Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

NATIONAL MARINE SANCTUARIES CONSERVATION SERIES

National Marine Sanctuary of American Samoa Community Profile, 2010–2019




October 2023 | sanctuaries.noaa.gov
National Marine Sanctuaries Conservation Science Series ONMS-23-08

U.S. Department of Commerce
Gina Raimondo, Secretary

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Richard W. Spinrad, Ph.D., Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator

National Ocean Service
Nicole LeBoeuf, Assistant Administrator

Office of National Marine Sanctuaries
John Armor, Director

Report Authors:
Giselle Samonte[1], Nikol Damato[1], Atuatasi Lelei Peau[2], Gene Brighouse[2], Nerelle Que[2], Isabel Gaoteote[2], Ryan Shea[3], Danielle Schwarzmann[1], Logen Flem[1]

[1]Office of National Marine Sanctuaries, Silver Spring, MD

[2]National Marine Sanctuary of American Samoa, Utulei, American Samoa

[3]National Marine Sanctuary Foundation, Silver Spring, MD

Suggested citation: Samonte, G., Damato, N., Peau, A. L., Brighouse, G., Que, N., Gaoteote, I., Shea, R., Schwarzmann, D., & Flem, L. (2023). National Marine Sanctuary of American Samoa community profile, 2010–2019. National Marine Sanctuaries Conservation Series ONMS-23-08. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Office of National Marine Sanctuaries.

Cover photos (clockwise from top left): A paddleboarder enjoys a day of recreation on calm waters; an angler prepares a fishing rod on the beach—fishing is an important element of the economy, culture, and recreation of the local community; a team practices for the annual fautasi Flag Day race; children swim in National Marine Sanctuary of American Samoa. Photos (clockwise from top left): Ropate Delana/NOAA; Isabel Gaoteote/NOAA; Apulu Veronika Molio'o Mata'utia Mortenson/NOAA; David J. Ruck/NOAA

About the National Marine Sanctuaries Conservation Series

The Office of National Marine Sanctuaries, part of the National Oceanic and Atmospheric Administration, serves as the trustee for a system of underwater parks encompassing more than 620,000 square miles of ocean and Great Lakes waters. The 15 national marine sanctuaries and two marine national monuments within the National Marine Sanctuary System represent areas of America's ocean and Great Lakes environment that are of special national significance. Within their waters, giant humpback whales breed and calve their young, coral colonies flourish, and shipwrecks tell stories of our nation's maritime history. Habitats include beautiful coral reefs, lush kelp forests, whale migration corridors, spectacular deep-sea canyons, and underwater archaeological sites. These special places also provide homes to thousands of unique or endangered species and are important to America's cultural heritage. Sites range in size from less than one square mile to almost 583,000 square miles. They serve as natural classrooms and cherished recreational spots, and are home to valuable commercial industries.

Because of considerable differences in settings, resources, and threats, each national marine sanctuary has a tailored management plan. Conservation, education, research, monitoring, and enforcement programs vary accordingly. The integration of these programs is fundamental to marine protected area management. The National Marine Sanctuaries Conservation Series reflects and supports this integration by providing a forum for publication and discussion of the complex issues currently facing the National Marine Sanctuary System. Topics of published reports vary substantially and may include descriptions of educational programs, discussions on resource management issues, and results of scientific research and monitoring projects. The series facilitates integration of natural sciences, socioeconomic and cultural sciences, education, and policy development to accomplish the diverse needs of NOAA's resource protection mandate. All publications are available on the Office of National Marine Sanctuaries website.

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Report Availability

Electronic copies of this report may be downloaded from the Office of National Marine Sanctuaries website.

Contact

Giselle Samonte, Ph.D.
Economist
NOAA/NOS/Office of National Marine Sanctuaries
1305 East West Highway, SSMC4, 10th Floor
Silver Spring, MD 20910
Email: giselle.samonte@noaa.gov

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Abstract

This sanctuary community profile provides cultural, demographic, and socioeconomic information for the communities adjacent to National Marine Sanctuary of American Samoa (NMSAS). Data from 2010 through 2019 were sourced from the American Samoa Department of Commerce, U.S. Census Bureau, World Bank, and other federal and territorial agencies, such as the Central Intelligence Agency. Socioeconomic characterization of the sanctuary community is essential for systematic planning and sanctuary management. This report includes data and information collated and reviewed prior to the COVID-19 pandemic.

NMSAS protects 13,581 square miles of natural and cultural resources across six sanctuary units: Muliāva, Swains Island, Ta'u, Aunu'u, Fagalua/Fogama'a, and Fagatele Bay. The sanctuary community of NMSAS includes three counties (Sa'ole, Ta'u, and Tualatai counties) and Swains Island. Local resource managers play a key role in the collaborative governance of cultural and natural resources of NMSAS. These local partners include: village councils of Futiga, Vaitogi, Ta'u/Manu'a, Aunu'u, and Sa'ole County; Western District Governor; Swains Island community; and Aunu'u Village. The benefits derived from the NMSAS ecosystem include various fishing, subsistence, cultural, and recreational activities.

Highlights of the sanctuary community profile include:

- Samoa's culture and way of life, known as "fa'a Samoa," is over 2,000 years old. Samoans practice fa'a Samoa, or traditional and cultural living, as a normal way of life. In 2013, *Penina Tutasi o Amerika Samoa* became the first film depiction of the importance of place and people through a journey of how culture is vibrant and thriving in the sanctuary community.
- Reliance on local fisheries creates strong cultural attachments to the natural and cultural resources within NMSAS. In 2017, there were 29 local fishing boats and 66 fishers in American Samoa.
- Commercial fishing is important for American Samoa's tuna harvest and processing industries. The top five species landed commercially between 2007 and 2019 were lined/blue-banded surgeonfish, yellowfin tuna, wahoo, parrotfish, and broadbill swordfish.
- There is great potential for tourism in American Samoa, with 5,579 tourist arrivals in 2017. Tour operators include Samriel's Aunu'u Island Tours and Sinalei Tours, which offer fishing excursions and eco-tours to Aunu'u Island. Multiple local dive operations in American Samoa create opportunities for visitors to dive and snorkel in NMSAS year-round.
- The official visitor center for NMSAS, the Tauese P.F. Sunia Ocean Center, opened in 2012. Between 2012 and 2020, approximately 42,000 guests visited the center.
- In 2019, the population of American Samoa was 55,312 and the population density was 445 people per square mile, greater than the population density of Samoa and the Pacific

Island small states. Studies have shown a negative relationship between population density and biodiversity.

- Sanctuary managers may consider environmental awareness programs that are targeted to specific community demographics to increase access to sanctuary resources. For example, in Ta'u County and Swains Island, most residents were between the ages of 15 and 19. The largest age bracket in Tualatai County was 10 to 14.
- Out of the total labor force in American Samoa, 1,908 lived in the sanctuary community in 2019. Tualatai County had the largest labor force within the sanctuary community at 1,124.
- In American Samoa, major marine economies include shipping and transportation (e.g., stevedoring, lighterage, maritime shipping agency activities, unloading of fish); ship maintenance; tour and travel services; and fish canning and processing. The hourly minimum wages for these marine sectors in American Samoa were generally higher than the minimum wages in the neighboring independent country of Samoa, ranging from $5.66–6.39 in 2018.

Key Words

National Marine Sanctuary of American Samoa, culture, economics, ecosystem services, community engagement, American Samoa, tourism, demographics, population, labor, employment

Chapter 1: Introduction

This sanctuary community profile (SCP) provides information on socioeconomic, cultural, and ecosystem service benefits of National Marine Sanctuary of American Samoa (NMSAS) to support the Office of National Marine Sanctuaries condition reports, management plan reviews, environmental impact statements, and Regulatory Flexibility Act analyses.[1] The majority of data used in this SCP were sourced from the American Samoa Department of Commerce, U.S. Census Bureau, U.S. Bureau of Labor Statistics, World Bank, and other federal and territorial agencies, such as the Central Intelligence Agency. The descriptions of fishing, recreational, and community engagement activities that take place within the sanctuary provide managers with an increased understanding of the sanctuary community and surrounding counties.

Objectives of the SCP are:

1. To provide a socioeconomic profile of the region surrounding NMSAS;
2. To inform assessment of the relationship between the sanctuary and nearby counties;
3. To characterize the social and economic impacts of activities taking place within the sanctuary;
4. To reflect the ecosystem service benefits derived from NMSAS (e.g., fishing and recreational activities); and
5. To provide sanctuary managers with an increased understanding of the community around the sanctuary.

Key Takeaways

1. NMSAS covers 13,581 square miles of nearshore coral reef and offshore open ocean waters across the Samoan Archipelago. NMSAS includes Rose Atoll Marine National Monument.
2. Fagatele Bay National Marine Sanctuary was established in 1986 and expanded to include five additional sites in 2012 to become NMSAS.
3. The sanctuary community of NMSAS includes the counties of Sa'ole, Ta'u, and Tualatai, as well as Swains Island.

Overview of Sanctuary

NMSAS protects nearshore coral reef and offshore open ocean waters across the Samoan Archipelago. Fagatele Bay National Marine Sanctuary was established in 1986, and was expanded in 2012 to become NMSAS; this expansion included the addition of five sites. The sanctuary is notable for its remote location, its tropical reefs, the biodiversity within its protected waters, and its cultural importance to communities in American Samoa (National Marine Sanctuary of American Samoa [NMSAS], n.d.). The sanctuary includes deep water reefs,

[1] Regulatory Flexibility Act section 610 requires that the Office of National Marine Sanctuaries periodically review existing regulations that have a significant economic impact on a substantial number of small entities, such as small businesses, small organizations, and small governmental jurisdictions.

hydrothermal vents, some of the world's oldest and largest *Porites* coral heads, rare archaeological resources, and important fishing grounds.

Its fringing coral reefs have experienced severe disruptions from cyclones and crown-of-thorns starfish outbreaks, and more recently, from coral bleaching and diseases. Other threats include impacts from fishing, climate change, pollution, marine debris, vessel groundings, and nuisance species outbreaks (Office of National Marine Sanctuaries, 2012).

Geographic Scope

NMSAS protects 13,581 square miles of natural and cultural resources across six sanctuary units: Muliāva, Swains Island, Ta'u, Aunu'u, Fagalua/Fogama'a, and Fagatele Bay (Figure 1.1). The sanctuary includes Rose Atoll Marine National Monument, which consists of 13,436 square miles of protected waters and includes the Rose Atoll National Wildlife Refuge (NOAA Fisheries, 2022). Established by Presidential Proclamation 8337 in 2009, the Rose Atoll Marine National Monument has been part of NMSAS since 2014. The waters around Rose Atoll were named Muliāva by the people of Manu'a, and became one of the five sites added to Fagatele Bay National Marine Sanctuary when it became NMSAS.

Muliāva is the largest sanctuary unit at approximately 13,508 square miles, followed by Swains Island (52.3 square miles), Ta'u (14.6 square miles), Aunu'u (5.3 square miles), Fagalua/Fogama'a (0.46 square miles), and Fagatele Bay (0.27 square miles). These sanctuary units serve as access points to NMSAS. Each unit may be reached by boat. The port of Pago Pago is 82.1 miles from Muliāva, 221.5 miles from Swains Island, 79.6 miles from Ta'u, 3.5 miles from Fagalua/Fogama'a, and 4.5 miles from Fagatele Bay. The Aunu'u unit may be reached from the Auasi Boat Ramp, located 10.1 miles from the unit.

The sanctuary community of NMSAS includes the counties in which most economic and social impacts related to the sanctuary occur. The sanctuary community of NMSAS includes the counties of Sa'ole, Ta'u, and Tualatai, as well as Swains Island.[2]

The area of American Samoa is 76.8 square miles. American Samoa is 2,566 miles from Honolulu, Hawai'i; 4,800 miles from Los Angeles, California; and 1,800 miles from Auckland, New Zealand.

[2] Villages in Tualatai County include Futiga, Malaeloa/Ituau, Taputimu, and Vailoatai. Villages in Ta'u County include Luma and Si'ufaga. Villages in Sa'ole include Alofau, Amouli, Auasi, Aunu'u, part of Pagai village, and Utumea East. Swains village is on Swains Island. These villages comprise the sanctuary community for NMSAS.

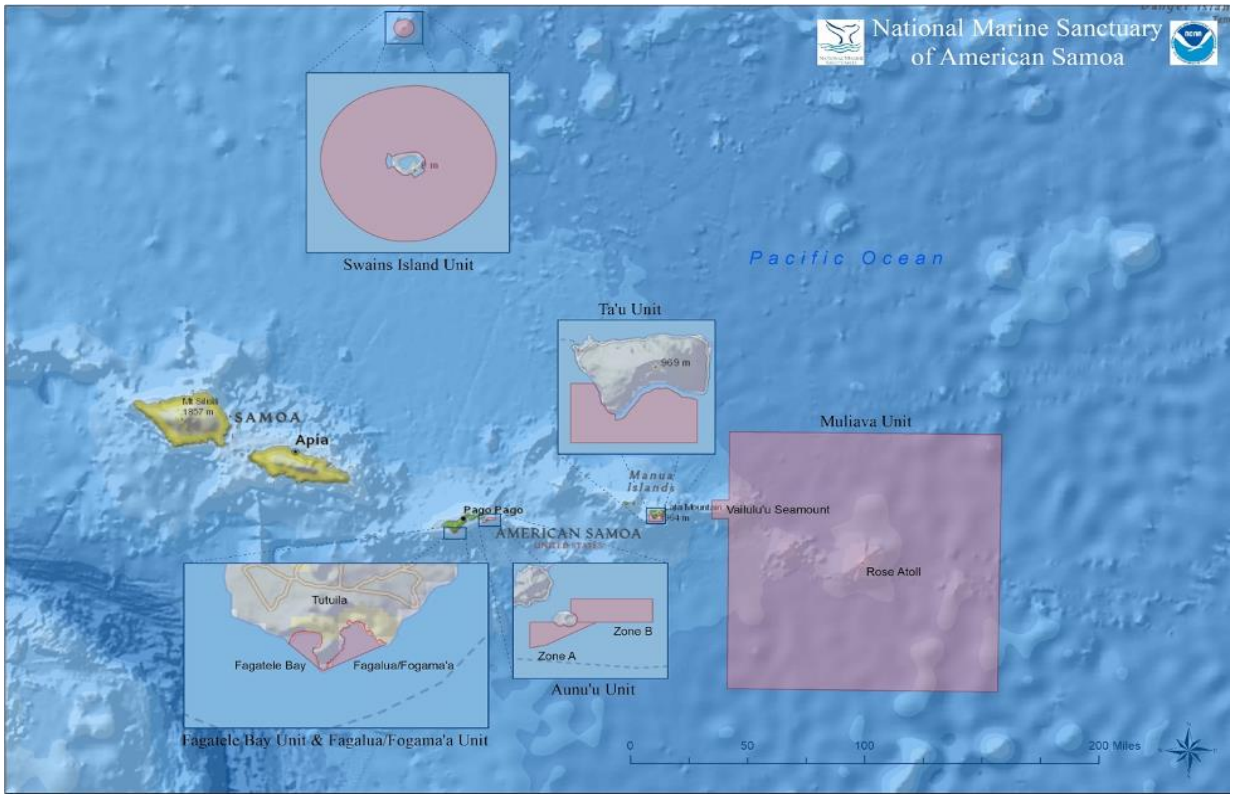

Figure 1.1. Map of NMSAS. Image: NOAA

Key Regulations in the Sanctuary

Allowable and prohibited activities in NMSAS vary by sanctuary unit. In Fagalua/Fogama'a, allowable activities include research, education, hook-and-line fishing, cast nets, spearfishing, and traditional, non-destructive fishing methods typically used for sustenance and cultural activities, including gleaning, 'enu, and ola. Fagatele Bay is a no-take zone, so no extractive activities (including fishing) are permitted. Permissible activities include non-extractive research, recreation, and educational activities. In the Ta'u unit, a variety of activities are permitted, including research, education, recreation, hook-and-line fishing, cast nets, spearfishing, and non-destructive, traditional uses (NMSAS, 2019).

The Aunu'u unit is divided into two zones: Zone A and Zone B. Zone A is a multiple use zone permitting research, education, and recreational activities, including hook-and-line fishing, cast nets, spearfishing, and non-destructive, traditional uses. Zone B is classified as a research zone, so fishing is prohibited for bottom-dwelling species. Research, education, and recreational activities are allowable in Zone B, including surface fishing for pelagic species such as white tuna, billfish, or wahoo (NMSAS, 2019).

In the Swains unit, research, education, and recreational activities are allowable, including hook-and-line fishing, cast nets, spearfishing, and non-destructive, traditional uses. In the Muliāva unit, which includes Rose Atoll National Monument, research, education, recreation, and fishing with a permit are allowed (NMSAS, 2019). Table A.1 lists allowable fishing methods in each NMSAS unit.

Some activities are prohibited or otherwise regulated across the entire sanctuary, with the exception of the Muliāva unit. According to the NMSAS Allowable and Prohibited Activities Factsheet (NMSAS, 2019), these activities include:

- "Gathering, taking, breaking, cutting, damaging, destroying, or possessing any giant clam [*Tridacna* spp.], live coral, or bottom formation, including live rock and crustose coralline algae;
- Possessing or using poisons, electrical charges, explosives, or similar environmentally destructive methods of fishing or harvesting;
- Possessing or using spearguns, including such devices known as Hawaiian slings, pole spears, arbalettes, pneumatic and spring-loaded spearguns, bows and arrows, bang sticks, or any similar device while utilizing scuba equipment;
- Possessing or using a seine, trammel, drift gill net, or any type of fixed net; and
- Disturbing the benthic community by bottom trawling."

Further, the factsheet notes that any prohibited items found in the possession of a person within the sanctuary will be assumed to have been used, collected, or removed within or from the sanctuary. Further, the factsheet (NMSAS, 2019) notes that the following activities are also prohibited or otherwise regulated throughout the entire sanctuary:

- "Introducing or releasing introduced species from within or into the sanctuary;
- Anchoring a vessel;
- Deserting a vessel aground, adrift, or at anchor;
- Leaving harmful matter on an abandoned or deserted vessel or structure;
- Operating a vessel at a speed exceeding three knots when closer than 200 feet (60.96 meters) of another vessel displaying a dive flag;
- Operating a vessel in a manner that causes the vessel to strike or otherwise cause damage to sanctuary resources;
- Diving, snorkeling, or conducting diving or snorkeling operations from an applicable U.S. Coast Guard navigation rule governing the display of lights and signals, and not flying in a conspicuous manner the international code flag alpha "A" or the standard red-and-white U.S. "diver down" flag;
- Discharging, or depositing from within or into the sanctuary, any material or other matter, except clean vessel deck wash down, clean vessel engine cooling water, clean vessel generator cooling water, clean bilge water, anchor wash, or vessel engine or generator exhaust;
- Discharging or depositing from beyond the boundary of the sanctuary any material or other matter that subsequently enters the sanctuary and injures a sanctuary resource or quality [some exceptions are listed in the factsheet];

- Sand mining, dredging, filling, dynamiting, or otherwise disturbing or altering the seabed;
- Removing, damaging, or tampering with any historical or cultural resource;
- Taking any marine mammal, sea turtle, or seabird within or above the sanctuary, except as authorized by the Marine Mammal Protection Act (as amended, 16 U.S.C. §§ 1361 *et seq*.), Endangered Species Act (as amended, 16 U.S.C. §§ 1531 *et seq*.), Migratory Bird Treaty Act (as amended, 16 U.S.C. §§ 703 *et seq*.), or any regulation promulgated under these acts;
- Using or discharging explosives or weapons of any description. Distress signaling devices, necessary and proper for safe vessel operation, and knives generally used by fishermen and swimmers shall not be considered weapons for purposes of this section;
- Marking, defacing, or damaging in any way, or displacing or removing or tampering with any signs, notices, or placards, whether temporary or permanent, or with any monuments, stakes, posts, or other boundary markers related to the sanctuary; and
- Abandoning a structure, material, or other matter on or in the submerged lands of the sanctuary."

All of these prohibitions may not apply to any activity necessary for national defense; necessary to respond to an emergency threatening life, property, or the environment; necessary for valid law enforcement purposes in the sanctuary; or conducted under and in accordance with the scope, purpose, terms, and conditions of a national marine sanctuary permit.

Chapter 2:
Community Support and Engagement

Engaging local communities and working with residents in American Samoa is unique to this site, where the official language is Samoan. As the first language throughout the society, Samoan comes hand-in-hand with strong traditional and cultural values and practices. Heritage in American Samoa is alive and thriving today, as traditions and customs are practiced either daily or for events and protocols and respect is placed on fa'a Samoa (Samoan way of life).

Key Takeaways

1. NMSAS employs federal employees and affiliates who partner with a variety of federal, territorial, local, state, county, non-profit and academic collaborators for education, outreach, and management.
2. Partners, collaborators, and NMSAS staff host a variety of initiatives to facilitate community engagement, including one-time and annual events, volunteer and citizen science programs, educational exhibits, professional development training for teachers, and media outreach.

NMSAS Personnel

The day-to-day operations of NMSAS are undertaken by two federal employees and eight affiliates (six full-time and two part-time contractors). Staff roles include management and policy, education and outreach, administrative and visitor center responsibilities, science and research, and marine operations.

Partners and Collaborators

The cultural and natural resources of NMSAS are governed through collaborative relationships. This section highlights key partners and collaborators for sanctuary management.

Federal

Federal management partners and collaborators include: the National Park of American Samoa (U.S. Department of the Interior); Natural Resource Conservation Service (U.S. Department of Agriculture); U.S. Fish and Wildlife Service (U.S. Department of Interior), and the U.S. Insular Affairs Office (U.S. Department of the Interior). Federal collaborators within NOAA include the Office of Law Enforcement and line and program offices such as the National Weather Service, Office of Coastal Management, and National Marine Fisheries Service. Within the National Marine Fisheries Service, partners include the Pacific Islands Regional Office, Pacific Islands Fisheries Science Center, and the Pacific Monuments Program, which is co-managed by the U.S. Fish and Wildlife Service.

Local

Local resource managers and partners include: the village councils of Futiga, Vaitogi, Ta'u/Manu'a, Aunu'u, and Sa'ole County; Western District Governor; Swains Island community; and Aunu'u Village.

Local collaborators include: Department of Marine and Wildlife Resources; American Samoa Coral Reef Advisory Group; American Samoa Government Department of Commerce (American Samoa Coastal Management Program); Territorial Administration on Aging Office; Office of Public Information/KVZK-TV; Department of Education; American Samoa Community College; Territorial Energy Office; American Samoa Environmental Protection Agency; American Samoa Historic Preservation Office; Department of Port Administration; American Samoa Power Authority; Arts and Humanities Office; American Samoa Visitors Bureau; and Office of Samoan Affairs (Governor's Office).

Sanctuary Infrastructure

Monitoring and Research

NMSAS is equipped with one research vessel, R/V *Manumā*, which is used primarily to support science and education missions. In addition, NMSAS owns a remotely operated vehicle (ROV) and there are two NOAA-certified divers supporting ecosystem monitoring and research.

On-Water Safety

There is a lack of on-water safety infrastructure, such as buoys, for boaters and fishers. There is one research buoy in Fagatele Bay.

Education and Outreach

The Tauese P.F. Sunia Ocean Center opened in 2012 and is the official visitor center for NMSAS. In 2019, 8,185 visitors came to the ocean center. Between 2012 and 2020, approximately 42,000 total guests visited the ocean center.[3] The ocean center provides educational services to inspire stewardship and conservation of the sanctuary. In 2019, there were 40 school and class field trips for a total of 1,415 students, in addition to 623 meetings and 320 workshops related to the sanctuary. Educational programs hosted by NMSAS sites include student and teacher programs.

Landmarks

Protected Areas

In 2018, 8.7% of American Samoa's territorial land and waters had formal protections for terrestrial and marine areas, including NMSAS (World Bank, 2018). Rose Atoll Marine National Monument within NMSAS includes 13,436 square miles of protected waters and the Rose Atoll National Wildlife Refuge (NOAA Fisheries, 2022).

[3] The number includes total guests and not the unique number of visitors to the ocean center. This means if one person visited on two different days, they would be counted twice.

In addition to NMSAS, adjacent management areas include the National Park of American Samoa. The national park's visitor center provides educational information about the terrestrial and marine environments of the National Park of American Samoa.

Other protected areas adjacent to NMSAS include areas of Ta'u and a Territorial Marine Park on Ofu. The NOAA Office for Coastal Management also operates three special management areas in American Samoa: Pago Pago Harbor, Nu'uuli Pala, and Leone Pala Lagoon ("pala" is the Samoan word for "wetlands"). These special management areas provide additional protections and management for cultural and economic activities in Pago Pago, as well as mangroves, wetlands, and other critical ecosystems.

Community Engagement

Sanctuary community engagement involves a variety of activities, including one-time and annual events, volunteerism and citizen science, and education and outreach.

Events

Annual and one-time events provide opportunities for the sanctuary community and visitors to engage with NMSAS and its staff. Events include education about sanctuary resources and ecosystem services, entertainment, and fishing.

Events hosted by NMSAS include the annual Fagota Mo Taeao Open Fishing Tournament, which engages recreational, sport, and subsistence fishers in a tournament while simultaneously raising awareness of allowable and sustainable fishing activities within NMSAS. The fourth annual tournament attracted 80 anglers and 150 attendees at the award ceremony event.

More than 400 people participated in Get Into Your Sanctuary weekend events in 2019. Events included activities such as "Vet Into Your Sanctuary" with the Office of Veteran Affairs, virtual dives in collaboration with the Territorial Administration on Aging Office, a ship-to-shore interaction co-hosted by the ocean center, and a Sanctuary Summer Fun Day at Aunu'u Island. The Sanctuary Summer Fun Day supported local businesses through food vending and booths that raised over $2,000 for the local community.

Other notable events in American Samoa include the annual fautasi (long boat) Flag Day race, the I'a Lapo'a Game Fishing Tournament, Moso'oi Festival, and palolo worm harvest. The Festival of Sites occurs three to four times every year; at this event, vendors from the NMSAS units gather to sell goods and entertain visitors. Additionally, the Tauese P.F. Sunia Ocean Center hosted the 2019 Fautasi Heritage Symposium, which gathered community and village leaders, historians, and fautasi captains and crews to share information about the history of fautasi and provide recommendations to enhance the sport and information to share with future generations.

Volunteers and Citizen Scientists

Volunteers and citizen scientists support recreation, education, and scientific endeavors in NMSAS. In 2019, there were two volunteers contributing 130 total hours toward projects such as the Fautasi Heritage Symposium. In addition, there were two citizen scientists serving 20 hours per week on project topics including ocean acidification, reef fish research, and marine debris.

One of these citizen scientists was an intern hosted for a 10-month program through a partnership between NMSAS and Kupu, a Hawai'i-based non-governmental organization. Since 2017, this partnership has allowed NMSAS to offer two youth Conservation Leadership Program interns in American Samoa. To date, NMSAS has accomplished two community projects led by local youth in Aunu'u and an education intern who worked directly with schools to implement several programs, such as Ta'iala ole Sami, a student-based project including learning components and the completion of rain gardens, recycling, and clean-ups for villages adjacent to Fagatele Bay and Aunu'u.

Education and Outreach Opportunities

NMSAS sites host a variety of educational exhibits, programs, workshops, and trainings to engage the community. Through education and outreach, NMSAS has helped to amplify ocean skillsets and expand ocean literacy.

NMSAS has accomplished several outreach efforts to engage, inform, and build ocean stewardship since 2012. Examples include Sanctuary Wellness for the Community, Cultural Eco-Tour Development workshops, and Get into Your Sanctuary events.

Other programs hosted by NMSAS staff include professional development training for teachers and year-round ROV workshops for students, through which students engage in science, technology, engineering, and math (STEM) work with NMSAS. In 2019, 80 teachers participated in two workshops for professional development: Why Do We Explore (in partnership with NOAA Ocean Exploration, University of Hawai'i Manoa, and Waikiki Aquarium) and Building a PufferFish ROV (in partnership with Marine Advanced Technology Education and Michigan Stockbridge High School's STEM InvenTeam).

Educational exhibits related to the sanctuary include exhibits in the Pago Pago International Airport departure lounge and along the Fagatele trail. Other exhibits are present at the NOAA Inouye Regional Center at Ford Island, Oahu, Hawai'i, and the Mokupāpapa Discovery Center in Hilo, Hawai'i.

Local media outlets featured NMSAS 58 times in 2019. Notable stories of 2019 featured the Fautasi Heritage Symposium, the deployment of the "Class III" ocean acidification monitoring buoy at Fagatele Bay, deep-sea exploration of the sanctuary with Ocean Exploration Trust's E/V *Nautilus*, Get Into Your Sanctuary weekend events, teacher and student ROV workshops, the launch of the updated NMSAS website, and the 4th annual Fagota Mo Taeao Open Fishing Tournament. Local media also featured Rebecca Holyoke, NOAA's Office of National Marine Sanctuaries Deputy Director, welcoming teachers to an ROV workshop and NOAA's allocation of $2.4 million for mesophotic coral ecosystem research in American Samoa. NMSAS is highlighted on twice daily on the radio station 93KHJ, during busy drive times in the morning (6:00 to 8:00 AM) and afternoon (4:00 PM to 6:00 PM). The NMSAS spot includes a jingle for the sanctuary and provides hours and contact information.

People also connect with NMSAS via social media. Facebook analytics show that the total annual post reach of NMSAS was 115,395 in 2019.

Chapter 3:
Culture and Heritage

The NMSAS 2007–2020 condition report (Office of National Marine Sanctuaries, 2022) presents a detailed overview of American Samoa's culture and heritage, particularly as it relates to the sanctuary. A brief summary of this overview is presented here.

Fa'a Samoa, Samoa's traditional culture and way of life, focuses on a single people, language, and communal core values, and is practiced daily (Craig, 2009; Linnekin et al., 2006). The people of American Samoa also value and celebrate their affiliation with the U.S., honoring this relationship annually on Flag Day, which includes siva ma pese (song and dance), as well as the renowned fautasi race. Fautasi are traditional watercraft originally used for transportation. During the Flag Day race, fautasi are rowed by crews of up to 50 members, who practice for months prior to the race. The annual fautasi race showcases not only physical strength of the crews, but more importantly, unity, spirit, and village pride.

Samoan culture is also celebrated through cultural arts like mat weaving (including valuable "fine mats"), cooking and food preparation (including ceremonial cooking and preparation of family feasts [to'onai]), growing local crops, and harvesting fish.

Although western influences are present, fa'a Samoa and its cultural traditions are present in all aspects of life. Samoan is the first language in American Samoa, and NMSAS staff implement education, outreach, and community engagement programs in both Samoan and English. NMSAS also engaged and consulted with village leaders during the 2009 to 2012 management review process, earning a commendation from the Secretary of the Office of Samoan Affairs for embodying respect for and recognition of Samoan culture.

Key Takeaways

1. Samoans practice fa'a Samoa as a normal way of life. NMSAS activities, events, outreach, and management honor fa'a Samoa.
2. NMSAS staff work directly with sanctuary village communities when planning events and activities and host programs in Samoan.
3. There are numerous outreach initiatives and films about NMSAS that specifically honor Samoan culture and heritage.

Working Directly with Sanctuary Village Communities

The culture of American Samoa emphasizes community, and NMSAS practices these communal values by developing relationships and collaborating closely with communities and villages adjacent to the sanctuary. If a sanctuary activity will directly involve or affect the people in a village, NMSAS communicates with and seeks permission from the communities prior to taking any actions. Staff follow proper communication channels to seek permission, which may require contacting the Office of Samoan Affairs or directly communicating with the involved communities depending on the scope of the proposed activity. Prior to Get Into Your Sanctuary events, for example, NMSAS communicated directly with each family expected to be affected by the events.

Removal of debris following the 2016 grounding of the fishing vessel *No. 1 Ji Hyun* on the western reef of Aunuʻu Island exemplifies the importance of collaboration with local communities. Multiple attempts were made to remove the grounded vessel, but weather, logistics, and infrastructure challenges obstructed these efforts. Ultimately, the vessel required removal on a Sunday, considered a holy day of rest in American Samoa; NMSAS requested an exception from the local village council, which was granted, and the vessel was successfully removed. This joint effort exemplified fa'a Samoa, which places importance on achievements of the group rather than the individual (Weinberg, 2016). It also resulted in greater collaboration between NMSAS, U.S. Coast Guard, local or territorial government agencies such as the American Samoa Power Authority, American Samoa Port Administration, American Samoa Environmental Protection Agency, and especially Aunu'u, where high talking chief Fonoti attended all briefings; was on site for each removal attempt; and was critical in guiding the efforts, communicating the concerns of local families, and informing the community.

Other programs also highlight the ties between NMSAS and the communities of American Samoa. Village communities adjacent to NMSAS participated in the Festival of Sites from 2013 to 2016, showcasing the unique traditions and cultural practices special to each area. Village members shared special foods, crafts, artifacts, and performances to celebrate cultural heritage and Samoans' connection to the environment. Additionally, since 2015, the annual Fagota Mo Taeao Fishing Tournament has allowed recreational anglers to compete together aboard alia (traditional fishing vessels) while increasing awareness of allowable and prohibited fishing methods among fishing communities. Lastly, Ta'iala ole Sami is an educational program, taught in both Samoan and English, that aimed to teach students near the Fagatele and Fagalua/Fogama'a units about preserving and protecting ocean resources. The curriculum focused on coral reef conservation and ecology and was taught from 2014 to 2017.

Outreach Films on Culture & Heritage

Since the establishment of NMSAS, films have been produced to showcase American Samoa's culture, place, and people to better inform understanding of conservation and stewardship. NMSAS partnered with Jean-Michel Cousteau's Ocean Futures Society, the National Marine Sanctuary Foundation, and the Office of National Marine Sanctuaries to produce the American Samoa Culture and Ocean Conservation Film Series. The series highlights the importance of diversity and the cultural tenets practiced by people in American Samoa. The short films in the series, produced by filmmaker Jim Knowlton, include *Fagatele Bay—National Marine Sanctuary of American Samoa*, *Sunday and Family*, *Youth in Ocean Conservation*, *Two Dives in American Samoa*, and *Hokule'a—Arrival in American Samoa*. Knowlton also produced *Swains Island: One of the Last Jewels of the Planet* (Ocean Futures Society, 2021), which was developed following a multidisciplinary study of Swains Island, including its unique ecosystem and cultural heritage (Van Tilburg et al., 2013).

Several other films were produced for NMSAS to highlight culture and life in American Samoa. *Penina Tutasi o Amerika Samoa* is a 2013 film that depicted the importance of place and people through a journey of how culture is vibrant and thriving in NMSAS.

Symposium

In April 2019, NMSAS and the American Samoa Historic Preservation Office co-sponsored the inaugural Fautasi Heritage Symposium, which aimed to document and share the cultural heritage and history of fautasi racing in American Samoa. The symposium, open to the community, was supported by the Office of Samoan Affairs and villages, including fautasi captains. The outcomes of the symposium were presented in *Fautasi Heritage of American Samoa: Fa'aga I Le Tai: O Ala O Le Vavau A Samoa* (Office of National Marine Sanctuaries, 2020).

Chapter 4:
Sanctuary Uses and Livelihoods

The sanctuary community uses NMSAS for a variety of activities and services. NMSAS provides ecosystem services that are important to both the lives and livelihoods of the sanctuary community.

Ecosystem services are the goods and services from ecological systems that benefit communities. These services include protection from coastal storms, fish for human consumption, and recreation.

NMSAS supports small businesses and livelihoods in the sanctuary community. Small businesses include tour operators; small and commercial fishers; and hospitality, lodging, and dining services, among others. This chapter presents the human uses and livelihoods that are associated with or dependent on NMSAS. These include recreation, fishing, and tourism. NMSAS also has important ties to sociocultural values and practices, heritage, and sense of place. Sanctuary managers use available information to make informed decisions about sanctuary use, governance, and services.

Key Takeaways

1. NMSAS provides a variety of ecosystem services that benefit the sanctuary community, including economic, recreational, cultural, and fishing activities.
2. Fishing activities in NMSAS are commercial, subsistence and cultural, or recreational, and local fisheries are important for sense of place and sociocultural values.
3. NMSAS supports tourism, which allows visitors to enjoy ecosystem services and support local businesses.

Commercial Harvest

Commercial tuna fishing and processing are important in American Samoa. Canned tuna is the primary commodity exported from American Samoa (93.0% in 2017) and the tuna harvesting and processing industries are key elements of the private sector (Central Intelligence Agency [CIA], 2020). The top five species landed by commercial harvest between 2007 and 2019 were lined/blue-banded surgeonfish ($532,000), yellowfin tuna ($363,000), wahoo ($349,000), parrotfish ($299,000), and broadbill swordfish ($185,000; Western Pacific Fisheries Information Network, 2020).

In 2016, capture fisheries production in American Samoa totaled 2,252 metric tons, comprising 99.1% of total fisheries production. From 2010 to 2016, over 99.0% of total annual fisheries production came from wild capture methods (Table 4.1; The World Bank, 2023). Fish farming and aquaculture are uncommon in American Samoa due to challenges in acquiring the resources to implement sustainable aquaculture practices.

Table 4.1. Fisheries production in American Samoa, 2010 to 2016. Source: The World Bank, 2023

Year	Total Fisheries Production (Metric Tons)	Capture Fisheries Production (Metric Tons)	Capture Fisheries Production (Percent of Total)
2010	5,141	5,123	99.6%
2011	3,607	3,587	99.4%
2012	4,392	4,372	99.5%
2013	2,861	2,841	99.3%
2014	2,447	2,427	99.2%
2015	4,378	4,358	99.5%
2016	2,272	2,252	99.1%

An estimated 109,351 pounds of fish were harvested in fiscal year 2017. The fiscal year (FY) runs from October 1st to September 30th. Common methods of offshore catch included trolling, bottom fishing, a combination of trolling and bottom fishing, spear fishing, and longlining (American Samoa Department of Commerce, 2017). Of these methods, bottom fishing produced the greatest portion of the 2017 harvest (36.4%), followed by trolling (27.7%; Figure 4.1, Table A.2).

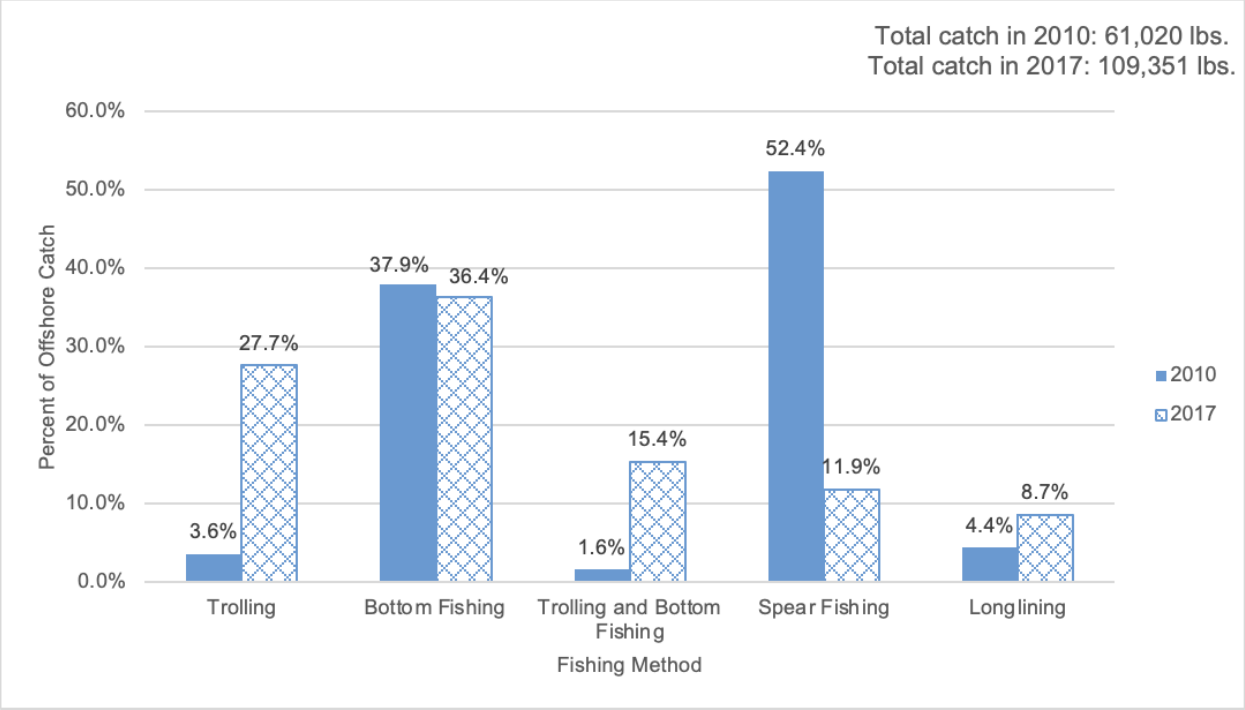

Figure 4.1. Estimated offshore catch by method in American Samoa, FY 2010 to FY 2017. Source: American Samoa Department of Commerce, 2017

Subsistence Harvest

Fisheries in American Samoa are important to sense of place and special bonds or sanctuary-based attachments. These human and ecological relationships are reflective of the community's

sociocultural values. Reliance on local fisheries creates strong cultural attachments to the natural and cultural resources within NMSAS.

The people of American Samoa fish frequently for a variety of purposes. According to Levine et al. (2016), 52.0% of respondents in American Samoa reported fishing at least once a month in 2014. In the same year, 47.0% of respondents fished frequently or sometimes to feed themselves and their families, 41.0% fished to give the catch to pastors and village leaders, 38.0% fished to give the catch to extended family and friends, and 32.0% fished for special occasions and cultural events.

In 2017, there were 29 local fishing boats and 66 fishers in American Samoa. The number of local fishing boats and fishers in American Samoa has declined over time. From 2010 to 2017, the number of local fishing boats decreased by 37.0% and the number of fishers decreased by 52.2% (Table 4.2; American Samoa Department of Commerce, 2017).

In 2019, 15 individuals participated in longline fisheries. Target species included albacore tuna, although bycatch included skipjack, yellowfin, and bigeye tuna; wahoo; sharks; billfish; and other miscellaneous pelagic species (NOAA Fisheries, 2021). In 2016, 13 people participated in tuna troll fisheries. Target species included tuna, mahi mahi, ono, and billfish, among others (NOAA Fisheries, 2022).

The total annual harvest of fish has increased over time, by 79.2% from FY 2010 to FY 2017, despite variation from year to year (Table 4.2; American Samoa Department of Commerce, 2017).

Table 4.2. Local fishing activities in American Samoa, FY 2010 to FY 2017. Source: American Samoa Department of Commerce, 2017

Year	Number of Boats	Number of Fishers	Estimated Pounds Caught
2010	46	138	61,020
2011	42	126	98,906
2012	34	102	63,945
2013	25	75	102,735
2014	32	69	102,122
2015	28	84	109,087
2016	13	52	80,353
2017	29	66	109,351

Recreational Activities

Figure 4.2. A diver swims near the coral colony known as Big Momma in the Valley of the Giants.[4] Photo: Wendy Cover/NOAA

Recreational activities in NMSAS include recreational fishing and non-consumptive recreation such as tours, watersports, scuba diving, and wildlife viewing. Most of these activities occur year-round, with the exception of whale watching, which occurs primarily from September to November. There is limited data available on the level and spatial extent of recreational use.

These recreational activities are led by local community members and businesses in American Samoa and represent another connection between NMSAS, livelihoods, maritime activities, and the local economy.

Recreational Fishing

Tour operators featuring chartered fishing vessels include Samriel's Aunu'u Island Tours and Sinalei Tours, which offers fishing excursions and eco-tours to Aunu'u Island (Sinalei Reef Resort and Spa, n.d.). Pago Pago Marine Charters is the primary charter vessel company for NMSAS. Visitors may charter vessels for recreational, commercial, or industrial scuba diving expeditions; wildlife viewing; or a variety of other purposes on the water, including recreational fishing. Multiple vessels are available to charter (Pago Pago Marine Charters, n.d.).

[4] Big Momma is one of the largest corals in existence with a circumference of 134 feet and a height of 21 feet.

Tour Operators

There are multiple tour operators offering excursions throughout American Samoa. Tours typically focus on cultural and maritime heritage and/or the natural environment and ecosystems of American Samoa. Many of these operations support science and management activities. Information on tours is available in Table A.3.

Watersports

Watersports in NMSAS sites include snorkeling, scuba diving, and surfing. These watersport activities are occasional and site-dependent, as most sanctuary waters are difficult to access or located offshore. Other watersports such as jet skiing and paddleboarding occur outside the sanctuary, usually in Pago Pago Harbor. South Pacific Watersports offers stand-up paddleboards, kayaks, and traditional canoes for visitors to rent and use in the harbor.

Diving

Swimming, snorkeling, and scuba diving are popular recreational activities in American Samoa. There are multiple scuba dive operations in American Samoa that visitors to NMSAS can use. Diving occurs year-round but is dependent on location due to seasonal ocean swells caused by wind and oceanographic shifts.

Recreational dive operations include Crux Diving and Industrial Gases. There is also one full-service dive operator: Pago Pago Marine Charters, which focuses on commercial and research endeavors.

It is challenging to get to NMSAS sites with dive gear from shore. Some individuals travel via boat to dive in Fagatele Bay or Fagalua/Fogama'a, but it is challenging to do so unless the diver hires a vessel or dive operation.

Wildlife Viewing

Whale watching is the primary form of wildlife viewing in American Samoa. Visitors may whale watch from a chartered vessel or from shore between the peak months of September to November, when humpback whales migrate north to American Samoa from Antarctica to mate and give birth to their young. Shoreline viewing areas include Aunu'u, Ta'u, Ofu-Olosega, and various lookouts on Tutuila, such as Amouli, Alega, Larsen's Bay Lookout in Fagalua, Taputimu, Vailoatai Lookout Point in Vailoa, and Turtle and Shark Lookout Point on the Vaitogi Cliffside. Other wildlife that visitors may find in NMSAS include dolphins, sea turtles, reef sharks, sea birds, crabs, and flying foxes.

Opportunities for Tourism

Access to NMSAS

Most of the coastline around NMSAS is privately owned, with property owners serving as stewards of the land and ocean. This means most coastal access to the sanctuary requires permission for visitation and recreation. Public marinas and piers offer access to the sanctuary

in various locations. Marinas include Malaloa Marina at Pago Pago Harbor, Auasi Marina, Aunu'u Marina, Faleasao Marina, Ta'u Marina, and Ofu Marina.

Modes of transportation include bicycles, car rentals, and public transportation. Car rental options include Avis, Samoa Car Rental, and Toa Samoa Car Rentals. Public transportation includes taxis, carpooling, mopeds/motorcycles, and water taxis, which provide shuttles from Auasi to Aunu'u. Local transportation also includes aiga buses, which carry up to 25 passengers.

Tourist Arrivals

NMSAS supports tourism in the local community for visitors to enjoy the sanctuary's ecosystem services and support local businesses. The number of tourist arrivals in American Samoa decreased from 2010 to 2017. In 2017, 5,579 tourists arrived in American Samoa (Figure 4.3, Table A.4; American Samoa Department of Commerce, 2017).

Visitors to American Samoa can fly directly from Honolulu, Hawai'i, or Apia, Samoa. Fourteen cruise ships also arrived in Pago Pago in 2017 (American Samoa Department of Commerce, 2017).

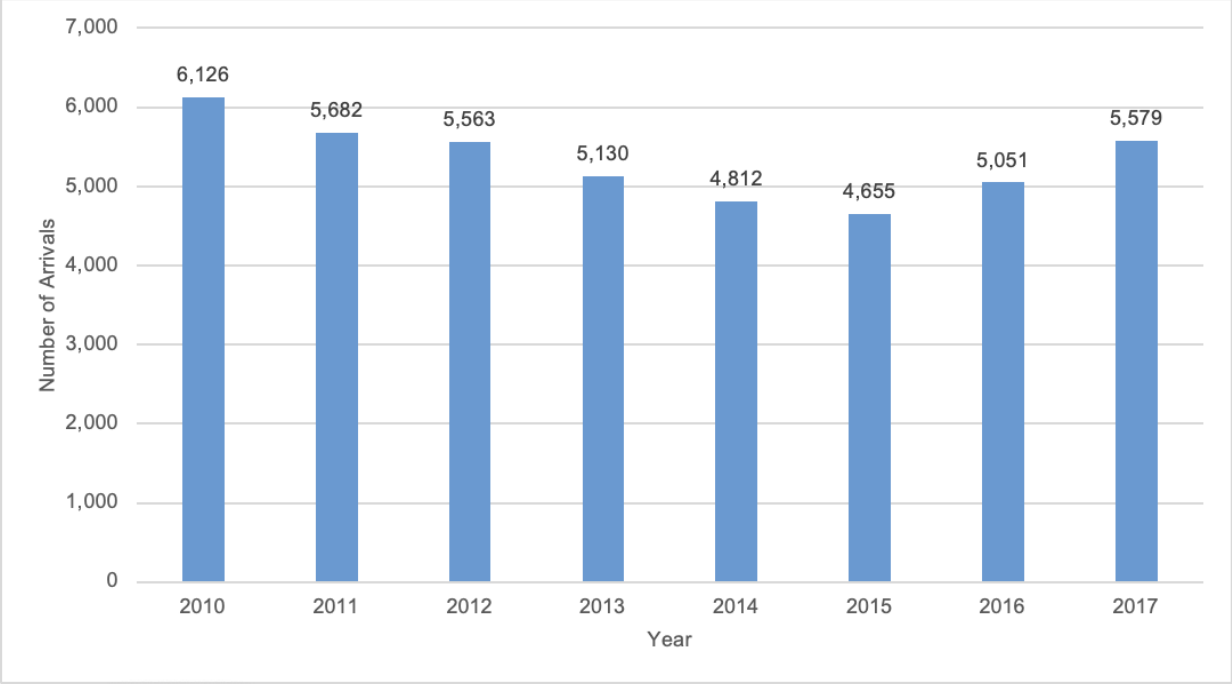

Figure 4.3. Tourist arrivals in American Samoa, 2010 to 2017. Source: American Samoa Department of Commerce, 2017

In 2017, the top four reasons for travel to American Samoa included returning residents, visiting relatives, employment, and tourist visits (Figure 4.4, Table A.5). In 2017, tourists accounted for 7.8% of total arrivals to American Samoa and receipts for travel items related to international tourism totaled an estimated $22,000,000 (Macrotrends LLC, 2021). Most tourists came from New Zealand (42.7%) or the United States (39.5%; Figure 4.5, Table A.6).

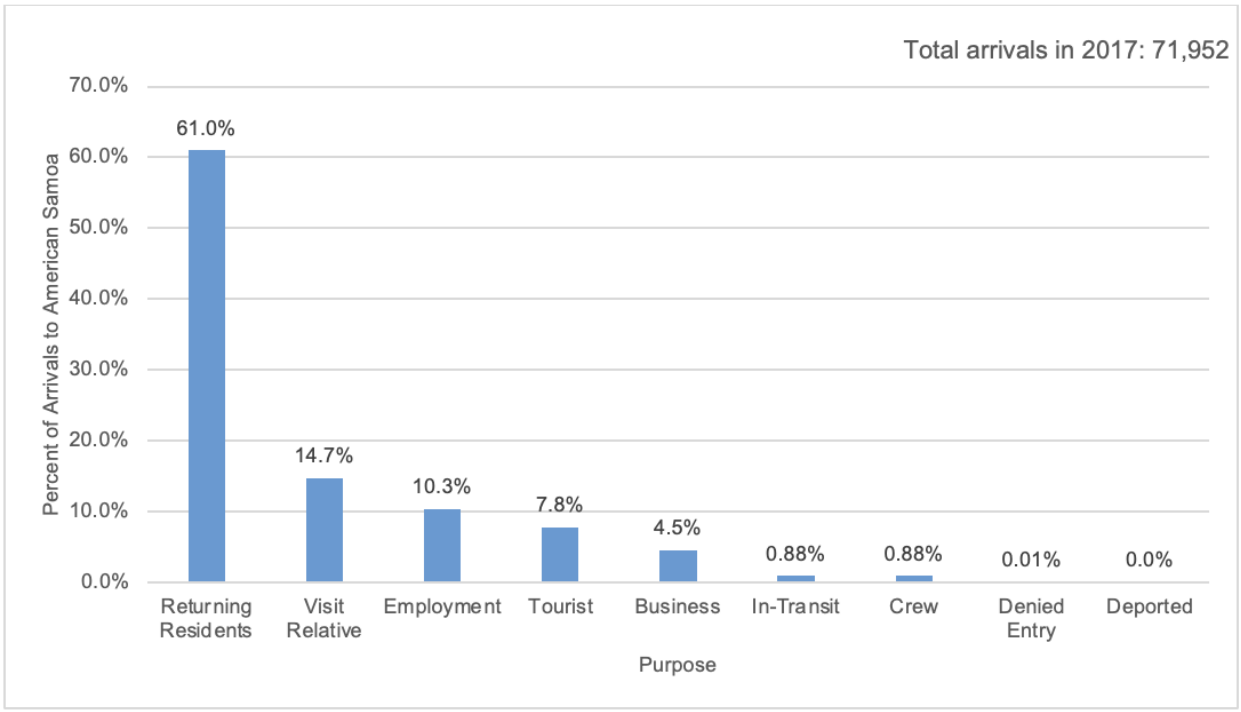

Figure 4.4. Arrivals in American Samoa by purpose, 2017. Source: American Samoa Department of Commerce, 2017

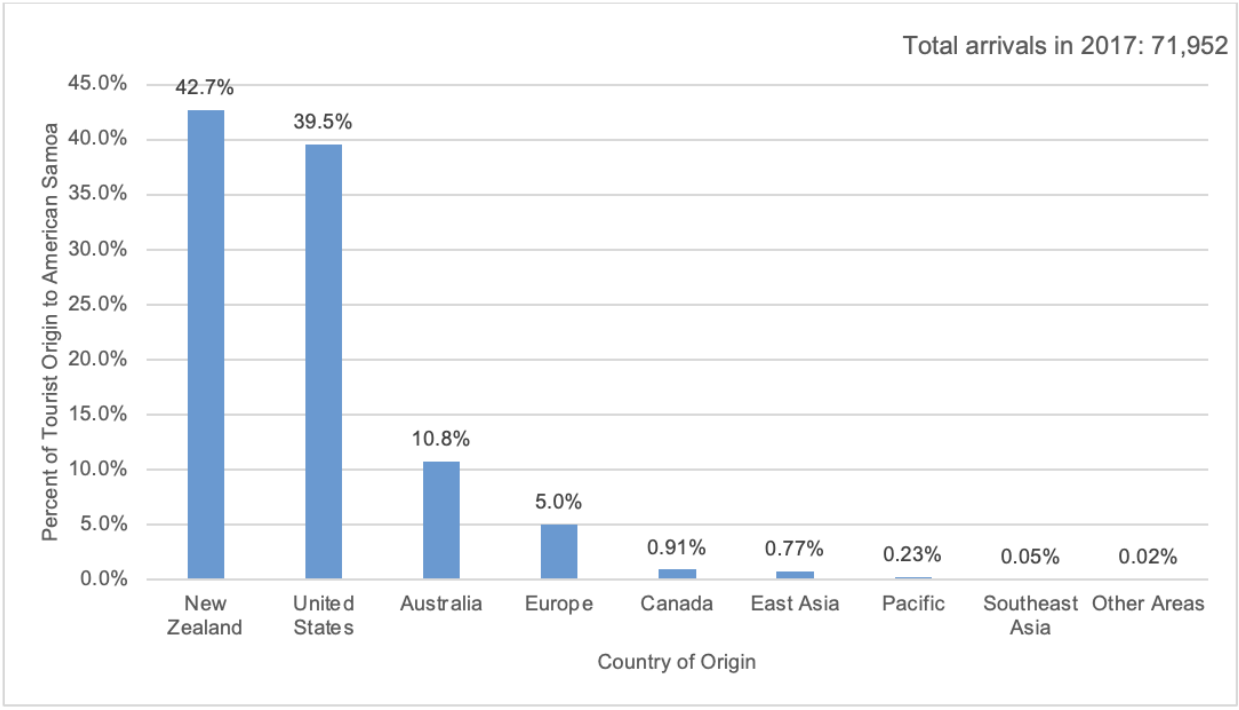

Figure 4.5. Tourist arrivals in American Samoa by country of origin, 2017. Source: American Samoa Department of Commerce, 2017

Lodging and Restaurants

Visitation to the sanctuary may affect the number of patrons and the resulting revenue of hospitality industries in American Samoa, and the availability and proximity of hospitality industries may conversely influence the use of NMSAS. Many lodging and dining services are small businesses owned by community members in American Samoa. In 2015, accommodations and food services comprised 8.2% of total private establishments in American Samoa.

There are numerous bed and breakfasts, short-term homestays (e.g., Airbnb), and hotels throughout American Samoa that may be affected by visitation to NMSAS and the use of marine resources and recreation. On Tutuila, visitors can stay at Sadie's by the Sea, Moana O Sina Lodge, the Pago Pago Airport Inn, Evalani's, or the Tradewinds Hotel. Visitors to Manu'a may stay in the Vaoto Lodge, Asaga Inn, Olosega Inn, or Eseta's Homestay. Visitors may also stay in Nua Nua's lodging in Ta'u, Nai's Airbnb in Faleasao, and Eseta lodging or Mapu Jamias lodging in Fitiuta.

In 2017, there were six total establishments in American Samoa offering 988 guestrooms, bringing in a total revenue of $8,934,000 to the local economy (Table 4.3; U.S. Census Bureau, 2017).

Table 4.3. Annual traveler accommodation data for American Samoa, 2017. Source: U.S. Census Bureau, 2017

Traveler Accommodation	Number of Establishments	Sales or Revenue ($1,000)	Number of Guestrooms as of December 31, 2017
Total	6	8,934	988
Room or unit accommodation for travelers	5	4,232	196

In 2014, there were 48 restaurants on Tuitila Island (Lee-Kwan et al., 2015). Food establishments in American Samoa include Sooks Sushi, Manuia Restaurant, DDW Café, Tisa's Barefoot Bar, Bookworm, and Sadie's Restaurants. In addition to these dining establishments, local businesses and vendors near the sanctuary also feature traditional specialties such as fa'ausi and ulu (breadfruit) products.

Chapter 5:
Population and Socioeconomic Drivers

Population exerts pressures on marine resources (Kronen et al., 2010), and population density has a negative relationship with biodiversity (Luck et al., 2007). Information on population, population growth, and population density in and around the sanctuary community may help to prioritize sanctuary management strategies.

In addition, socioeconomic factors influence people's perceptions of the environment and can help in the development of conservation strategies (Cinner & Pollnac, 2004; Sesabo et al., 2006). Income, unemployment, poverty, and access to utilities and telecommunication services are human dimension variables that may guide managers and researchers (Barreto et al., 2020).

Key Takeaways

1. Population and socioeconomic factors influence ecological pressures, community perceptions, and use of marine resources in NMSAS. American Samoa has a high population density and the sanctuary community comprises 11.0% of the population.
2. More than half the population of American Samoa lives below the U.S. poverty threshold, which may contribute toward high rates of subsistence harvest in NMSAS.
3. The sanctuary community has varying levels of access to services such as electricity, water and sanitation, and internet and telephone service. Access to services affects community wellbeing and development of infrastructure and tourism industries.

Population, Growth, and Density

Table 5.1 presents the population, growth, and density for American Samoa, the neighboring independent nation of Samoa, the small island states of the Pacific Islands region, and the United States. The Pacific Islands include Fiji, Kiribati, the Marshall Islands, the Federated States of Micronesia, Nauru, Palau, Samoa, the Solomon Islands, Tonga, Tuvalu, and Vanuatu (World Bank, 2019).

In 2019, the total population of American Samoa was 55,312 and the total population of the Pacific Islands was 2,493,696. The population of American Samoa was smaller than the total population of Samoa, which was 197,097 in 2019. The population of the United States was 328,239,523 (Table 4; World Bank, 2019). The sanctuary community included 11.0% of the total population of American Samoa. Of the counties in the sanctuary community, Tualatai County had the highest population in 2010, at 6.4% of the total population of American Samoa, followed by Sa'ole County (3.9%), Ta'u County (0.64%), and Swains Island (0.03%; American Samoa Department of Commerce, 2017). Swains Island is a privately owned island (NMSAS, 2019). According to residents and visitors to American Samoa, the population of Swains Island reported in the census consists of individuals who do not permanently live on the island, and Swains Island has been uninhabited since at least 2008 (Titmus et al., 2016; Van Tilburg et al., 2013; Honoré, 2014; Veley, 2019).

From 2010 to 2019, the population of American Samoa decreased by 1.4%. During the same period, the total population of the Pacific Islands increased by 12.6%, the population of Samoa increased by 6.0%, and the population of the United States increased by 6.1%.

In 2010, the population density of American Samoa was 451 people per square mile. Population density remained roughly the same from 2010 to 2019, with a density of 445 people per square mile in 2019. The population density of American Samoa was higher than the population density of Samoa, the Pacific Islands, and the United States in both 2010 and 2019 (World Bank, 2010, 2019; CIA, 2020; U.S. Department of State, 2020).[5]

Population density varies within villages and counties in American Samoa. In Tualatai County, the village of Malaeloa/Ituau had an average population density of approximately 2,341 people per square mile in 2010, Futiga had a population density of 537 people per square mile, Taputimu had a population density of 1,361 people per square mile, and Vailoatai had a population density of 3,500 people per square mile (U.S. Census Bureau, 2013). In Sa'ole County, the village of Alofau had an average population density of approximately 1,280 people per square mile in 2010, Amouli had a population density of 1,390 people per square mile, Auasi had a population density of 441 people per square mile, Aunu'u had a population density of 746 people per square mile, Utumea had a population density of 253 people per square mile, and the part of Pagai village located in Sa'ole County had a population density of approximately 215 people per square mile.[6] In Ta'u County, the village of Luma had an average population density of approximately 512 people per square mile and the village of Si'ufaga had an average population density of approximately 30 people per square mile in 2010. The village of Swains, on Swains Island, had an average population density of approximately 18 people per square mile in 2010.

Table 5.1. Population indicators for American Samoa, Samoa, the Pacific Islands, and the U.S., 2010 to 2019. Source: World Bank, 2010, 2019

Location	Population 2010	Population 2019	Population Growth Rate 2010 – 2019 (Percent)	Population Density 2010 (persons per square-mile)	Population Density 2019 (persons per square-mile)
American Samoa	56,079	55,312	-1.4%	451	445
Samoa	185,949	197,097	6.0%	106	112
Pacific Islands	2,214,519	2,493,696	12.6%	56	63
United States	309,321,666	328,239,523	6.1%	54	57

Per Capita Income

Per capita income is the average annual income earned per person in a given area, regardless of age or work status. It serves as an indicator of the health and economic status of a community.

[5] Population density of the United States considers the entire country, rather than individual states or regions.

[6] Pagai village is located in both Sa'ole County and the neighboring county of Sua, which is not part of the sanctuary community for NMSAS.

In 2010, per capita income in American Samoa was $6,311 (American Samoa Department of Commerce, 2017), the equivalent of $7,586 when adjusted for inflation to 2019 dollars. Compared to U.S. per capita income of $34,103 between 2015 and 2019, the per capita income of American Samoa is the lowest of any state or territory (U.S. Census Bureau, 2020). However, American Samoa had higher per capita income compared to Samoa ($5,700 in 2016).

Poverty Rates

According to the U.S. Census Bureau, the poverty rate in 2010 was 60.5%, meaning more than half of the population of American Samoa was living below the poverty threshold. Compared with American Samoa, the poverty rate of the sanctuary community was slightly higher (Figure 5.1, Table A.7). The high poverty rate may explain the high participation in subsistence harvest (Levine et al., 2016).

The U.S. poverty threshold in 2010 was $11,139 for an individual and $17,373 for a family of three (American Samoa Department of Commerce, 2017). However, the definition of "poverty" in the United States is not applicable in American Samoa, where life is based on communal living. There is great support from the extended family to ensure that family members are well taken care of with necessities and to ensure that no one goes hungry.

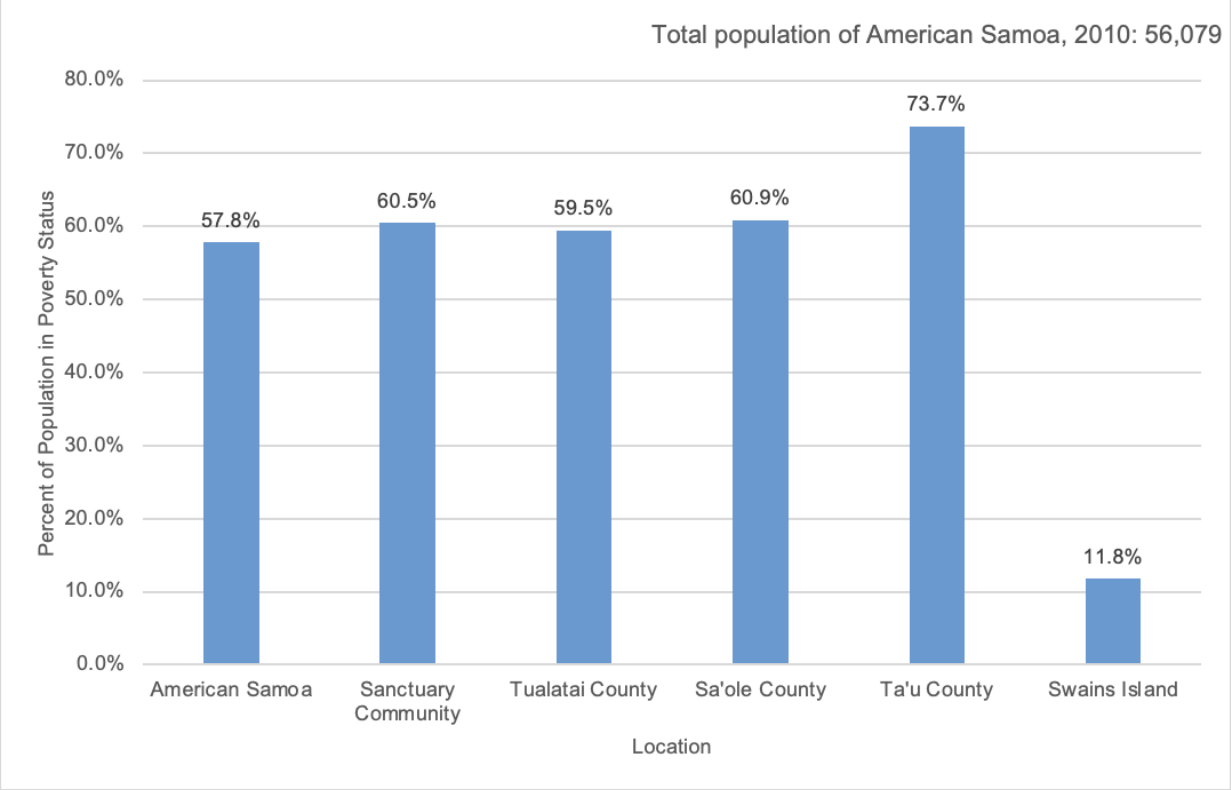

Figure 5.1. Individual poverty status for American Samoa and sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Unemployment Rates

In 2010, the unemployment rate of the sanctuary community was 10.6%. Of the counties within the sanctuary community, Tualatai County had the highest unemployment rate at 11.6%. Swains Island had the lowest unemployment rate (0.0%) since all three of the individuals in the island's labor force were employed in 2010.

The unemployment rate in the sanctuary community was higher than the overall unemployment rate in American Samoa in 2010. The 2010 unemployment rate in American Samoa was 9.2%, compared to 5.5% in Samoa in 2016 and 3.7% in the United States in 2019 (CIA, 2021a; 2021b). Between 2010 and 2019, the number of people employed in American Samoa decreased slightly, by 0.04% (Figure 5.2, Table A.8; World Bank, 2010, 2019; American Samoa Department of Commerce, 2017).

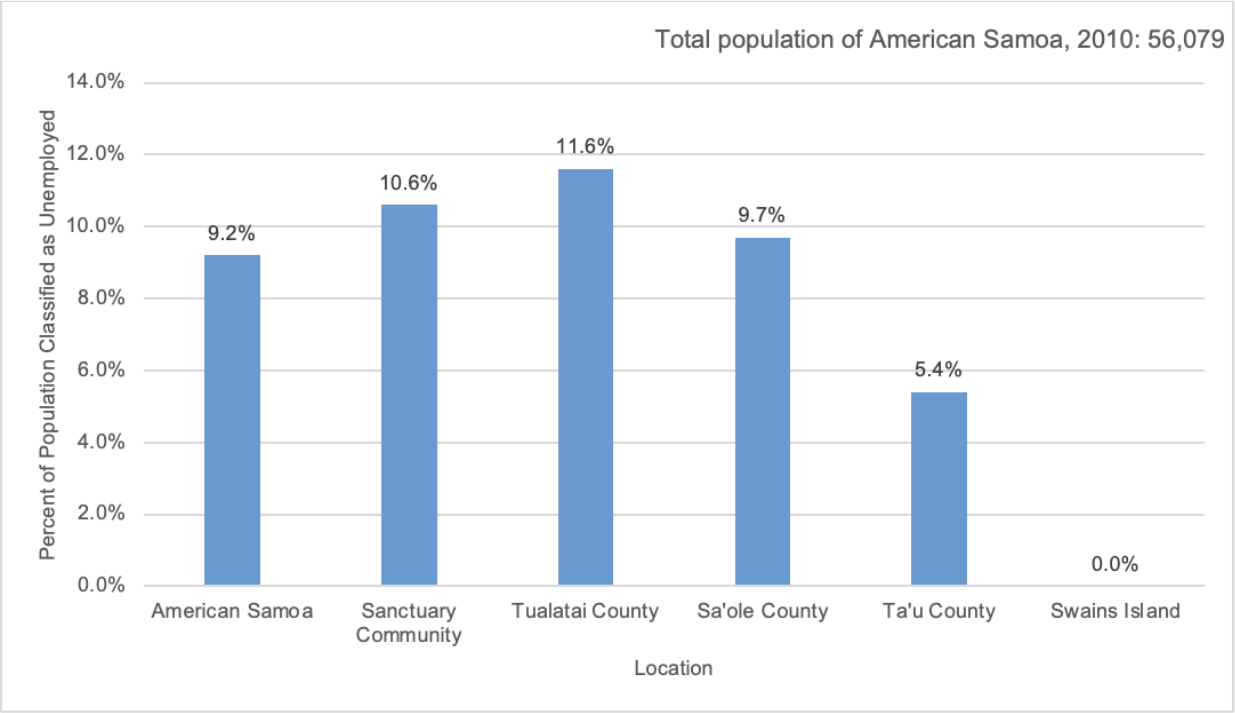

Figure 5.2. Unemployment status for American Samoa and sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Access to Telecommunications and Utilities

Residents of American Samoa have varying levels of access to services such as electricity, water and sanitation, and internet and telephone service. Access to these types of services affects the wellbeing of American Samoans and the potential development of coastal tourism facilities and infrastructure to support visitors and recreation.

Internet and Phone Service

In 2019, residents of American Samoa had access to 19 secure internet servers, up from three in 2010. As of 2016, 17,000 people or 31.3% of the population used the internet (World Bank, 2010, 2019; CIA, 2020).

There were 10,400 fixed telephone subscriptions in 2010. Throughout American Samoa, every populated island was equipped with telephone service in 2020 (World Bank, 2010, 2019; CIA, 2020).

Electricity

According to the CIA (2020), there were 22,219 residents living without electricity in American Samoa in 2012. Over half (59.0%) of the population had electricity in their homes. This rate was higher for urban populations (60.0%) than rural populations (45.0%; Table 5.2).

Electricity is expensive in American Samoa compared to the U.S. states. The average cost of electricity for a residential household in American Samoa is 2.5 times higher than in most states. Electricity prices in American Samoa are most similar to those in Hawai'i (U.S. Energy Information Administration [EIA], 2020; Bureau of Economic Analysis [BEA], n.d.).

Most (97.0%) of the electricity in American Samoa is generated by diesel fuel. American Samoa relies primarily on petroleum imports for electricity production; the territory collectively uses 2,300 barrels of diesel fuel for electricity each day. American Samoa does not depend on coal or natural gas for electricity or other purposes (EIA, 2020).

The American Samoa Power Authority manages two electricity generating plants on Tutuila: the Tafuna and Satala plants. The plants serve residential, commercial, and industrial consumers across American Samoa and rely primarily on diesel fuel to generate electricity. Heat released from the Tafuna plant is recycled to produce more electricity (EIA, 2020).

Per capita, American Samoans consume one-quarter the amount of electricity consumed within the U.S. states. Of the energy consumed in American Samoa, most (about 40.0%) was consumed for industry and commercial purposes, followed by residential energy consumption (30.0%) and governmental uses (16.7%; EIA, 2020).

Table 5.2. Access to electricity in American Samoa, 2012. Source: CIA, 2020

Portion of Population	Percentage of Households With Electricity
Total population	59.0%
Urban population	60.0%
Rural population	45.0%

Renewable Energy

Despite the reliance on petroleum products, electricity sources in American Samoa have diversified since 2011. The decreased reliance on petroleum products may be attributed to generators with increased efficiency and a growing reliance on renewable energy. Some parts of American Samoa rely primarily or entirely on solar energy for electricity production. In 2010, the American Samoa Renewable Energy Committee was established in part to increase

American Samoa's reliance on renewable energy. The American Samoa Renewable Energy Committee intends to transition to 50.0% renewable energy by 2025 and 100.0% by 2040 (EIA, 2020).

Sources of renewable energy in American Samoa include wind and solar. American Samoa is an equatorial island chain, so it has ample access to sunlight for solar energy throughout most of the year. In 2018, American Samoa used both ground-mounted and rooftop panels to capture solar energy. Three percent of American Samoa's energy is currently sourced from solar energy, which is below American Samoa's solar generating capacity of nearly 13.0% (Peters, 2018).

Wind energy is more challenging to implement in American Samoa due to inclement weather, unreliability, and some community opposition against the installation of wind farms. Despite these challenges, there are studies being conducted to locate more places where wind energy may be harnessed for electricity (Peters, 2018). In 2018, the American Samoa Power Authority signed a contract to construct a 42-megawatt wind project on Tutuila and the project broke ground in October 2019 (EIA, 2020).

Residences in American Samoa may leverage "net metering," through which homeowners install personal solar panels or wind turbines and connect them to the electricity grid to receive credit for excess electricity generated. At this time, there are no known sources of geothermal energy that may be leveraged for the electricity grid (Peters, 2018).

Water and Sanitation

In 2015, 62.5% of the population of American Samoa had access to improved sanitation facilities. These figures are consistent in both urban and rural locations (CIA, 2020).

Most (84.0%) of the population of American Samoa is served by public water systems only. Other sources of drinking water include village water systems, which serve 9.9% of the population; a combination of public systems and catchment (4.5%); individual wells (0.5%); and catchment, tanks, or drums (0.5%). Less than 1% of the population is served by some other source of drinking water.

Similarly, Tualatai (96.8%) and Ta'u (91.0%) counties are primarily served by public water systems alone. Over half of the population of Sa'ole County (66.5%) is served by public water systems alone, and other sources of drinking water include village water systems and a combination of public systems and catchment. Swains Island is served entirely by catchment, tanks, or drums alone (American Samoa Department of Commerce, 2017).

Chapter 6:
Demographic Characteristics

The relevant demographic characteristics of the community include gender, racial and ethnic composition, national origin, age distribution, language, and education level. Demographic information may be integrated in designing strategies for effective sanctuary planning and management. For example, sanctuary managers may consider environmental awareness programs that are targeted to specific community demographics to increase access to sanctuary resources and participation rates in outdoor recreational activities.

Key Takeaways

1. Demographic characteristics such as gender, racial and ethnic composition, national origin, age distribution, language, and education level affect perceptions toward and use of marine resources in NMSAS and sanctuary managers may adapt outreach and management strategies for the community.
2. Most people in American Samoa are Samoan, over half were born in American Samoa, most speak Samoan as their first language, and just under half of the population are high school graduates.

Gender

Gender analyses are necessary to enhance coastal management and marine spatial planning because perceptions and uses of marine resources and ecosystems vary between men and women (de la Torre-Castro et al., 2017). In addition, gender is an important variable in the perceived effect of conservation on fishing (Kleiber et al., 2018; Ram-Bidesi, 2015; Rohe et al., 2018) and participation in outdoor recreation, including fishing (Milon, 2000), diving, and wildlife viewing (Burkett, 2019).

The estimated population in American Samoa was approximately 56,079 in 2010, with 50.7% male and 49.3% female. The gender distribution was similar in Samoa and the Pacific Islands, but in the United States, more people identified as female than male (Figure 6.1, Table A.9; World Bank, 2010).

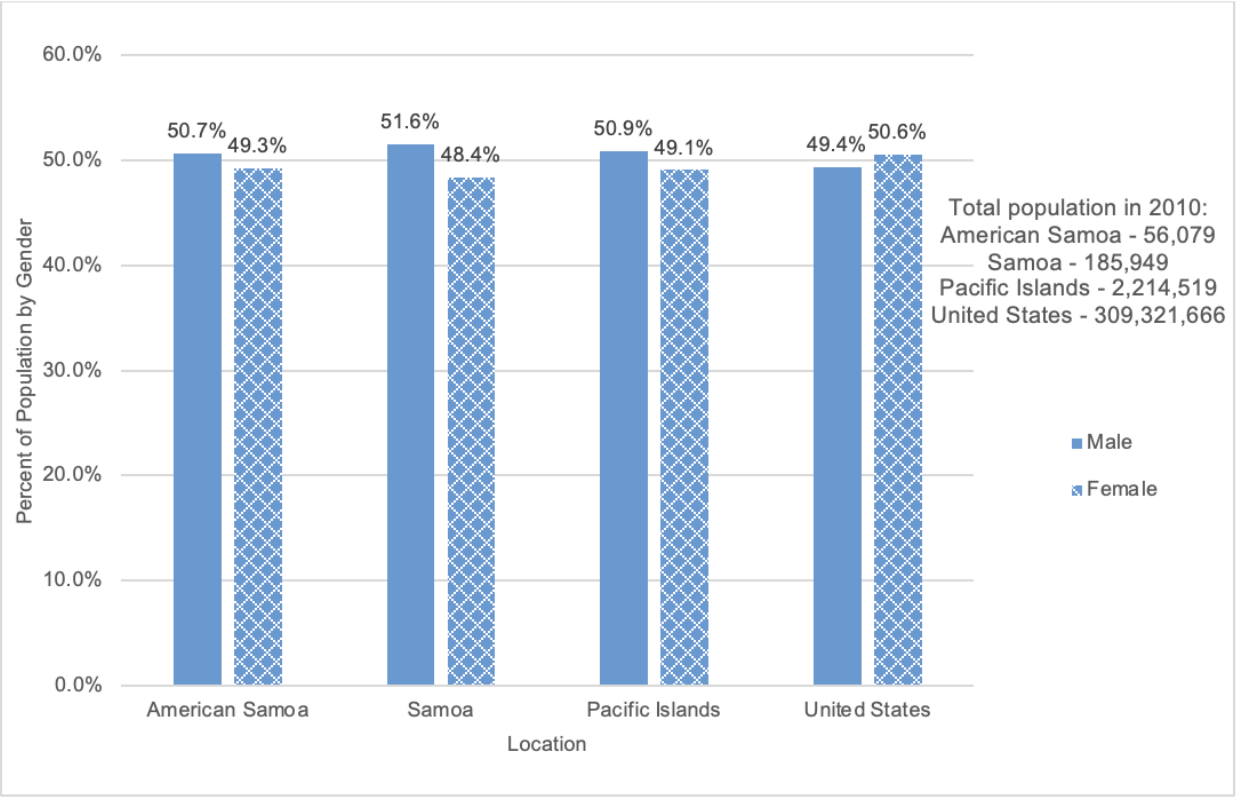

Figure 6.1. Distribution of gender in American Samoa, Samoa, the Pacific Islands, and the U.S., 2010. Source: World Bank, 2010; CIA, 2020

Racial and Ethnic Composition

Race and ethnicity are correlated with participation rates and attitudes or perceptions toward the definition of crowding (U.S. Fish and Wildlife Service & U.S. Census Bureau, 2016). Scott et al. (2004) reported that minority populations, including Black and Hispanic communities, were more likely than White populations to cite barriers to outdoor recreation including "information and access constraints, intrapersonal constraints, and economic constraints." Hispanic populations were more likely than other minority populations to cite "information and access constraints" as barriers to outdoor activity participation. According to the same study, racial and ethnic composition did not have notable effects on time availability and interest in participation.

Race and ethnicity are treated separately in the U.S. census, as reflected in American Samoa's 2010 demographic profile. Racial categories for American Samoa include "Samoan," "Native Hawaiian and Other Pacific Islander," "Asian," "White," "Black or African American," "Other," and "Two or More." These categories are discussed in the section on race.

"Hispanic" represents ethnicity and is recorded separately from race in the census, with any race able to identify as Hispanic. For this reason, ethnicity is discussed separately from race in the SCP. The section "Race" presents information for non-Hispanic respondents. The section "Ethnicity" includes information for respondents of any race who indicated Hispanic ethnicity.

Race

In 2010, 97.3% of American Samoa residents identified with one racial group, and Samoan was the largest racial group at 88.9% of the total population of American Samoa (Figure 6.2, Table A.10; American Samoa Department of Commerce, 2017). The second largest racial group was Native Hawaiian and Pacific Islander, at 3.7% of the population. Within this racial group, most respondents identified as Tongan, followed by Fijian (Table 6.1). Many Fijians in American Samoa work in the medical field or visitor and tourism industries. The third largest racial group in American Samoa was Asian, at 3.6% of the population. Within this racial group, most identified as Filipino (Table 6.2; American Samoa Department of Commerce, 2017).

In 2010, 2.7% of American Samoa residents identified as two or more racial groups (Figure 6.2). Overall, 2.4% of the total population of American Samoa identified as Samoan and another race (American Samoa Department of Commerce, 2017). Percentages may not sum to 100.0% of the population of American Samoa because the figures represent non-Hispanic ethnicities only (see the following section for more information).

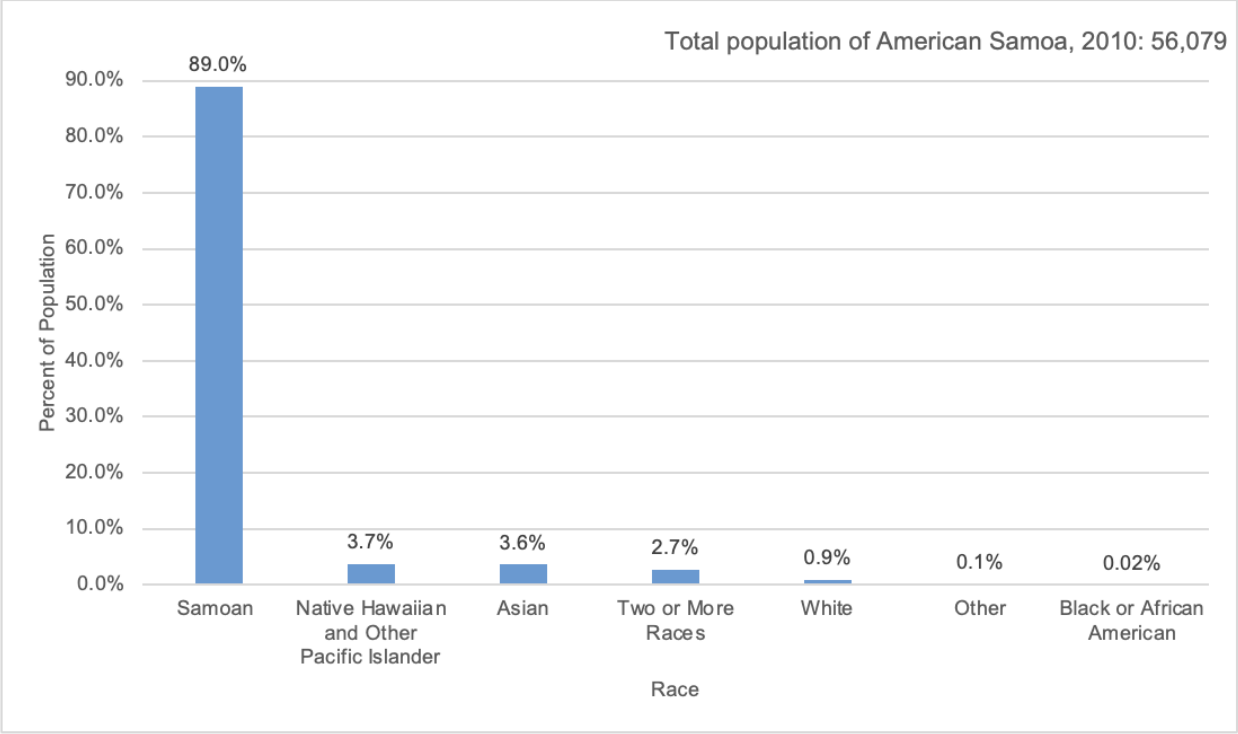

Figure 6.2. Distribution of race in American Samoa, 2010. Source: American Samoa Department of Commerce, 2017

Table 6.1. Distribution of Native Hawaiian and Pacific Islander races in American Samoa, 2010. Source: American Samoa Department of Commerce, 2017

Native Hawaiian and Pacific Islander Races	Total	Percent of Native Hawaiian and Pacific Islander Races
Tongan	1,614	78.0%
Fijian	250	12.1%
Other Pacific Islander	174	8.4%
Tokelauan	22	1.1%
Niuean	10	0.48%

Table 6.2. Distribution of Asian races in American Samoa, 2010. Source: American Samoa Department of Commerce, 2017

Asian Races	Total	Percent of Asian Races
Filipino	1,217	61.0%
Chinese	409	20.5%
Korean	217	10.9%
Other Asian	137	6.9%
Japanese	11	0.55%
Asian Indian	3	0.15%

Ethnicity

In the census, Hispanic ethnicity represents those of Hispanic, Latino, or Spanish origin and any race may identify as Hispanic. As of 2010, Hispanic people accounted for less than 1% of the American Samoa population, or 73 people (American Samoa Department of Commerce, 2017). Information about which racial categories were selected by Hispanic or Latino respondents is not available.

National Origin

In 2010, over half (54.8%) of the sanctuary community indicated they were born in American Samoa. This is consistent with the total population of American Samoa, in which 57.6% were born in American Samoa. Within the sanctuary community, Ta'u County had the largest proportion of residents born in American Samoa at 77.9% and Swains Island had the lowest proportion at 47.1% (Table 6.3; American Samoa Department of Commerce, 2017).

In the sanctuary community, 45.2% of the population was born outside American Samoa. Of the population born outside American Samoa, most were born in Samoa (69.4%). In total, 87.0% of the population was born in either American Samoa or Samoa. Others were born in the U.S. (California or Hawai'i), Tonga, or the Philippines (Table 6.4; American Samoa Department of Commerce, 2017).

Table 6.3. Distribution of birthplace for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Location	Born Inside American Samoa (Total)	Born Inside American Samoa (Percent)	Born Outside American Samoa (Total)	Born Outside American Samoa (Percent)
American Samoa	31,964	57.6%	23,555	42.4%
Sanctuary community	3,354	54.8%	2,769	45.2%
Tualatai County	1,685	47.3%	1,876	52.7%
Sa'ole County	1,382	63.2%	805	36.8%
Ta'u County	279	77.9%	79	22.1%
Swains Island	8	47.1%	9	52.9%

Table 6.4. Distribution of population born outside American Samoa, 2010. Source: American Samoa Department of Commerce, 2017

Location	Samoa	Tonga	Other Pacific Island	Philippines	Other Asian Country	California (United States)	Hawai'i (United States)	Other State (United States)	Other Country
American Samoa	16,350	1,035	773	1,061	740	1,242	1,164	1,017	173
Sanctuary community	2,179	51	62	69	48	116	139	88	17
Tualatai County	1,567	21	47	24	21	61	74	49	12
Sa'ole County	568	29	13	44	27	39	52	28	5
Ta'u County	40	1	1	0	0	16	13	8	0
Swains Island	4	0	1	1	0	0	0	3	0

Age Distribution

It is helpful for resource managers to know age distributions to understand impacts on resource use, as age is correlated with resource use, perceptions of ocean resources and recreation, and rates of participation in various activities, such as fishing and diving. For example, in a study of ocean use in Hawai'i, respondents indicated more concern for marine conservation as they aged (Wiener et al., 2015).

In 2010, most residents of the sanctuary community were between the ages of 35 and 44. This was consistent with the age distribution in American Samoa (13.0% between 35 and 44) and Sa'ole County (13.9%). In Ta'u County and Swains Island, most residents were between the ages of 15 and 19. The largest age bracket in Tualatai County was 10 to 14 years (12.6%; Figure 6.3, Table A.11; American Samoa Department of Commerce, 2017).

In 2020, the median age in American Samoa was 27.2. The median age for men was 26.7 and the median age for women was 27.7 (CIA, 2020).

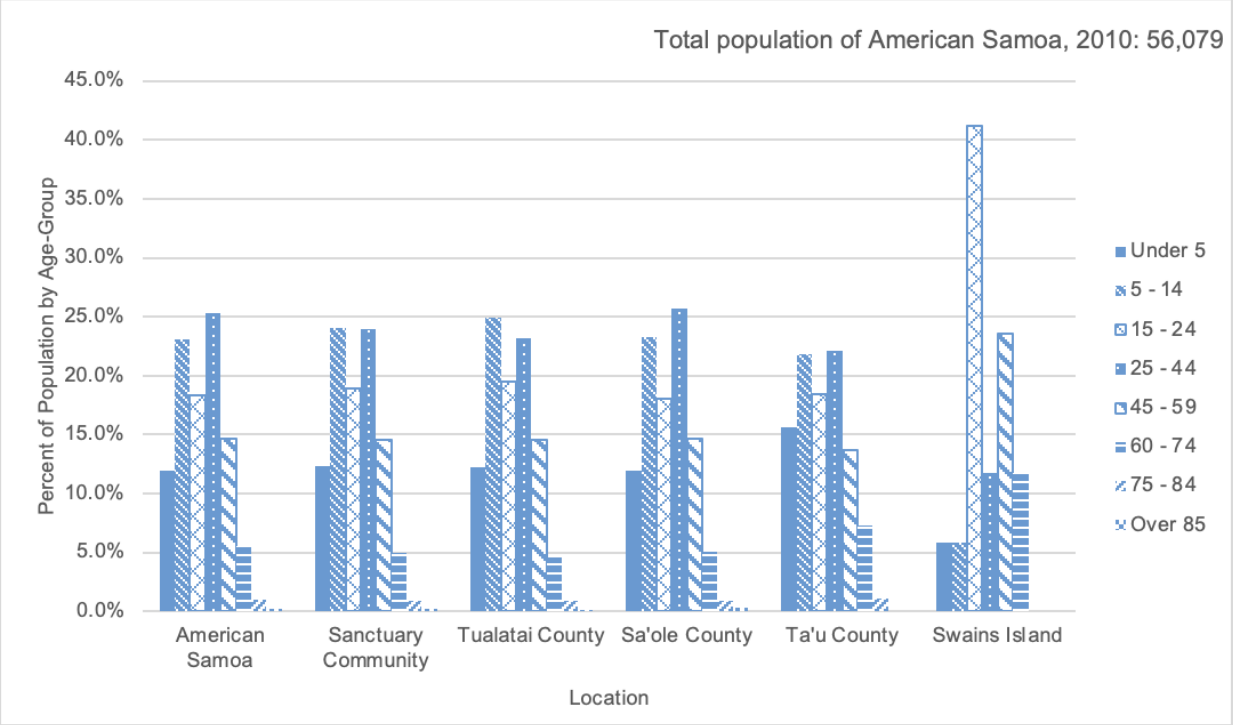

Figure 6.3. Distribution of age for American Samoa and sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Language

In 2010, most of the population of American Samoa spoke Samoan (88.6%) as their first language. Samoan is closely related to Hawaiian and other Polynesian languages. Other first languages included English (3.9% of the population) and Tongan (2.7%; Table 6.5). Most residents of American Samoa are bilingual (CIA, 2020). It is important for resource managers to know which languages are primarily spoken in the sanctuary community to ensure educational materials, outreach, and other resources are accessible to all people living in the community.

Table 6.5. Languages spoken in American Samoa, 2010. Source: CIA, 2020

First Language	Percent of Speakers
Samoan	88.6%
English	3.9%
Tongan	2.7%
Other Pacific Islander	3.0%
Other	1.8%

Education Level

Almost half of the population of American Samoa are high school graduates (48.3%) and 6.4% of the population received a bachelor's degree. In the sanctuary community, the proportion of high school graduates was slightly higher (50.7%; Table 6.6; American Samoa Department of Commerce, 2017).

Table 6.6. Educational attainment for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Location	Number of People 25 Years or Older	Less than 9th Grade	9th–12th Grade, No Diploma	High School Graduate, GED, or Equivalent	Some College or Associate's Degree	Bachelor's Degree	Graduate or Professional Degree
American Samoa	25,907	6.9%	11.1%	48.3%	23.9%	6.4%	3.5%
Sanctuary Community	2,734	5.6%	11.8%	50.7%	23.3%	5.7%	2.9%
Tualatai County	1,546	6.7%	11.4%	50.3%	23.4%	5.4%	2.8%
Sa'ole County	1,022	4.7%	12.6%	50.9%	23.2%	5.6%	3.0%
Ta'u County	158	1.9%	10.1%	53.8%	24.7%	8.2%	1.3%
Swains Island	8	0.0%	0.0%	37.5%	12.5%	37.5%	12.5%

Chapter 7:
Economic Profile

In Chapter 5, several key indicators of economic health were addressed, including per capita income, unemployment rates, and poverty rates. In this section, other indicators are presented, including labor force, employment, and personal income. Labor force, employment, and personal income illustrate the relative health of the sanctuary community's economy. They indicate whether the economy is healthy or stagnant and suggest opportunities for employment and economic growth in the community. These are important elements in assessing whether people can adapt to changes in resource management and policy decisions that may displace them from resource use.

This section also presents employment and annual payroll by industry sector, which are important for economic impact analyses of resource management and policy decisions. By linking spending in the local economy (as related to resource use in the sanctuary) to economic sectors, it is possible to leverage input-output models such as IMPLAN (Minnesota IMPLAN Group, Inc., 2010). The IMPLAN model can estimate the multiplier impacts on the local economy and assess the proportion of the local economy affected by resource use in the sanctuary.

Sanctuary community profiles for other national marine sanctuaries include information on proprietors' income and employment, but these data are not available for NMSAS and will not be included in this section.

Key Takeaways

1. Economic indicators including labor force, employment, and personal income indicate whether the sanctuary community's economy is healthy and suggest whether sanctuary users can adapt to changes in resource management and policy in NMSAS.
2. Manufacturing, retail trade, and health care and social assistance sectors employed the most people and comprised the highest parentage of annual payroll in 2017.
3. Maritime industries are key to the sanctuary community's economy. Tuna harvesting, processing, and exporting represent a large sector in American Samoa and the shipping and transportation sector had the highest wage rate of major industries in 2018.

Labor Force and Employment

Labor force is one indicator of the potential for economic expansion within the sanctuary community and local economy.

In 2010, the labor force was 18,387 in American Samoa, 50,486 in Samoa, 825,410 in the Pacific Islands, and 156,905,914 in the U.S. (Table 7.1; World Bank, 2010). The labor force of Samoa, the Pacific Islands, and the U.S. increased from 2010 to 2019. Labor force data were not available for American Samoa in 2019.

Out of the total labor force in American Samoa, 1,908 lived in the sanctuary community. Tualatai County had the largest labor force of the sanctuary community counties with a total

labor force of 1,124, and Swains Island had the smallest with a labor force of three (Table 7.2; American Samoa Department of Commerce, 2017). The labor force does not include subsistence farming or the armed forces.

Table 7.1. Labor force in American Samoa, Samoa, the Pacific Islands, and the U.S., 2010 to 2019. Source: American Samoa Department of Commerce, 2017; World Bank, 2010, 2019

Location	Labor Force 2010	Labor Force 2019
American Samoa	18,387	N/A
Samoa	50,486	53,543
Pacific Islands	825,410	912,173
United States	156,905,914	167,282,980

Table 7.2. Selected economic indicators for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Location	Labor Force	Total Employment	Employment Rate
American Samoa	18,387	16,616	90.4%
Sanctuary Community	1,908	1,699	89.1%
Tualatai County	1,124	991	88.2%
Sa'ole County	688	617	89.7%
Ta'u County	93	88	94.6%
Swains Island	3	3	100.0%

Total employment is another indicator of the health of the economy and over time can inform the causal relationship between protected areas and employment outcomes. In 2010, 1,699 (89.1%) people in the sanctuary community were employed. This is slightly lower than the overall employment rate for American Samoa (90.4%). All counties in the sanctuary community had an employment rate of 88.0% or higher. Tualatai County had the lowest employment rate at 88.2% and Swains Island had the highest at 100.0% (Table 7.2; American Samoa Department of Commerce, 2017).

In 2017, the total number of individuals employed in American Samoa was 16,408 (American Samoa Department of Commerce, 2017). Comparatively, there were 47,912 individuals employed in Samoa in 2016 and 157.54 million employed in the U.S. in 2019 (CIA, 2021a, 2021b).

Personal Income

In 2010, 23.1% of households in the sanctuary community had a personal income between $15,000 and $24,999. This is consistent with the personal income of Sa'ole County, Ta'u County, Tualatai County, and American Samoa overall. Most households in Swains Island had a higher personal income than the other three counties, between $30,000 and $39,999 (Table 7.3; American Samoa Department of Commerce, 2017). Household income includes personal income from any source, including but not limited to unemployment insurance, Social Security, wages, and annual salary (BEA, n.d.).

Table 7.3. Annual household income for American Samoa and the sanctuary community in 2009 and 2010. Source: American Samoa Department of Commerce, 2017

Income Bracket	American Samoa (Total)	American Samoa (%)	Sanctuary Community (Total)	Sanctuary Community (%)	Tualatai County (Total)	Tualatai County (%)	Sa'ole County (Total)	Sa'ole County (%)	Ta'u County (Total)	Ta'u County (%)	Swains Island (Total)	Swains Island (%)
Less than $2,500	504	5.2	63	5.8	29	4.9	24	5.9	9	11.5	1	16.7
$2,500 to $4,999	182	1.9	21	2.0	10	1.7	10	2.5	1	1.3	0	0.0
$5,000 to $9,999	1,087	11.2	140	13.0	76	12.9	51	12.6	13	16.7	0	0.0
$10,000 to $14,999	1,203	12.4	119	11.0	56	9.5	52	12.8	10	12.8	1	16.7
$15,000 to $24,999	2,048	21.1	249	23.1	143	24.3	82	20.2	23	29.5	1	16.7
$25,000 to $29,999	739	7.6	84	7.8	44	7.5	36	8.9	4	5.1	0	0.0
$30,000 to $39,999	1,169	12.1	124	11.5	58	9.9	57	14.0	7	9.0	2	33.3
$40,000 to $49,999	740	7.6	79	7.3	51	8.7	25	6.2	3	3.9	0	0.0
$50,000 to $74,999	1,100	11.4	115	10.7	64	10.9	46	11.3	4	5.1	1	16.7
$75,000 to $99,999	467	4.8	45	4.2	29	4.9	13	3.2	3	3.9	0	0.0
$100,000+	449	4.6	40	3.7	29	4.9	10	2.5	1	1.3	0	0.0

Employment and Annual Payroll by Industry Sector

Employment in American Samoa is categorized through both the American Samoa census profile and the North American Industry Classification System (NAICS). Census profile industry categories include: “agriculture, forestry, fishing, hunting, and mining,” “construction,” “manufacturing,” “wholesale trade,” “retail trade,” “transportation, warehousing, and utilities,” “information,” “finance, insurance, real estate,” “professional, management, administrative,” “education, health, and social services,” “arts, entertainment, recreation, hotel, and food services,” “other services (except public administration),” and “public administration.”

NAICS is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. The full list of NAICS industries for American Samoa includes: “construction,” “manufacturing,” “wholesale trade,” “retail trade,” “transportation and warehousing,” “information,” “finance and insurance,” “real estate and rental and leasing,” “professional, scientific, and technical services,” “administrative and support and waste management and remediation services,” “health care and social assistance,” “accommodation and food services,” “agriculture, forestry, fishing, hunting, mining,” and “other services (except government and government enterprises).”

Employment by Industry Sector

In 2010, the largest employment sectors in American Samoa were education, health, and social services; public administration; and manufacturing (Table A.12; American Samoa Department of Commerce, 2017). Most occupations in American Samoa (26.9%) could be categorized as management, professional, or related occupations (Table 7.4; North American Industry Classification System [NAICS], 2017). By 2017, the industries comprising the highest percentages of total employment in American Samoa were manufacturing, retail trade, and health care and social assistance. The manufacturing industry represented the largest percentage, at 28.6% of total employment in American Samoa in 2017 (Figure 7.1, Table A.13; American Samoa Department of Commerce, 2017).

In 2010, the education, health, and social services; public administration; and manufacturing sectors had the highest employment in the sanctuary community, Tualatai County, and Sa’ole County. In Ta’u County, public administration; education, health, and social services; and construction were the largest sectors. In Swains Island, the only sectors present were education, health, and social services and finance (Table A.12; American Samoa Department of Commerce, 2017). Most occupations in the sanctuary community (28.4%) could be categorized as management, professional, or related occupations (Table 7.4; NAICS, 2017).

The tuna harvesting, processing, and exporting business is a key element of the economy of American Samoa and the sanctuary community. This business transcends multiple industry sectors as defined by the NAICS. Collectively, 15.5% of employment in 2015 was related to the harvest, processing, and export of fish (CIA, 2020). In 2017, there were 2,312 people employed by the cannery industry (14.1% of total employment). Only the government employed more individuals, at 5,849 or 35.6% (American Samoa Department of Commerce, 2017).

Table 7.4**.** Occupation sectors for American Samoa and the sanctuary community, 2010. Data for farming, fishing, and forest occupations were not available. Source: American Samoa Department of Commerce, 2017

Location	Total Employed Civilian Population (at 100%)	Management, Professional, Related Occupation (% of Total Employment)	Service Occupations (% of Total Employment)	Sales and Office Occupations (% of Total Employment)	Construction, Extraction, Maintenance (% of Total Employment)	Production, Transportation, and Material Moving (% of Total Employment)
American Samoa	16,616	26.9	16.9	21.1	14.2	21.1
Sanctuary community	1699	28.4	17.0	20.0	14.1	20.6
Tualatai County	991	28.3	15.8	20.8	13.4	21.7
Sa'ole County	617	26.6	19.0	19.5	14.1	20.9
Ta'u County	88	42.1	15.9	13.6	21.6	6.8
Swains Island	3	66.7	0.0	33.3	0.0	0.0

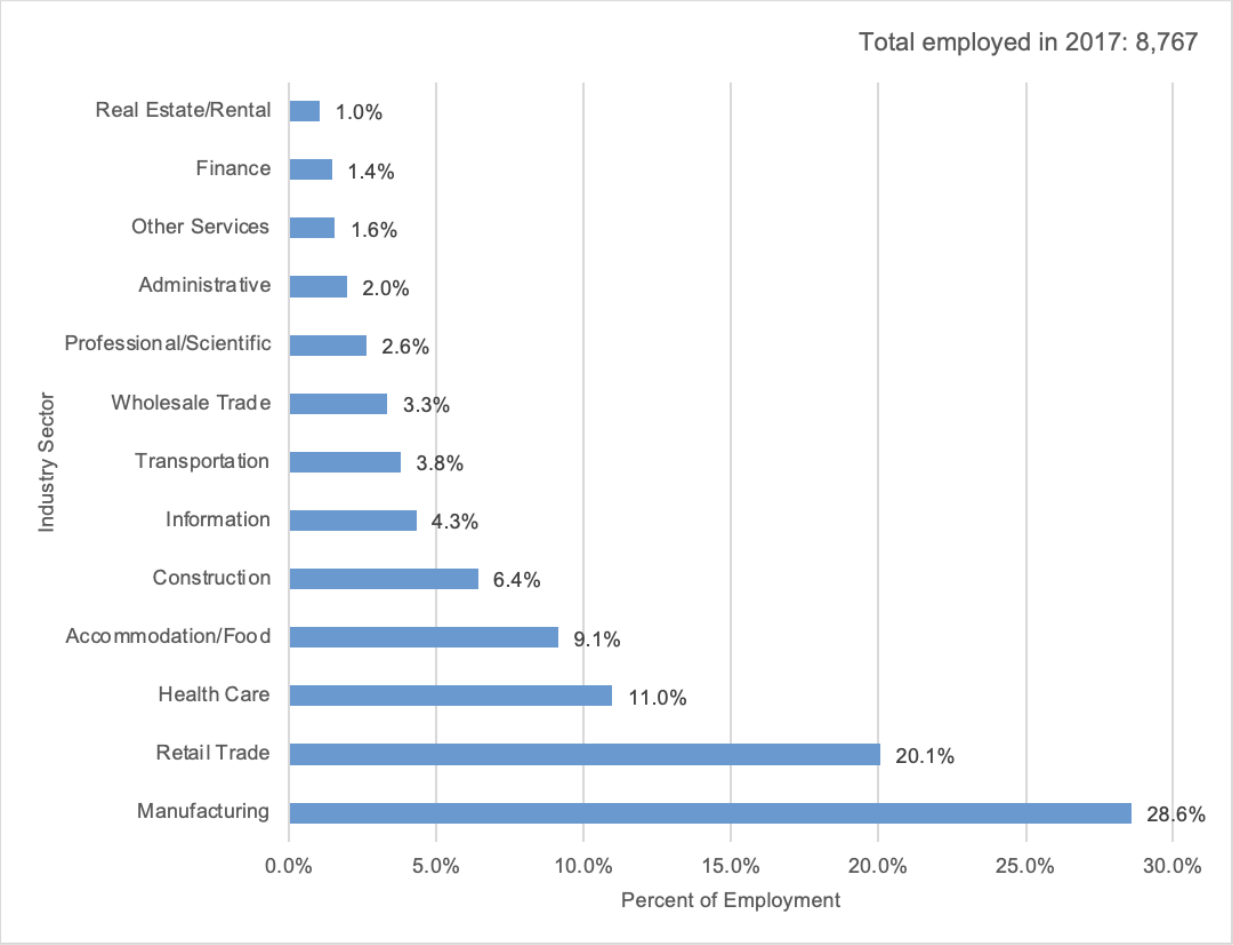

Figure 7.1. Employment by industry sector in American Samoa, 2017. Source: NAICS, 2017

Annual Payroll by Industry Sector

Other SCPs present personal income by industry sector for the sanctuary community, but that information was not available for NMSAS. Instead, this section presents annual payroll by industry sector, including average wage rates for occupations.

In 2017, the industries comprising the highest percentage of total annual payroll in American Samoa were manufacturing, health care and social assistance, and retail trade. Manufacturing represented nearly one-quarter of the annual payroll in 2017 (Figure 7.2, Table 7.5; NAICS, 2017).

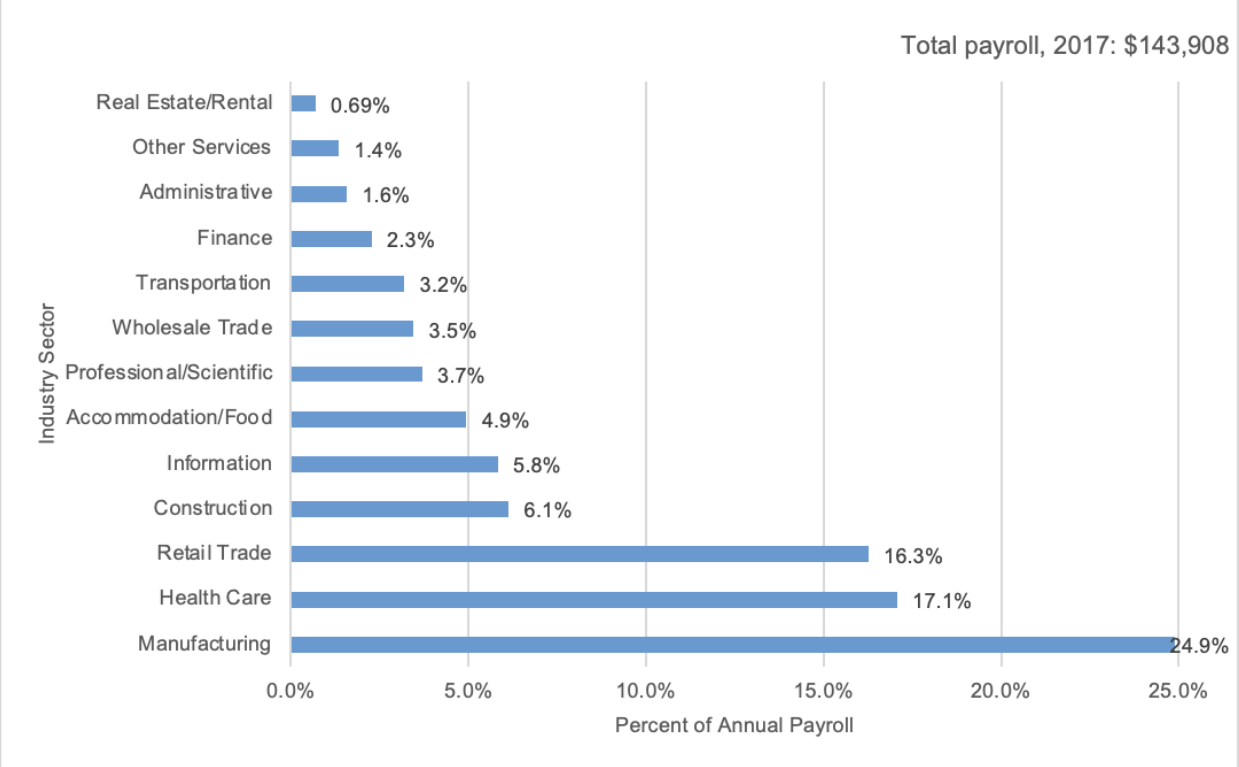

Figure 7.2. Annual payroll in American Samoa by industry sector, 2017. Source: NAICS, 2017

Table 7.5. Annual payroll in American Samoa by industry sector, 2012 to 2017. Source: NAICS, 2017

Sector	Annual Payroll 2012 (in $1,000)	Percent of Total Annual Payroll in 2012	Annual Payroll 2017 (in $1,000)	Percent of Total Annual Payroll in 2017	Percent Change (2012–2017)
All sectors	114,048	100.0	143,908	100.0	26.2
Manufacturing	N/A	N/A	35,827	24.9	N/A
Health care	20,827	18.3	24,556	17.1	17.9
Retail trade	17,240	15.1	23,386	16.3	35.7
Construction	5,431	4.8	8,825	6.1	62.5
Information	3,055	2.7	8,372	5.8	174.0
Accommodation/food	6,172	5.4	7,109	4.9	15.2
Professional/scientific	5,220	4.6	5,313	3.7	1.8
Wholesale trade	4,618	4.1	4,963	3.5	7.5
Transportation	3,492	3.1	4,588	3.2	31.4
Finance	3,081	2.7	3,269	2.3	6.1
Administrative	1,459	1.3	2,266	1.6	55.3
Other services	1,223	1.1	1,941	1.4	58.7
Real estate/rental	848	0.74	994	0.69	17.2

In 2018, the shipping and transportation sector had the highest wage rate of major industries in American Samoa at $6.39 (US$) for stevedoring, lighterage, and maritime shipping agency activities (Table 7.6; U.S. Department of Labor, 2018). The wage rate of most sectors in American Samoa increased between 2009 and 2017 (American Samoa Department of Commerce, 2017).

The hourly minimum wages in American Samoa were generally higher than the minimum wages in the neighboring independent country of Samoa. In 2012, the private sector minimum wage in Samoa was $0.89 and the public sector minimum wage was $1.18. The United States federal hourly minimum wage was $7.25 in 2017 (U.S. Department of Labor, n.d.).

The hourly minimum wages for marine sectors in American Samoa were generally higher than the minimum wages in the neighboring independent country of Samoa, ranging from $5.56–$6.39. These marine sectors include stevedoring, lighterage, maritime shipping agency activities, and unloading of fish; ship maintenance; tour and travel services; and fish canning and processing.

In American Samoa, minimum wage rates will increase by $0.40 per hour every three years until they match the U.S. federal minimum wage (American Samoa Department of Commerce, 2017).

Table 7.6. Hourly minimum wage in American Samoa by industry, 2009 to 2018. Source: American Samoa Department of Commerce, 2017; U.S. Department of Labor, 2018

Sector	Hourly Minimum Wage 2009–2014 (US$)	Hourly Minimum Wage 2015–2017 (US$)	Hourly Minimum Wage 2018 (US$)
Stevedoring, lighterage, and maritime shipping agency activities (shipping and transportation: classification A)	$5.59	$5.99	$6.39
Finance and insurance	$5.49	$5.89 (2015) / $5.80 (2016-2017)	$6.29
Unloading of fish (shipping and transportation: classification B)	$5.42	$5.82	$6.22
All other activities (shipping and transportation: classification C)	$5.38	$5.78	$6.18
Petroleum marketing	$5.35	$5.75	$6.15
Publishing	$5.13	$5.53	$5.93
Construction	$5.10	$5.50	$5.90
Ship maintenance	$5.01	$5.41	$5.81
Printing	$5.00	$5.40	$5.80
Tour and travel services	$4.98	$5.38	$5.78
Fish canning and processing	$4.76	$5.16	$5.56
Private hospitals and educational institutions	$4.83	$5.23	$5.63
Bottling, brewing and dairy products	$4.69	$5.09	$5.49
Retailing, wholesaling and warehousing	$4.60	$5.00	$5.40
Hotel	$4.50	$4.90	$5.30
Government employees	$4.41	$4.81	$5.21

Sector	Hourly Minimum Wage 2009–2014 (US$)	Hourly Minimum Wage 2015–2017 (US$)	Hourly Minimum Wage 2018 (US$)
Miscellaneous (including domestic work)	$4.20	$4.60	$5.00
Garment manufacturing	$4.18	$4.58	$4.98

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Appendix A:
Tables

Table A.1. Allowable fishing methods in NMSAS. Source: NMSAS, 2019

Examples of Allowable Fishing Methods	Fagatele Bay Management Area (No-Take Area)	Aunu'u Management Area Zone A (Multipurpose Area) (West/South Sides)	Aunu'u Management Area Zone B (Research Area) (East Side)	Fagalua/Fogama'a Management Area	Ta'u Management Area	Swains Island Management Area	Muliāva Management Area (No-Take Area out to 12 Miles from Rose Atoll)
Hook-and-line fishing		✓	Surface fishing for pelagics only (bottom fishing not allowed)	✓	✓	✓	
Cast nets		✓		✓	✓	✓	
Spear fishing (non-scuba assisted)		✓		✓	✓	✓	
Gleaning		✓		✓	✓	✓	
'enu and ola		✓		✓	✓	✓	
Sustenance, subsistence, and traditional		✓	Surface fishing for pelagics only (bottom fishing not allowed)	✓	✓	✓	NOAA PIRO Permit Required (808) 725-5000
Recreational		✓	Surface fishing for pelagics only (bottom fishing not allowed)	✓	✓	✓	NOAA PIRO Permit Required (808) 725-5000

Table A.2. Estimated offshore catch by fishing method in American Samoa, FY 2010 to FY 2017. Source: American Samoa Department of Commerce, 2017

Year	Total (lbs)	Trolling Total (lbs)	Trolling (%)	Bottom Fishing Total (lbs)	Bottom Fishing (%)	Trolling and Bottom Fishing Total (lbs)	Trolling and Bottom Fishing (%)	Spear Fishing Total (lbs)	Spear Fishing (%)	Longlining Total (lbs)	Longlining (%)
2010	61,020	2,205	3.6	23,146	37.9	987	1.6	31,971	52.4	2,711	4.4
2011	98,906	30,131	30.5	30,113	30.5	5,601	5.7	24,281	24.6	8,780	8.9
2012	63,945	20,724	32.4	19,689	30.8	3,448	5.4	18,003	28.2	2,081	3.3
2013	102,735	16,894	16.4	29,890	29.1	1,166	1.1	25,529	24.9	29,256	28.5
2014	102,122	19,178	18.8	31,799	31.1	4,661	4.6	27,548	27.0	18,936	18.5
2015	109,087	16,635	15.3	43,946	40.3	3,160	2.9	25,131	23.0	20,215	18.5
2016	80,353	8,444	10.5	22,228	27.7	12,001	14.9	33,022	41.1	4,658	5.8
2017	109,351	30,248	27.7	39,785	36.4	16,867	15.4	12,977	11.8	9,474	8.7

Table A.3. Tours in American Samoa. This is not an exhaustive list and tours are subject to change. Source: South Pacific Watersports and Fitness, 2015; Sinalei Reef Resort and Spa, n.d.; Macrotrends LLC, 2021

Tour	Description
American Samoa Tours	Offers adventure tours including trail hikes, heritage tours, eco-tours, and paddle tours of American Samoa. Programs include a World War II heritage hike, hikes of Mount Alava, tours of Aunu'u Island and Pola Island, and a canoe harbor tour. Private tours are also available.
Pago Pago Tradewinds Tours	Manages visiting cruise ships and offers tour packages that include a traditional aiga bus excursion across American Samoa, scenic site visits, and cultural cooking demonstrations. Bus tours feature a visit to the Tauese P.F. Sunia Ocean Center, accompanied by educational videos about NMSAS and its ecosystems.
Sinalei Tours	Offers eco-tours to Aunu'u Island.
Samriel's Aunu'u Island Tours	Features boating, fishing, and hiking experiences.
Pago Pago Marine Charters	Offers tours to Aunu'u.

Table A.4. Tourist arrivals in American Samoa, 2010 to 2017. Source: American Samoa Department of Commerce, 2017

Year	Number of Arrivals	Annual Percent Change
2010	6,126	- 5.4%
2011	5,682	- 7.3%
2012	5,563	- 2.1%
2013	5,130	- 7.8%
2014	4,812	- 6.2%
2015	4,655	- 3.3%
2016	5,051	8.5%
2017	5,579	10.5%

Table A.5. Arrivals in American Samoa by purpose, 2017. Source: American Samoa Department of Commerce, 2017

Purpose	Total	Percent
All	71,952	100.0
Returning residents	43,890	61.0
Visit relative	10,543	14.7
Employment	7,435	10.3
Tourist	5,579	7.8
Business	3,235	4.5
Crew	631	0.88
In-transit	630	0.9
Denied entry	8	0.01
Deported	1	0.0

Table A.6.Tourist arrivals in American Samoa by country of origin, 2017. Source: American Samoa Department of Commerce, 2017

Country	Total	Percent
New Zealand	2,383	42.7
United States	2,206	39.5
Australia	600	10.8
Europe	279	5.0
Canada	51	0.9
East Asia	43	0.77
Pacific	13	0.23
Southeast Asia	3	0.05
Other Areas	1	0.02

Table A.7. Individual poverty status for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Location	Individuals in Poverty	Percent in Poverty
American Samoa	31,809	57.8
Sanctuary community	3,704	60.5
Tualatai County	2,110	59.5
Sa'ole County	1,329	60.9
Ta'u County	263	73.7
Swains Island	2	11.8

Table A.8. Unemployment status for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Location	Total in Labor Force	Total Unemployed	Unemployment Rate (%)
American Samoa	18,387	1,684	9.2
Sanctuary community	1,908	202	10.6
Tualatai County	1,124	130	11.6
Sa'ole County	688	67	9.7
Ta'u County	93	5	5.4
Swains Island	3	0	0.0

Table A.9. Distribution of gender for American Samoa, Samoa, the Pacific Islands, and the U.S., 2010 to 2019. Source: World Bank, 2010, 2019; CIA, 2020

Location	Male, 2010 (%)	Female, 2010 (%)	Male, 2019 (%)	Female, 2019 (%)
American Samoa	50.7	49.3	N/A	N/A
Samoa	51.6	48.4	51.8	48.2
Pacific Islands	50.9	49.1	50.7	49.3
United States	49.4	50.6	49.5	50.5

Table A.10. Distribution of race in American Samoa, 2010. Source: American Samoa Department of Commerce, 2017

Race	Total	Percent of Total Population*
Samoan	49,333	88.9
Native Hawaiian and Pacific Islander	2,070	3.7
Asian	1,994	3.6
Two or more	1,479	2.7
White	493	0.9
Other	64	0.1
Black or African American	13	0.02

*The total population of American Samoa was 56,079 in 2010 (World Bank, 2010). Note that percentages may not sum to 100.0% of the population of American Samoa because the figures represent non-Hispanic ethnicity only. Ethnicity is recorded separately from race in the American Samoa Demographic Profile and any race may identify as Hispanic. See the "Ethnicity" section for more information.

Table A.11. Distribution of age for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Age Group	American Samoa (Total)	American Samoa (%)	Sanctuary Community (Total)	Sanctuary Community (%)	Tualatai County (Total)	Tualatai County (%)	Sa'ole County (Total)	Sa'ole County (%)	Ta'u County (Total)	Ta'u County (%)	Swains Island (Total)	Swains Island (%)
Total	55,519	100.0	6,123	100.0	3,561	100.0	2,187	100.0	358	100.0	17	100.0
Under 5	6,611	11.9	753	12.3	434	12.2	262	12.0	56	15.6	1	5.9
5–9	6,535	11.8	740	12.1	441	12.4	262	12.0	37	10.3	0	0.0
10–14	6,279	11.3	735	12.0	447	12.6	246	11.3	41	11.5	1	5.9
15–19	6,297	11.3	738	12.1	431	12.1	256	11.7	48	13.4	3	17.7
20–24	3,890	7.0	423	6.9	262	7.4	139	6.4	18	5.0	4	23.5
25–34	6,831	12.3	701	11.5	398	11.2	260	11.9	43	12.0	0	0.0
35–44	7,206	13.0	768	12.5	427	12.0	303	13.9	36	10.1	2	11.8
45–54	6,065	10.9	659	10.8	381	10.7	247	11.3	30	8.4	1	5.9
55–59	2,057	3.7	235	3.8	139	3.9	74	3.4	19	5.3	3	17.7
60–64	1,481	2.7	148	2.4	84	2.4	47	2.2	15	4.2	2	11.8
65–74	1,610	2.9	155	2.5	81	2.3	63	2.9	11	3.1	0	0.0
75–84	547	0.99	55	0.90	31	0.87	20	0.91	4	1.1	0	0.0
85+	110	0.20	13	0.21	5	0.14	8	0.37	0	0.0	0	0.0
Median	21.3	N/A	20.7	N/A	20.2	N/A	21.6	N/A	19.5	N/A	21.3	N/A

Table A.12. Percent of employment by industry sector for American Samoa and the sanctuary community, 2010. Source: American Samoa Department of Commerce, 2017

Sector	American Samoa (%)	Sanctuary Community (%)	Tualatai County (%)	Sa'ole County (%)	Ta'u County (%)	Swains Island (%)
Agriculture	3.0	1.1	1.2	0.81	1.1	0.0
Construction	6.6	7.2	7.0	7.0	11.4	0.0
Manufacturing	16.6	15.8	19.1	12.5	2.3	0.0
Wholesale trade	2.0	1.7	1.7	1.9	0.0	0.0
Retail	9.7	8.8	9.1	8.8	5.7	0.0
Transportation	6.6	7.8	6.6	9.4	10.2	0.0
Information	2.3	2.6	3.0	1.9	2.3	0.0
Finance	2.4	1.6	1.8	1.1	1.1	33.3
Professional, management, administrative	2.0	1.6	1.3	2.1	1.1	0.0
Education, health, and social services	20.0	21.6	20.1	23.2	26.1	66.7
Arts, entertainment, recreation, hotel, and food services	5.6	5.2	4.9	6.2	2.3	0.0
Other services (except public administration)	3.8	3.4	3.3	3.6	2.3	0.0
Public administration	19.4	21.8	20.9	21.6	34.1	0.0

Table A.13. Employment by industry sector in American Samoa, 2012 to 2017. Source: NAICS, 2017

Sector	Total Employed 2012	Percent Employed 2012	Total Employed 2017	Percent Employed 2017	Percent Change 2012–2017
All sectors	7,070	100.0	8,767	100.0	24.0
Manufacturing	N/A	N/A	2,506	28.6	N/A
Retail trade	1,435	20.3	1,759	20.1	22.6
Health care	707	10.0	962	11.0	36.1
Accommodation/food	574	8.1	800	9.1	39.4
Construction	432	6.1	562	6.4	30.1
Information	148	2.1	378	4.3	155.4
Transportation	254	3.6	332	3.8	30.7
Wholesale trade	253	3.6	293	3.3	15.8
Professional/scientific	254	3.6	231	2.6	-9.1
Administrative	151	2.1	172	2.0	13.9
Other services	123	1.7	136	1.6	10.6
Finance	101	1.4	127	1.4	25.7
Real estate/rental	67	0.95	91	1.0	35.8

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