early 1980s decimated over 80% of the reefs in American Samoa. This issue has turned out to be among the highest priority issues for NMSAS in the past few years. One strategy, the installation of mooring buoys (Activity RP&E-4.3) has yet to be initiated. Though much progress has been made in planning, the actual installation of mooring buoys is planned for 2018.

#### **Partnerships and Interagency Cooperation Action Plan**

Eight out of 10 strategies in this action plan were completed, or are completed and ongoing. Two strategies are initiated and ongoing.

#### **Program Evaluation Action Plan**

Two out of 3 strategies in this action plan were completed, or are completed and ongoing. One strategy is initiated and ongoing.

ONMS has made significant progress in implementing these action plans. Major accomplishments linked to strategies within each action plan include but are not limited to:

#### **Cultural Heritage and Community Engagement Action Plan**

- From 2013-2017 approximately 15 "Festival of Sites" events were held where village representatives could share their culture with residents and cruise ship tourists.
- Between 2012 and 2017 NMSAS provided guided tours at the Tauese P.F. Sunia Ocean Center to share information about sanctuary management areas, communities and Samoan Culture with over 43,000 visits by residents and tourists.
- In 2016 the Office of Samoan Affairs was consulted on the "Vulnerability Assessment and Adaptation Strategies for the National Marine Sanctuary and American Samoa" project that also included the participation of village leaders.

- In 2016 the Aunu'u Village Council was consulted on and helped facilitate activities associated with the removal of the grounded fishing vessel *No. 1 Ji Hyun* from a reef in the sanctuary.

#### **Marine Conservation Science Action Plan**

- NOAA Coral Reef Ecosystem Division was contracted to conduct monitoring surveys of sanctuary management areas during their 2015 cruise using stratified random sampling with high replication.
- A science plan entitled "Conservation Science Needs of the NMSAS" was completed in 2017.
- In 2017, the sanctuary partnered with the American Samoa Environmental Protection Agency, Department of Marine and Wildlife Resources (DMWR) and the University of Guam on a Tutuila island-wide ridge to reef study that included water quality sampling in Fagatele Bay. Of all the sites sampled, Fagatele Bay had some of the best water quality results.
- In February 2017, the NOAA Ship *Okeanos Explorer* began three months of deep sea cruises throughout the Samoan archipelago that included several sanctuary areas. ONMS played a major coordination role and facilitated interactions between *Okeanos* scientists, local researchers, managers, community members and the American Samoa Government. ONMS hosted and participated in several associated live telepresence events, teacher curriculum workshops and *Okeanos* scientist presentations for locals and visitors at the Tauese P.F. Sunia Ocean Center. The mission also included mapping of the sanctuary Mūliava management area and Rose Atoll Marine National Monument. The project has increased knowledge of the previously little explored deep water habitats in American Samoa including deep areas of the sanctuary.

#### **Climate Change Action Plan**

- A partnership with XL Catlin Seaview Survey in 2014 and 2015 captured different stages of coral bleaching in American Samoa during the 3rd coral global bleaching event from 2014-2017. The images have been seen around the world, at international conferences of policy-makers, scientists and managers, and are available online and on the sanctuary Science On a Sphere® at the Tauese P.F. Sunia Ocean Center.
- ONMS completed a "Rapid Vulnerability Assessment and Adaptation Strategies for the National Marine Sanctuary and Territory of American Samoa" project and final report in 2016 and 2017. This project engaged the Office of Samoan Affairs, local and national experts and community representatives to develop recommendations that will lead to actions in sanctuary communities and throughout American Samoa for increasing coastal resilience against future climate change related impacts. Additionally, the project involved Greater Farallones National Marine Sanctuary, ONMS Climate Lead, and American Samoa Coral Reef Advisory Group (CRAG) natural resource personnel from the initial planning phases and will provide valuable information for future climate-related projects in American Samoa including a planned American Samoa Government initiative.

### **Operations and Administrative Action Plan**

- In 2015, the American Samoa Government CRAG and DMWR requested ONMS lead a crown-of-thorns starfish eradication effort that involved ONMS team members from NMSAS, Gray's Reef National Marine Sanctuary and the Papahānaumokuākea Marine National Monument.
- The sanctuary boat shed for the R/V *Mānuma* was completed in 2017.

### **Ocean Literacy Action Plan**

- ONMS has developed a variety of partnerships with the media, agencies and the private sector to increase the local, regional and global visibility of the Tauese P.F. Sunia Ocean Center. The partnerships have included national and international magazines such as "Earth is Blue Magazine" (2017), "Dive Training Magazine" (2017), "Get Lost - Issue 52" (2017), "Island Times Magazine" (2016), and "Ocean Magazine" (2015).
- Partnerships have also included Pago Pago Tradewinds Tours, cruise ship tours of the Ocean Center (2015-2017) and interpretative guide training with the National Park of American Samoa (NPAS) (2016), information given to visitor's bureau for publication and trade shows (2012-2017), and sanctuary staff presentation to a tradeshow in Apia, Samoa in 2015.
- Public outreach and awareness partnerships have been developed through expeditions, films, exhibits and presentations. Sanctuary films include Penina Tutasi o Amerika Samoa (The Jewel of the Ocean - American Samoa) (2013) and Swains Island One of the Last Jewels of the Planet (2014).
- The Ocean Swimming Ocean Science, Ocean Star, Youth Ocean Summit and Sanctuary Summer Science in the Village programs include various guest speakers from different agencies to present on different issues facing the ocean and coastal communities. Local school presentations have been conducted in cooperation with the Coral Reef Advisory Group and National Park of American Samoa (NPSA).
- Additional outreach and awareness projects have included the Pacific Voyaging Society, Le Tausagi, STEM, Pacific Regional Education and Outreach Planning team, the Bishop Museum, other ONMS sites and visiting researchers and educators.

### **Resource Protection and Enforcement Action Plan**

- In 2014 and 2015, the sanctuary team coordinated with representatives from the NPSA, American Samoa CRAG, and DMWR on a crown-of-thorns starfish monitoring and eradication efforts at priority reefs and sanctuary management areas around Tutuila and Anunu'u. Closed circuit divers were able to dive over 150 feet for several hours at a time. Divers covered over 30 miles of reef and logged over 300 diver hours while eradicating the coral-eating starfish as well as confirming presence or absence on priority reefs in the sanctuary, national park, local marine protected areas, U.S. Coral Reef Task Force Priority Watershed and other priority reefs in American Samoa. The mission involved local, regional and national collaborators and included team members from ONMS and NOAA Dive Center in Seattle. Local collaborators included the American Samoa Community College, the American Samoa DMWR, United States Coast Guard, LBJ Tropical Medical Center and community volunteers.
- Enforcement is a critical component of research management. This can include outreach and education efforts to raise awareness about sanctuary regulations to promote voluntary

compliance and actual patrols of the sanctuary management areas. ONMS interacts with NOAA Office of Law Enforcement (OLE), DMWR Enforcement and Marine Patrol in a variety of ways. Sanctuary staff provided input into updating the Joint Enforcement Agreement between NOAA OLE and DMWR. Additionally, the sanctuary has provided on-water rescue training for territorial enforcement staff.

- In 2016 NOAA OLE was involved with initial damage assessment and investigation of the F/V *No.1 Ji Hyun* grounding in the Aunu'u Multiple Use Zone.
- In 2017 the sanctuary team also co-sponsored enforcement trainings at the Tauese PF Sunia Ocean Center. In 2013, 2015 and 2017 the sanctuary provided classroom and on-water vessel trainings that included enforcement officers.
- Interpretive enforcement approaches to raise awareness about sanctuary regulations are critical in seeking voluntary compliance. ONMS has developed several methods to increase public knowledge and understanding of allowable and prohibited activities in sanctuary management areas.
- In 2014 village liaisons for Fagatele Bay, Fagaluva/Fogama'a and Aunu'u worked with community members to raise awareness about allowable and prohibited activities in the sanctuary.
- In 2015 an allowable and prohibited activities fact sheet was developed in Samoan and English and made available in print and web-based versions.
- From 2015-2017, ONMS helped implement fifteen student fishing derbies to raise awareness about allowable and prohibited fishing methods in the sanctuary management areas in collaboration with sanctuary advisory council members on the islands of Tutuila, Aunu'u and Ta'u.
- Starting in 2016, in collaboration with sanctuary advisory council members and members of the private sector, an annual fishing tournament for the local alia boat and game fishing associations helped to raise awareness about allowable and prohibited fishing methods in the sanctuary management areas to promote voluntary compliance.

#### **Partnerships and Interagency Cooperation Action Plan**

- It is important to enhance the relationship with the sanctuary co-manager (ASG) through the Governor-appointed representative (DMWR Director as of 2014). ONMS has worked closely with DMWR on several special events, workshops, trainings and research projects. An MOA is being developed with DMWR to clearly identify roles and responsibilities associated with sanctuary co-management.
- Under the American Samoa DMWR umbrella, sanctuary staff participate in the American Samoa CRAG. Sanctuary staff provide important support to AS DMWR's role in the CRAG via active attendance and participation and providing counsel in an advisory capacity that promotes territory-wide coral reef conservation.
- The sanctuary team participates in ASG- CRAG LAS (local action strategy) working groups for fisheries, land-based sources of pollution and climate change.
- The sanctuary team participates in the following:
  - Annual Coast Weeks;
  - Ridge to Reef surveys and education and outreach programs through Le Tausagi (DMWR, CRAG, DOC, DOE, American Samoa Community College, Department of Youth and Women's Affairs, AS-EPA, American Samoa Power Authority);

- CRAG Rain Garden installations and training through STEM;
- Voyaging STEM;
- Quantitative Underwater Ecosystem Survey Techniques (ASCC QUEST Program);
- Sanctuary Summer Science in the Village; and
- School events and presentations.
- In 2014, an MOA was signed with the NPAS to collaborate on joint programs for trail maintenance and capacity training (interpretive, diving, incident first response efforts, marine operations).
- ONMS has also shared resources with multiple other agencies and partners to implement projects priority projects including:
  - Swains Island Expedition, report and film (2013 and 2014); XL Catlin Seaview Survey and Google Streetview (2014 and 2015); PMNM, HIHWNMS, GRNMS, NOAA Diver Center and CRAG for crown-of-thorns starfish eradication (2014 and 2015); NOAA CREP *Hialakai* Cruise surveying sanctuary management areas (2015); NPSA, ONMS, Sanctuary Advisory Council, USCG, NOAA OLE, ASG, Aunu'u Island community leadership and private sector in removing grounded F/V *No. 1 Ji Hyun* from Aunu'u Multiple Use Zone (2016); GFNMS, ONMS headquarters, NMSAS Advisory Council, EcoAdapt, Office of Samoan Affairs and local community leaders, private sector and government partners for the Vulnerability Assessment and Adaptation Strategies for the National Marine Sanctuary and American Samoa (2016 and 2017); NOAA *Okeanos Explorer* deep sea exploration of sanctuary areas and the Rose Atoll Marine National Monument (2017); and Sanctuary Advisory Council, DMWR, private sector sponsors for annual student and adult fishing tournaments to raise awareness of sanctuary regulations and promote voluntary compliance (2015-2017).

#### **Program Evaluation Action Plan**

- ONMS continually monitors and evaluates performance of effectively implementing the 2012 Management Plan. Additionally, when necessary, strategies are modified to better address current priorities, new issues and better protect sanctuary resources. ONMS produces annual accomplishments reports highlighting major projects of the preceding year. Detailed tracking of the implementation of every task identified in the sanctuary management plan has taken place between 2012 and 2017. Results of the evaluation process, which are discussed above, will be shared with the community, partners and the advisory council, including a published report, in 2018.

For this evaluation, NMSAS subject matter experts assigned each activity from the 2012 Management Plan a relative priority level and ongoing relevance for the period from 2012 through 2017. Overall, while revision would be appropriate to remove the completed strategies from the plan, there is no urgent or immediate need for revision because ONMS continues to pursue the remaining strategies and the action plans all continue to be relevant for guiding operations and programs into the foreseeable future. No new or different strategies or themes have been identified during this evaluation. As such, revisions at this time are not needed and can be revisited during the next periodic evaluation that will follow completion of the new condition report.

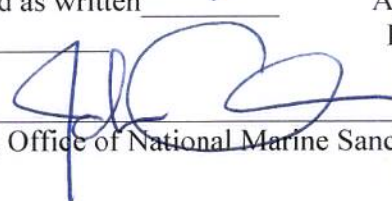


Conclusion

The completion of this evaluation of the 2012 Management Plan satisfies the requirements of NMSA section 304(e). Based upon this review, no urgent or immediate revisions to the management plan or regulations are needed at this time. NOAA will use this evaluation and an updated condition report as the management and scientific information basis to undertake the next periodic management plan review following the completion of a site condition report. This evaluation will be shared with the sanctuary advisory council at its public meeting planned for September 7, 2018.

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Approved as written  Denied  Approved with modifications (*See below*)  Request for additional information

 Director, Office of National Marine Sanctuaries

7/30/2018  
Date



**SUMMARY OF 2018 MANAGEMENT PLAN EVALUATION FOR NATIONAL MARINE SANCTUARY OF AMERICAN SAMOA**

Note: For the purpose of the required 5-year review, tasks that state "throughout the life of the management plan" will be rated as "completed and ongoing" if they have been achieved for the previous 5-year time period, but will also have to continue to be achieved in the future. Additionally, tasks are noted as "modified" if it was determined that a strategy needed to be modified to be addressed successfully or the task was determined to be no longer relevant or a higher priority issue needed to be addressed	Completed	Completed and Ongoing	Strategy Modified - Completed/Ongoing	Initiated and Ongoing	Strategy Modified - Initiated and Ongoing	Not Initiated due to limited resources at site and other tasks that are currently considered higher priority.	Total Tasks/ Action Plan
4.1 Cultural Heritage & Community Engagement Action Plan	1	13	3	4	1	1	23
4.2 Marine Conservation Science Action Plan	3	8	0	2	0	0	13
4.3 Climate Change Action Plan	0	9	4	0	0	3	16
4.4 Operations and Administrative Action Plan	0	13	1	0	0	0	14
4.5 Ocean Literacy Action Plan	0	12	5	0	1	1	19
4.6 Resource Protection & Enforcement Action Plan	1	9	4	5	0	1	20
4.7 Partnerships & Interagency Cooperation Action Plan	0	6	2	0	2	0	10
4.8 Program Evaluation Action Plan	0	2	0	1	0	0	3
<b>Total Tasks Completed Per Category</b>	<b>5</b>	<b>72</b>	<b>19</b>	<b>12</b>	<b>4</b>	<b>6</b>	<b>118</b>

Completed: The task was completed.

Completed and Ongoing: The task was completed for years 2012-2017, but will continue.

Strategy Modified – Completed/Ongoing: The strategy as originally written was modified to accomplish the same intent (i.e. the intent of the task was accomplished in a different way) or the task as written was adapted to address a higher priority issue (example: invasive species was not a priority during the 1<sup>st</sup> 5-years of the management plan, but outbreaks of crown-of-thorns starfish initiated and ongoing: Work was started on the task and it continues).

Strategy Modified – Initiated and Ongoing: Same as above, but still in progress (not completed)

Not Initiated due to limited resources at site and other tasks that are currently considered higher priority: Tasks that were not initiated or completed. However, this includes projects that were broken down into several tasks instead of being groups as one. For example: this includes the actual installation of mooring buoys. Several tasks related to mooring buoys, site selection for example, were completed, but the final task of installation has not.

