

The Federated States of Micronesia
Sixth National Report to the Convention on Biological Diversity

February 2020



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Cover photo: 'Early morning rainbow, Kolonia, Pohnpei' courtesy of Tamara Greenstone-Alefaio.

Summary

The Federated States of Micronesia (FSM), comprising the four states of Chuuk, Kosrae, Pohnpei and Yap, consists of 607 islands that make up just 271 square miles/702 km² of land in 1,158,300 square miles/3,000,000 km² of ocean. This limited landmass and large ocean area support an abundance of unique biodiversity. This includes, to highlight only a small selection, 427 species of coral, in excess of 1,200 species of fish, 782 native plant species and 110 endemic plant species amongst more than 1,200 species of fern and flowering plants, three endemic species of flying fox and one endemic species of sheath-tailed bat.

Biodiversity is interwoven into daily life, and is an intrinsic part of the diverse traditional cultures and practices that remain strong across the FSM. In addition to this, the FSM is at the forefront of climate change. Healthy and abundant biodiversity offers the best way to adapt to a changing climate and its related impacts. The protection, conservation and sustainable use of biodiversity is, therefore, of paramount importance.

Pressures on the FSM's biodiversity are, however, increasing. There are 325 species listed by the International Union for Conservation of Nature (IUCN) as being threatened to varying degrees or, in some cases, extinct within the FSM, and a number of threats to the country's biodiversity have been recognized. These comprise environmental conversion and degradation, over-exploitation of resources, waste management and pollution, invasive and alien species, climate change and infrastructure development. A substantial range of initiatives are being undertaken across the FSM to address these threats, and these are underpinned by the FSM National Biodiversity Strategy and Action Plan (NBSAP), which was updated in 2018 following extensive nationwide consultations.

The Sixth National Report to the Convention on Biological Diversity (CBD) has been produced in response to *Decision XIII/27 National Reporting* at the 2016 Conference of the Parties to provide information on the FSM's national biodiversity conservation targets as defined by the NBSAP, the progress being made in achieving these and the country's contributions to the CBD *Strategic Plan for Biodiversity 2011–2020*. In accordance with this decision it presents a variety of information.

Information on the Targets Being Pursued at the National Level

The national biodiversity conservation Themes and Objectives, as defined by the FSM NBSAP, are presented and discussed. Many of the Objectives and Action under specific Themes within the FSM NBSAP contribute directly to the implementation of the Strategic Plan for Biodiversity 2011–2020. Overall, the Themes within the NBSAP have been identified as linking to Aichi Biodiversity Targets 1, 3–16, 18–20, and to Sustainable Development Goals 1–4, 6–9, 11, 12, 14, 15 and 17.

Implementation Measures Taken, Assessment of their Effectiveness, and Associated Obstacles and Scientific and Technical Needs to Achieve National Targets

A number of major initiatives have been undertaken within the FSM to support progress under the NBSAP and the country's contributions to the Aichi Targets. The Micronesia Challenge is the most significant conservation initiative within the FSM. A regional commitment to conserve at least 30% of near-shore resources and at least 20% of terrestrial resources across Micronesia by 2020, and to effectively manage at least 50% of near-shore resources and at least 30% of terrestrial resources across Micronesia by 2030, the Micronesia Challenge has acted as a catalyst for the creation of a web of mutually reinforcing projects and has driven the creation of new marine and terrestrial protected areas. The establishment of the Micronesia Conservation Trust has enabled a constant focus to be maintained on biodiversity conservation programs and activities. Together these will continue to be central to the ongoing implementation of the FSM NBSAP. Significantly, the Protected Area Network and the National Protected Area Network Policy Framework have led to 39% of marine resources and 15% of terrestrial resources across the FSM being formally protected and meeting the criteria of the Micronesia Challenge

at this time. Further initiatives of note include the FSM Shark Sanctuary that is in place across the whole of the FSM Exclusive Economic Zone (EEZ), the extension of the coastal no-commercial-fishing zone to encompass 10% of the EEZ, the Yela Ka Forest Conservation Easement in Kosrae State, the UNESCO Biosphere Reserves in Utwe, Kosrae and Ant Atoll, Pohnpei, and the beneficial impacts of the UNESCO World Heritage Site of Nan Madol, Pohnpei.

Assessment of Progress Towards Each National Target

Progress made in achieving the various Objectives under the eleven Themes of the FSM NBSAP over the past 12 months has been significant. A degree of progress has been made in a large majority of the Actions under these Objectives, with only a handful of exceptions, and many of the Objectives being considered to be ‘on target’ to be fully achieved within the lifespan of the current NBSAP, i.e. by 2023.

The National Contribution to the Achievement of Each Global Aichi Biodiversity Target

Numerous programs and activities demonstrate the level of contributions being made to the Aichi Biodiversity Targets at local, state and national levels, with considerable overlap in activities with those described under the Themes of the FSM NBSAP. Contributions have been made to each of the Aichi Biodiversity Targets, either directly or through the implementation of the FSM NBSAP.

The Sixth National Report concludes with an updated Biodiversity Country Profile, providing a summary of that information presented both within the report itself and also within the FSM NBSAP.

Overall, the picture for the FSM is one of significant achievements, such as the extent and ongoing growth of the Protected Area Network and its contributions to the Micronesia Challenge 2020 and 2030 commitments, with initiatives and activities being undertaken at all levels of society. There are, naturally, challenges to be addressed, such as financial and technical capacity limitations, and there will undoubtedly be fresh challenges in the future. However, this report demonstrates that much has been done to protect, conserve and sustainably utilize the unique biodiversity of the FSM; biodiversity that is of immense value locally, nationally and globally.

Development of the Sixth National Report was coordinated and facilitated by the Micronesia Conservation Trust, with invaluable input from a large number of individuals representing governmental and non-governmental organizations and communities across the FSM.

Introduction

The Federated States of Micronesia (FSM) is a nation rich in biodiversity, forming part of the Polynesia-Micronesia biodiversity hotspot. Located in the northwest Pacific, approximately 2,485 miles/4,000 km southwest of Hawaii, its 607 islands total a mere 271 square miles/702 km² of land in 1,158,300 square miles/3,000,000 km² of ocean. The FSM comprises the four states of Chuuk, Kosrae, Pohnpei and Yap, each of which support a unique range of species and ecosystems.

The federated nature of the country results in the management of natural resources falling under the remit of the state governments, with the national government adopting a generally facilitative role, supporting state governments in their activities. This, combined with the unique traditional land tenure systems that exist across the country, provides a unique landscape against which biodiversity conservation is undertaken.

This Sixth National Report to the Convention on Biological Diversity (CBD) has been produced in response to *Decision XIII/27 National Reporting* at the 2016 Conference of the Parties. It has been produced one year after the revised National Biodiversity Strategy and Action Plan 2018–2023 and, as such, aligns well with the planned annual assessment of progress on the Actions within the NBSAP. Owing to this short time period between the revised NBSAP and this Sixth National Report, the NBSAP should be considered the primary source of information regarding the status and trends of biodiversity within the FSM.

Alongside development of the revised NBSAP, revised state Biodiversity Strategy and Action Plans (BSAPs) were developed; one for each state. By the nature of this Sixth National Report it reflects only progress made under the NBSAP. However, the state BSAPs are crucial for the effective implementation of the NBSAP, as well as for addressing state-specific biodiversity issues, and so progress described herein also reflects progress made under the state BSAPs. Where strong and specific links between the NBSAP and state BSAPs are apparent, these are noted.

National Biodiversity Strategy and Action Plan 2018–2023 overview of Themes and Objectives

Theme	Objectives
1. Ecosystem Management Strategy goal: A full representation of the FSM's marine, freshwater and terrestrial ecosystems are protected, conserved and sustainably managed, including selected areas designated for total protection.	1: Research and Monitoring To undertake research and resource assessment/evaluation for the identification, documentation and monitoring of the FSM's ecosystems for the implementation of appropriate resource management programs, including conservation and protected areas
	2. Conservation Areas To enhance the management of existing conservation areas and establish new areas to achieve a full representation of the FSM's ecosystems and support climate change resilience building
	3. Sustainable Use of Ecosystems To develop and implement effective management programs that ensure income-generating activities that use biodiversity resources sustainably
2. Species Management Strategy Goal: The FSM's native, endemic, and traditionally important species are protected and used sustainably, and its threatened species protected, for the benefit of the people of the FSM and the global community	1. Conservation of Species To identify, preserve and conserve all native, endemic, threatened, and traditionally important species in the FSM through effective conservation programs
	2. Research and Monitoring To undertake research for the identification, documentation and monitoring of species contributing to the implementation of appropriate conservation and management programs
	3. Sustainable Use and Management of Species To ensure the sustainable use and management of species for social and economic development
Theme 3: Genetic Resource Use Strategy Goal: The FSM's genetic resources are accessible for utilization and all benefits derived are equitably shared amongst the stakeholders	1: Equitable Sharing of Benefits of Genetic Resources To develop and implement appropriate national and state legislation measures to effectively access genetic resources and carry out fair and equitable sharing of benefits from the use of these resources
Theme 4: Agrobiodiversity Strategy Goal: The conservation and sustainable use of agrobiodiversity contributes to the nation's development and the future food security of the FSM	1. Conservation and Sustainable Use of Agrobiodiversity To develop and ensure the effective implementation of appropriate conservation measures for the sustainable use of agrobiodiversity
	2. Promotion and Development To compile existing research findings and develop programs and projects critical to the development of agrobiodiversity
	3. New Research and Development To conduct relevant research critical to the development of agrobiodiversity
	4. Food and Health Security To enhance and strengthen food and health security through the use of sustainable agrobiodiversity practices
Theme 5: Ecological Sustainable Industry Development Strategy Goal: Economic development activities in the FSM meet the needs of the population while sustaining resources for the benefit of future generations	1. Ecologically Sustainable Industries To develop, utilizing the precautionary principle, long-term smart and ecologically sustainable industries that provide attractive incomes while minimizing the exploitation of and impact on natural resources
	2. Income Generating Activities To develop and promote long-term ecologically sustainable income generating activities for resource owners and the community
	3. Energy Resources To secure long-term efficient and sustainable energy sources that promote the use of technology contributing to energy conservation and the protection of biodiversity

<p>Theme 6: Biosecurity Strategy Goal: Border control, quarantine and eradication programs are effectively protecting the FSM's native biodiversity from the impacts of alien invasive species</p>	<p>1. Policy and Legislation To improve and strengthen appropriate national, state and municipal policies and legislation to ensure the effective management of biosecurity</p>
	<p>2. Control and Eradication To identify and develop appropriate programs to ensure effective control and eradication of species threatening biodiversity</p>
	<p>3. Research and Monitoring To undertake a systematic and scientific research and monitoring program to allow management of biosecurity threats</p>
<p>Theme 7: Waste Management Strategy Goal: All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation's biodiversity</p>	<p>1. Solid Wastes and Sewage Provide an environmentally safe mechanism for the collection, storage and disposal of solid wastes and sewage within the nation to prevent further degradation of the environment and loss of biodiversity within the nation</p>
	<p>2. Petrochemicals Provide an environmentally safe mechanism for the collection, storage and disposal of petrochemical wastes to prevent degradation of the environment and loss of biodiversity within the nation</p>
	<p>3. Hazardous Chemicals Provide an environmentally safe mechanism to prevent or eliminate the use and abuse of hazardous chemicals and to develop and implement correct storage and disposal programs to prevent the degradation of the environment and loss of biodiversity within the nation</p>
	<p>4. Pollution Emergencies Enhance the nation's capability to effectively respond to pollution emergencies to reduce negative impacts on the environment</p>
	<p>5. Air and Noise Pollution Provide an environmentally safe mechanism for the reduction of all activities that degrade the atmosphere and associated biodiversity</p>
<p>Theme 8: Human Resources & Institutional Development Strategy Goal: All citizens, residents and institutions of the nation are aware of the importance of biodiversity and have the technical knowledge, skills and capability to conserve, preserve and sustainably utilize, manage and develop all biodiversity within the nation</p>	<p>1. Human Capacity Building To develop and strengthen the capacity of resource owners, traditional leaders, communities, technical staff and policy makers in the coordination and implementation of conserving, preserving and sustainably utilizing and developing the biodiversity of the FSM</p>
	<p>2. Institutional Strengthening To develop and strengthen the capacity of national, state and municipal government agencies, NGOs and academic institutions in the coordination, education and implementation of activities for conserving, preserving and sustainably utilizing the biodiversity of the FSM</p>
	<p>3. Public Awareness and Education To promote, encourage and strengthen the awareness and understanding of all stakeholders (local resource owners, traditional leaders, communities, government agencies, academic institutions, NGOs and policy makers) of the importance of protecting, preserving and ensuring sustainability of the biodiversity of the FSM</p>
<p>Theme 9: Resource Owners Strategy Goal: Traditional resource owners and communities are fully involved in the protection, conservation, preservation and sustainable use of the nation's biodiversity</p>	<p>1. Traditional Knowledge, Practices and Innovations Preserve traditional knowledge and practices of the cultures of the FSM that are important for the protection, conservation, preservation and sustainable use of biodiversity</p>
	<p>2. Empowering Resource Owners Empowering resource owners and communities to conserve and sustainably manage biodiversity under suitable customary and modern resource management practices</p>

<p>Theme 10: Mainstreaming Biodiversity Strategy Goal: All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity</p>	<p>1. Population To enhance understanding of links between population and our islands' carrying capacities</p>
	<p>2. Policy To integrate concepts of conservation and sustainable use of biodiversity into all relevant sectoral policies, programs and plans</p>
	<p>3. Multi-Sectoral Collaboration To strengthen and develop multi-sectoral collaboration in promoting conservation, preservation, and sustainable use of biodiversity in the FSM</p>
	<p>4. Legislation To ensure that appropriate national, state and municipal legislation is developed and effectively enforced to sustainably manage the FSM's biodiversity</p>
	<p>5. Environmental Impact Assessments To ensure that EIAs are conducted for all development projects to minimize any adverse impacts on the FSM's biodiversity</p>
<p>Theme 11: Financial Resources Strategy Goal: Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities</p>	<p>1. State Commitment To define support needed to implement and monitor progress on the NBSAP and state BSAPs at the national and state levels</p>
	<p>2. National Commitment To provide, in accordance with national capabilities, long-term national financial support and incentives for undertaking conservation programs</p>
	<p>3. International Cooperation To effectively acquire and allocate resources available under cooperation schemes with members of the international community</p>
	<p>4. Conservation Trust Fund The continued establishment and development of the Micronesia Challenge Endowment Fund for implementation of the NBSAP and relevant biodiversity work</p>

Section I: Information on the targets being pursued at the national level

The FSM revised National Biodiversity Strategy and Action Plan (NBSAP) 2018–2023 was produced in 2018, as required by the Convention on Biological Diversity (CBD) under *Decision X/2 Strategic Plan for Biodiversity 2011–2020*. The FSM NBSAP is structured hierarchically: the top level comprises eleven major Themes, each with a Strategy Goal; under these Themes are a number of key Objectives, with each Objective supported by implementable Actions. The revised NBSAP demonstrates the linkages between the eleven Themes that the plan is built around and the CBD Strategic Goals and the Aichi Biodiversity Targets that support these, the Sustainable Development Goals, and specific regional conservation goals such as the Micronesia Challenge. The Micronesia Challenge is a commitment made by the FSM, the Republic of the Marshall Islands, the Republic of Palau, Guam, and the Commonwealth of the Northern Mariana Islands to effectively manage at least 50% of near-shore marine resources and 30% of terrestrial resources across Micronesia by 2030. As well as reporting on the progress made under the NBSAP, this Sixth National Report identifies how the Themes and Objectives within the NBSAP link to the Aichi Biodiversity Targets and Sustainable Development Goals.

The revised NBSAP was developed with facilitation from the Micronesia Conservation Trust. The revision process involved extensive research to identify the current status of biodiversity within the FSM, and the threats it is facing, followed by a series of multi-stakeholder consultations in each of the four states. Stakeholders included officials from national, state and municipal governments, regional, state and community NGO representatives, technical experts, scientists, researchers and educators involved in environmental education. These stakeholders assessed the initial NBSAP for relevance and ongoing progress, updating the Objectives and Actions within the NBSAP as required to ensure it responds to the present status of biodiversity within the country. Additional information gathering was undertaken with women's groups in each of the four states. The outputs of these consultations were then integrated into a single revised NBSAP that was subsequently validated through a two-day workshop.

It should be noted that this revision process also involved the development of a state Biodiversity Strategy and Action Plan (BSAP) for each of the four states. Each of these state BSAPs form an integral part of the NBSAP while also responding to state-specific conditions and threats to biodiversity that are too localized for inclusion in the NBSAP. Whilst these plans are outside of the scope of this Sixth National Report they are an important part of the national approach to biodiversity conservation within the FSM, reflecting the semi-autonomous nature of the states and the state-level responsibility for the management of natural resources in the FSM. As such, where state BSAPs link to the NBSAP, this has been noted. Many state-level objectives are generally linked to the national objectives, however, only those directly linked have been included below.

What follows is a summary of the Themes and Objectives that make up the NBSAP.

Theme 1: Ecosystem Management

Strategy goal

A full representation of the FSM's marine, freshwater and terrestrial ecosystems are protected, conserved and sustainably managed, including selected areas designated for total protection.

The biodiversity and ecosystems of the FSM are of immense importance both nationally and globally. The FSM is part of the globally important Polynesia-Micronesia biodiversity hotspot. There are two terrestrial and one marine ecoregion identified in the FSM, representing exceptional examples of specific habitats that contain the most distinctive biodiversity for that habitat type. These are the Yap Tropical Dry Forest Ecoregion, the Carolines Tropical Moist Forest Ecoregion, and the FSM Tropical Coral ecoregion (WWF, 2019). The FSM contains six distinct marine biomes and twelve terrestrial biomes, characterized by high rates of endemism, species richness and the provision of essential ecosystem services (FSM, 2018).

An ecoregional planning approach to biodiversity conservation in the FSM has been adopted. This approach has identified 130 Areas of Biological Significance (ABS) across the FSM, 24 of which are considered to be Priority Action Areas (PAA), enabling the initiation of effective conservation measures in the context of limited resources and capacity. The ABS and PAA provide a full representation of the FSM's ecosystems. This approach is captured in *A Blueprint for Conserving the Biodiversity of the Federated States of Micronesia* (The Nature Conservancy, 2003).

This Theme is focused on the conservation and protection of these all-important ecosystems.

There are three Objectives under this Theme.

FSM: Federated States of Micronesia. (2018). *Practical Solutions for Reducing Community Vulnerability to Climate Change in the Federated States of Micronesia*. Project/Programme Proposal to the Adaptation Fund. Retrieved from: <https://www.adaptation-fund.org/wp-content/uploads/2018/01/5198MCTFSMProposaltoAFAugust7th2017FINAL-2.pdf> (Accessed: October 2019).

The Nature Conservancy. (2003). *A Blueprint for Conserving the Biodiversity of the Federated States of Micronesia*. Available from: <https://fsm-data.sprep.org/dataset/blueprint-conserving-biodiversity-fsm> (Accessed November 2019).

WWF. (2019). Ecoregions. Retrieved from: <https://www.worldwildlife.org/biomes> (Accessed: October 2019).

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 4, 5, 6, 7, 10, 11, 14, 15, 18 & 19.

This Theme relates to Sustainable Development Goals 2, 6, 8, 12, 14 & 15.

Theme 1, Objective 1: Research and Monitoring

To undertake research and resource assessment/evaluation for the identification, documentation and monitoring of the FSM's ecosystems for the implementation of appropriate resource management programs, including conservation and protected areas.

Rationale

Ongoing research and monitoring of the FSM's myriad ecosystems, and the biodiversity within them, is essential for a number of reasons. While some ecosystems have been thoroughly assessed and documented, and are well understood, this is not comprehensively the case. Research is therefore required to increase national biodiversity knowledge and data sets. This Objective recognizes the importance of making all such research and monitoring information publicly available.

<p>Regular monitoring of ecosystems will enable the identification of any changes to ecosystem health, the provision of specific ecosystem services, and the health of the biodiversity within specific ecosystems. This is necessary to enable effective natural resource management, which is of primary importance in a country such as the FSM that relies heavily on its ecosystems to support the daily health and well-being of its population. This Objective identifies the need for standardized monitoring protocols to be adopted across all states to ensure consistency of data to support decision-making.</p> <p>Regular ecosystem monitoring is also necessary to support essential conservation activities that protect the FSM’s globally-important biodiversity, contribute to the various regional and global biodiversity goals to which the country is committed, and support the environmental health of the country in general.</p> <p>There are seven Actions identified under this Objective.</p>
<p>Level of application This Objective applies at a national level.</p>
<p>Main related Aichi Biodiversity Targets 19.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 1, 3 & 4 Pohnpei BSAP: Objectives 2 & 3 Yap BSAP: Objectives 1, 3 & 6</p> <p>This Objective supports the commitments made under the Micronesia Challenge to effectively manage at least 50% of near-shore marine resources and 30% of terrestrial resources by 2030.</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan Micronesia Challenge</p>

<p>Theme 1, Objective 2: Conservation Areas</p> <p>To enhance the management of existing conservation areas and establish new areas to achieve a full representation of the FSM’s ecosystems and support climate change resilience building.</p>
<p>Rationale The FSM commitment to the Micronesia Challenge, under which it must effectively manage at least 50% of near-shore marine resources and 30% of terrestrial resources by 2030, is a driving force for this Objective (MIF, 2019).</p> <p>In September 2018, the national government of the FSM endorsed the National Protected Areas Network Policy Framework (NPANPF), which provides for the designation and management of a</p>

nationwide protected areas network, inclusive of state-level protected area networks across all four states. This Objective supports the expansion and ongoing and efficient management of this network.

The FSM is a country on the front lines of climate change, already experiencing its impacts through rising average atmospheric temperatures, increasing coral bleaching and changing patterns of precipitation and crop harvest. The protection of ecosystems through the provision of conservation areas is an essential route to building the nation’s resilience to climate change, with healthy ecosystems better able to respond to and cope with changing conditions. Particular ecosystems are recognized as providing specific services in relation to climate resilience. For example, healthy watershed forest ecosystems are vital for protection against potential landslides caused by increasingly intense precipitation under changing climatic conditions.

This Objective identifies the need for large conservation areas encompassing more than one ecosystem type. This supports the Pacific Ridge to Reef program that has been adopted by the FSM. This ensures conservation reflects the intrinsic links between the health of terrestrial and marine ecosystems, supporting protected areas across the FSM landscape. This Objective also responds to the need for conservation in cultural heritage sites throughout the nation.

There are twelve Actions under this Objective.

MIF: Micronesia Island Forum. (2019). Joint Communique. 24th Micronesia Islands Forum, July 2019, Chuuk, FSM.

Level of application

This Objective applies at national and regional levels.

Main related Aichi Biodiversity Targets

11, 14 & 15.

Other related Aichi Biodiversity Targets

5, 6, 10 & 18.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

- Chuuk BSAP: Objectives 1 & 3
- Kosrae BSAP: Objectives 3 & 6
- Pohnpei BSAP: Objectives 2 & 3
- Yap BSAP: Objectives 3 & 7

Under the Micronesia Challenge, the FSM has committed to effectively manage at least 50% of near-shore marine resources and 30% of terrestrial resources by 2030.

This Objective supports the Pacific Ridge to Reef program.

This Objective also relates to the 2017 legislation setting aside 10% of the FSM’s 1.1 million square mile Exclusive Economic Zone for conservation. This law prevents commercial fishing and exploitation of marine resources anywhere up to 12 nautical miles seaward of the territorial sea (which extends up to 12 nautical miles from the shoreline).

This Objective supports the conservation of the UNESCO World Heritage Site Nan Madol, Pohnpei, FSM.

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

- [Chuuk Biodiversity Strategy and Action Plan](#)
- [Kosrae Biodiversity Strategy and Action Plan](#)
- [Pohnpei Biodiversity Strategy and Action Plan](#)
- [Yap Biodiversity Strategy and Action Plan](#)
- [Micronesia Challenge](#)
- [FSM Protected Area Network Framework Policy Resolution](#)
- [Pacific Ridge to Reef](#)
- [UNESCO FSM Country Page](#)

Theme 1, Objective 3: Sustainable Use of Ecosystems

To develop and implement effective management programs that ensure income-generating activities that use biodiversity resources sustainably.

Rationale

The FSM is a subsistence economy, with virtually all households engaged in either agricultural or fishing activities to some degree (FSM Office of Statistics, Budget Overseas Development Assistance and Compact Management, n.d.). Health and well-being of the FSM population therefore relies to a great extent on the country’s ecosystems and it is vital that those ecosystems are utilized sustainably.

Available data suggest that near-shore fisheries are being operated at unsustainable levels, with both catch-per-unit effort and overall volume caught declining over the past decade (Rhodes et al, 2018). This signals a risk to the reef ecosystems that support these fisheries, threatening one of the key sources of food and income across the FSM. Terrestrial ecosystems are at risk from over-harvest, as is the case with mangroves, or conversion of land for the growing of cash crops. This Objective recognizes the need for legislation to enforce ecosystem management plans as well as the need for guidelines for the sustainable use of ecosystems.

It has not yet been possible for a full economic valuation of the FSM’s ecosystems to take place. However, this is recognized as an important activity and is supported under this Objective. Such an evaluation will further assist in the prioritization of conservation targets.

There are five Actions under this Objective.

FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management. (n.d.). Summary Analysis of Key Indicators from the FSM 2010 Census of Population and Housing. Palikir, Pohnpei: FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management.
 Rhodes, K.L., Hernandez-Ortiz, D.X., Cuetos-Bueno, J., Ioanis, M., Washington, W., & Ladore, R. (2018). A 10-year comparison of the Pohnpei, Micronesia, commercial inshore fishery reveals an increasingly unsustainable fishery. *Fisheries Research*, 204, 156–164.

Level of application

This Objective applies at a national level.

Main related Aichi Biodiversity Targets

6 & 7.

Other related Aichi Biodiversity Targets

4, 4, 15 & 18.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:
 Chuuk BSAP: Objective 1

Kosrae BSAP: Objective 1
Pohnpei BSAP: Objectives 3 & 6
Yap BSAP: Objectives 2,4 & 7

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Chuuk Biodiversity Strategy and Action Plan](#)

[Kosrae Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

[Yap Biodiversity Strategy and Action Plan](#)

Theme 2. Species Management

Strategy goal

The FSM's native, endemic, and traditionally important species are protected and used sustainably, and its threatened species protected, for the benefit of the people of the FSM and the global community.

Biodiversity in the FSM is rich, with high levels of endemism; plant endemism is estimated at 15.7% nationally (Costion & Lorence, 2012). The FSM's marine environment is particularly biodiverse, with the extensive reef systems supporting 427 species of coral (IUCN, 2018). 1,221 species of fish have been recorded in the waters of the FSM, along with four species of turtle, seventeen species of cetacean and 139 marine invertebrate species (IUCN, 2018). On land there are more than 1,200 species of fern and flowering plant (Fosberg et al, 1979, 1982, & 1987), including an estimated 110 endemic species (Costion & Lorence, 2012). There are an estimated 128 native bird species and six species of terrestrial mammal (BirdLife International, 2018; IUCN, 2018). Not all species have been identified and catalogued across all four states, with a particular lack of knowledge around reptiles, terrestrial invertebrates, fungi and microorganisms.

Many species in the FSM are important to the traditional cultures of the country, with many more being vital to the development of sustainable sources of income. However, a large number of species are threatened; the IUCN identifies 325 species as being threatened to some degree (IUCN, 2018). Of these, 27 are categorized as endangered or critically endangered (IUCN, 2018).

This theme is focused on the conservation and sustainable use of the rich variety of species present across the FSM.

There are three Objectives under this Theme.

BirdLife International. (2018). Country profile: Micronesia, Federated States of. Retrieved from <http://www.birdlife.org/datazone/country/micronesia> (Accessed: July 2018).

Costion, C.M., & Lorence, D.H. (2012). The Endemic Plants of Micronesia: A Geographical Checklist and Commentary. *Micronesica*, 43, 51–100.

Fosberg, F.R., Sachet, M-H., & Oliver, R. (1979). Geographical checklist of the Micronesian Dicotyledonae. *Micronesica*, 15, 1–295.

Fosberg, F.R., Sachet, M-H., & Oliver, R. (1982). Geographical checklist of the Micronesian Pteridophyta and Gymnospermae. *Micronesica*, 18, 23–82.

Fosberg, F.R., M-H. Sachet and R. Oliver (1987). Geographical checklist of the Micronesian Monocotyledonae. *Micronesica*, 20, 19–129.

IUCN. (2018). Retrieved from: <http://www.iucnredlist.org> Accessed: July 2018).

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 4, 6, 7, 9, 11, 12 & 19.

This Theme relates to Sustainable Development Goals 1, 2, 6, 8, 12, 14 & 15.

Theme 2, Objective 1: Conservation of Species

To identify, preserve and conserve all native, endemic, threatened, and traditionally important species in the FSM through effective conservation programs.

Rationale

Conservation of the FSM's biodiversity is essential. Conservation efforts in the FSM are generally focused at the ecosystem or landscape level but this also serves to protect specific species.

<p>Various species-specific conservation measures have been put in place, such as a ban on the commercial harvesting of bumphead parrotfish in all four states, and various no-take seasons to protect particular fish species during spawning. A fruit bat sanctuary has been proposed in Yap. With 325 species considered threatened to some degree, this Objective recognizes the need for further species-specific legislation.</p> <p>There is a current lack of botanical gardens or living seed banks to act as a repository of native flora. This Objective responds to the need for these at the State level.</p> <p>There are seven Actions under this Objective.</p>
<p>Level of application This Objective applies at subnational and national levels.</p>
<p>Main related Aichi Biodiversity Targets 6, 11 & 12.</p>
<p>Other related Aichi Biodiversity Targets 9 & 10.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 1 & 3 Kosrae BSAP: Objectives 3 & 6 Pohnpei BSAP: Objective 2 Yap BSAP: Objectives 3 & 7</p> <p>This Objective also relates to the 2015 legislation creating a shark sanctuary of the full extent of the FSM's Exclusive Economic Zone, some 1.1 million square miles.</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 2, Objective 2: Research and Monitoring</p> <p>To undertake research for the identification, documentation and monitoring of species contributing to the implementation of appropriate conservation and management programs.</p>
<p>Rationale While there is an abundance of biodiversity in the FSM, comprehensive cataloguing of all species has not occurred, with information lacking in key areas. Plant species estimates are based upon surveys conducted in the 1970s and 1980s (Fosberg et al, 1979, 1982, & 1987), while estimates of fungal species are only available for Pohnpei and Kosrae states (Balick et al, 2011). More comprehensive data are required to better support conservation activities and the sustainable use of the FSM's biodiversity. This Objective responds to this need.</p> <p>Monitoring of species, especially those considered threatened, is essential to enable appropriate adaptive management to take place. This Objective recognizes the need for such monitoring not only</p>

for those species that are endangered but also endemic species and those that are commercially or culturally significant. Monitoring of this nature will feed into the management of conservation areas related to Theme 1, Objective 2.

There are eight Actions under this Objective.

Balick, M., Lorence, D., Law, W., Raynor, W., MacKenzie, R. (2011). A Biodiversity Survey of Pohnpei and Kosrae Islands, Federated States of Micronesia; Understanding the Impact of Anthropogenic Disturbance on Plant, Fungal, and Stream Biodiversity. Retrieved from: <http://grantome.com/grant/NSF/DEB-0743375#panel-comment> (Accessed November 2019).

Fosberg, F.R., Sachet, M-H., & Oliver, R. (1979). Geographical checklist of the Micronesian Dicotyledonae. *Micronesica*, 15, 1–295.

Fosberg, F.R., Sachet, M-H., & Oliver, R. (1982). Geographical checklist of the Micronesian Pteridophyta and Gymnospermae. *Micronesica*, 18, 23–82.

Fosberg, F.R., M-H. Sachet and R. Oliver (1987). Geographical checklist of the Micronesian Monocotyledonae. *Micronesica*, 20, 19–129.

Level of application

This Objective applies at subnational and national levels.

Main related Aichi Biodiversity Targets

12 & 19.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

Chuuk BSAP: Objectives 1, 3 & 4

Kosrae BSAP: Objective 6

Pohnpei BSAP: Objectives 2 & 3

Yap BSAP: Objectives 1, 3 & 6

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Chuuk Biodiversity Strategy and Action Plan](#)

[Kosrae Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

[Yap Biodiversity Strategy and Action Plan](#)

Theme 2, Objective 3: Sustainable Use and Management of Species

To ensure the sustainable use and management of species for social and economic development.

Rationale

Biodiversity underpins the FSM economy, largely through subsistence activities. However, economic and social development also rely to a great degree on the country's rich flora and fauna. Various species have been explored as the basis of sustainable aquaculture or agriculture initiatives, but more must be done to ensure subsistence and commercial harvesting of biodiversity is truly sustainable. This Objective takes account of the need for appropriate management plans, and the need to identify new sustainable sources of income.

A small number of ‘green’ product initiatives across the FSM have been developed, such as the Green Banana Paper company in Kosrae and the production of Wawa banana chips, also in Kosrae. Such approaches model sustainable use of local biodiversity and are an example to be more widely emulated.

There are six Actions under this Objective.

Level of application

This Objective applies at a national level.

Main related Aichi Biodiversity Targets

6 & 7

Other related Aichi Biodiversity Targets

4 & 10.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

Chuuk BSAP: Objective 1

Kosrae BSAP: Objective 1

Pohnpei BSAP: Objectives 3 & 6

Yap BSAP: Objectives 2, 4 & 7

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Chuuk Biodiversity Strategy and Action Plan](#)

[Kosrae Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

[Yap Biodiversity Strategy and Action Plan](#)

<p>Theme 3. Genetic Resource Use</p> <p>Strategy goal</p> <p>The FSM's genetic resources are accessible for utilization and all benefits derived are equitably shared amongst the stakeholders.</p> <p>Intellectual property and the equitable sharing of benefits derived from biodiversity are important issues for the FSM owing to the richness of biodiversity and the plethora of traditional and cultural uses for it. Many native and endemic species are utilized in various aspects of daily living, including customary practices and traditional medicine amongst many others. The FSM shows the potential to benefit more widely from the discovery and development of new and unique uses for its biodiversity. However, at the same time this puts it at risk of being taken advantage of by outside bioprospecting interests unless adequate regulations can be implemented at state and national levels.</p> <p>The FSM ratified the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in 2013.</p> <p>There is one Objective under this Theme.</p> <p>This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Target 16.</p>
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<p>Theme 3, Objective 1: Equitable Sharing of Benefits of Genetic Resources</p> <p>To develop and implement appropriate national and state legislation measures to effectively access genetic resources and carry out fair and equitable sharing of benefits from the use of these resources.</p> <p>Rationale</p> <p>In Yap State, a law has been implemented pertaining to research undertaken in the state that requires 10% of all income from any final work products be returned to Yap. Kosrae has a similar 'royalty act' in place. However, there is a significant need for all states to develop and implement appropriate legislation, and for national-level legislation asserting royalty rights over final products to be put in place.</p> <p>This Objective responds to these needs and recognizes the further need to establish appropriate research permitting processes such that all bioprospecting within the country can be tracked and monitored.</p> <p>There are ten Actions under this Objective.</p> <p>Level of application</p> <p>This Objective applies at subnational and national levels.</p> <p>Main related Aichi Biodiversity Targets</p> <p>16.</p> <p>Other related Aichi Biodiversity Targets</p> <p>This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p> <p>Other relevant information</p> <p>This Objective relates to the following Objectives within the State BSAPs: Kosrae BSAP: Objective 5</p>
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Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Kosrae Biodiversity Strategy and Action Plan](#)

[Yap State Researcher's Registration Act \(incorporating royalty payment requirements\)](#)

Theme 4. Agrobiodiversity

Strategy goal

The conservation and sustainable use of agrobiodiversity contributes to the nation's development and the future food security of the FSM.

Agriculture is a key sector for expansion and development in the FSM, with production today lower than in the past. Yet there is a lack of accurate baseline data on production levels and crop varieties upon which to base policy.

Conserving agrobiodiversity is essential in the face of threats such as climate change and invasive species. Anecdotal evidence suggests climate change is already having an impact on some food crops, altering their seasonality and increasing the prevalence of some diseases. A large number of varieties of staple crops exist in the FSM, and preservation of these is a vital protective measure against the loss of whole crop types in the face of changing conditions. Climate change-induced sea level rise has also caused seawater inundation of traditional taro patches, leading to initiatives to protect these patches through the construction of raised beds and the improvement of drainage systems.

Programmes such as the Island Food Community of Pohnpei work to encourage the consumption of local produce to support health and nutrition and to help conserve native varieties and cultivars. Other local community groups in the four states have been established to distribute seedlings to local people to encourage home gardens as a way to improve nutrition and to increase food security. The College of Micronesia Land Grant program provides training and support to local farmers across the country through their Extension Agents.

There are four Objectives under this Theme.

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 3, 4, 7, 12, 13 & 19.

This Theme relates to Sustainable Development Goals 1, 2, 3, 12 & 15.

Theme 4, Objective 1: Conservation and Sustainable Use of Agrobiodiversity

To develop and ensure the effective implementation of appropriate conservation measures for the sustainable use of agrobiodiversity

Rationale

Traditional agricultural practices support the sustainable use of the FSM's agrobiodiversity. Agroforests occupy significant areas of land in each state, overshadowing both cropland and land under urban cultivation. However, agricultural practices such as monocropping do occur and can have significant impacts on both agrobiodiversity and biodiversity, and the environment more generally. Such practices are not suited to the FSM landscape, increase the need for inputs such as fertilizer and pesticides that are expensive and environmentally problematic, and risk the loss of traditionally grown native varieties and cultivars. There is, therefore, a need to support traditional farming practices and sustainable agrobiodiversity.

The benefits of traditional agroforestry systems are recognized by this Objective and, as with Objective 2, Theme 1, this Objective responds to the need for botanical gardens and seed banks as the state level.

There are eight Actions under this Objective.

<p>Level of application This Objective applies at subnational and national levels.</p>
<p>Main related Aichi Biodiversity Targets 7, 12 & 13.</p>
<p>Other related Aichi Biodiversity Targets 3, 4 & 18.</p>
<p>Other relevant information Chuuk BSAP: Objectives 1 & 3 Yap BSAP: Objectives 4 & 7</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

Theme 4, Objective 2: Promotion and Development

To compile existing research findings and develop programs and projects critical to the development of agrobiodiversity.

Rationale

Agrobiodiversity resources and practices remain under-researched in the FSM, with existing knowledge not effectively recorded and compiled. There is a lack of data regarding the types and extent of agrobiodiversity practices being implemented across the country. In addition, locally grown produce suffer from a lack of effective local marketing in the face of extensive imported goods and a lack of marketing for potential export markets.

This Objective responds to the needs for a greater knowledge base from which expansion of markets for sustainably produced, native products can begin. It also recognizes the need for better public awareness around invasive species that may negatively impact traditional agroforestry practices.

There are six Actions under this Objective.

Level of application

This Objective applies at a national level.

Main related Aichi Biodiversity Targets

19.

Other related Aichi Biodiversity Targets

18.

Other relevant information

Chuuk BSAP: Objective 1
Pohnpei BSAP: Objective 6

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)
[Chuuk Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

Theme 4, Objective 3: New Research and Development

To conduct relevant research critical to the development of agrobiodiversity.

Rationale

There is some crossover between this Objective and Objective 2 under this Theme, with a clear focus on the need for a greater degree of knowledge and understanding about agrobiodiversity in the FSM. With a few notable exceptions, such as the extensive nutritional research undertaken by Lois Englberger, agrobiodiversity-focused research (and particularly published research) in the FSM is very limited. This Objective endeavors to improve this situation with a focus on documentation and publication of all research findings.

Inevitably, and particularly as climatic conditions change, new agricultural species are being introduced to the FSM. There is a need for these species to be monitored, and any impact on local agrobiodiversity understood. This Objective responds to this need.

There are eight Actions under this Objective.

Level of application

This Objective applies at subnational and national levels.

Main related Aichi Biodiversity Targets

19.

Other related Aichi Biodiversity Targets

18.

Other relevant information

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

Theme 4, Objective 4: Food and Health Security

To enhance and strengthen food and health security through the use of sustainable agrobiodiversity practices.

Rationale

Food and nutrition security is an important issue as, over time, imported foodstuffs have come to dominate the national diet. These foods are not only more expensive than locally-produced goods but often do not offer appropriate nutrition, leading to malnutrition and an increase in the rates of non-communicable diseases such as diabetes and heart disease. There is, therefore, a significant need to enhance food and nutritional security through sustainable agrobiodiversity practices and associated educational programmes.

The Island Food Community of Pohnpei works to address these issues, promoting the consumption of locally produced native foods, and providing demonstrations on how to cook with local produce. This Objective recognizes the importance of these types of programmes and the need to expand on them across all four states.

A funding proposal to the Green Climate Fund has been submitted through the Micronesia Conservation Trust in collaboration with the FSM Government to support a project comprehensively addressing food security on a national scale. This project would target all households in the FSM that are undertaking some form of farming to introduce climate-smart practices, thus supporting food security in a changing climate.

There are four Actions under this Objective.

Level of application

This Objective applies at a national level.

Main related Aichi Biodiversity Targets

7.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Other relevant information

Pohnpei BSAP: Objective 4

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

Theme 5. Ecological Sustainable Industry Development
<p>Strategy goal</p> <p>Economic development activities in the FSM meet the needs of the population while sustaining resources for the benefit of future generations</p>
<p>In a country such as the FSM, where daily life and the economy as a whole relies heavily on natural resources, including biodiversity, developing sustainable industries is an essential element for economic growth. Sustainable industry development is also vital for the conservation of the nation’s biodiversity, providing alternatives to over-exploitation of resources through, for example, the use of non-sustainable fishing techniques.</p> <p>A variety of resources, both marine and terrestrial, offer potential as sources of sustainable income generation. These include agricultural products, aquaculture activities and the production of value-added products.</p> <p>The development of the sustainable and renewable energy sector is also important in the FSM, to alleviate reliance on imported fossil fuels and to help the country meet its commitments under the UNFCCC Paris Agreement.</p> <p>There are three Objectives under this theme.</p>
<p>This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 2, 3, 4, 7, 8 & 10.</p> <p>This Theme relates to Sustainable Development Goals 1, 7, 8, 9, 12 & 14.</p>

Theme 5, Objective 1: Ecologically Sustainable Industries
<p>To develop, utilizing the precautionary principle, long-term smart and ecologically sustainable industries that provide attractive incomes while minimizing the exploitation of and impact on natural resources</p>
<p>Rationale</p> <p>Whilst there are some small businesses in the FSM based upon the sustainable use of natural resources, such as the Green Banana Paper company in Kosrae, there remains a need for the development of larger-scale ecologically sustainable industries. The FSM Petroleum Corporation, Vital, established the Coconut-for-Life (C4L) program to revitalize coconut agroforestry and processing as a sustainable industry. More programs of this type are needed across the FSM to support both economy and environment. This is recognized in the need for sustainability in relation to key areas of development, namely agriculture, fisheries and the environment, as emphasized in the FSM Strategic Development Plan.</p> <p>There are nine Actions under this Objective.</p>
<p>Level of application</p> <p>This Objective applies at subnational and national levels</p>
<p>Main related Aichi Biodiversity Targets</p> <p>2, 3 & 4.</p>
<p>Other related Aichi Biodiversity Targets</p> <p>7, 8 & 10.</p>

<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objective 2 Pohnpei BSAP: Objective 7 Yap BSAP: Objective 7</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan FSM Strategic Development Plan 2004–2023</p>

<p>Theme 5, Objective 2: Income Generating Activities</p>
<p>To develop and promote long-term ecologically sustainable income generating activities for resource owners and the community</p>
<p>Rationale There is significant scope for the FSM’s rich natural resources to be sustainably utilized in a number of ways. Various sustainable, natural products, such as coffee or those made of coconut, offer the potential for income generation. However, awareness of this potential needs to be increased and the lack of feasibility studies addressed to enable the progress of many of these.</p> <p>There is the possibility for conservation activities to generate income for resource owners. An example of this is the Yela Ka Forest conservation easement in Kosrae (discussed in Section II), whereby regular payments are made to the landowners for maintaining the integrity of the ecosystem and limiting resource use to only that which is traditional and sustainable. This Objective reflects the need to expand on this and other types of sustainable initiatives across the country for the benefit of resource owners.</p> <p>There are four Actions under this Objective.</p>
<p>Level of application This Objective applies at a national level</p>
<p>Main related Aichi Biodiversity Targets 3 & 4.</p>
<p>Other related Aichi Biodiversity Targets 7, 8 & 10.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Yap BSAP: Objective 7</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan USDA Forest Service Yela Ka Forest Conservation Easement press release</p>

Theme 5, Objective 3: Energy Resources

To secure long-term efficient and sustainable energy sources that promote the use of technology contributing to energy conservation and the protection of biodiversity

Rationale

The majority of electricity production in the FSM is via large-scale diesel generators. This situation needs to change, particularly in the context of the Intended Nationally Determined Contribution to the United Nations Framework Convention on Climate Change, which provides for an unconditional reduction in CO₂ emissions of 28% below 2000 levels by 2025. In addition, the 2009 FSM Climate Change Policy commits to the FSM becoming a negative carbon country.

Initiatives are being undertaken to promote the use of renewable energy, including at the community level. One such initiative is the empowerment of communities through electrification utilizing solar systems. This project aims to bring solar power to communities in some of Chuuk's non-electrified lagoon islands. By training local women, with limited formal education, to be solar engineers through the Barefoot College Solar Mama program, the project provides renewable energy to communities, empowers women through the creation of sustainable livelihoods, and ensures the ongoing maintenance and repair of the installed solar systems.

Large-scale conversion to renewable resources is identified within the FSM Strategic Development Plan 2004–2023 as a key strategic goal.

There are nine Actions under this Objective.

Level of application

This Objective applies at a national level

Main related Aichi Biodiversity Targets

This Objective does not directly contribute to any of the Aichi Biodiversity Targets.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)
[FSM Intended Nationally Determined Contribution](#)
[FSM Nationwide Climate Change Policy](#)
[FSM Strategic Development Plan 2004–2023](#)
[Barefoot College](#)

Theme 6: Biosecurity
Strategy goal
<p>Border control, quarantine and eradication programs are effectively protecting the FSM's native biodiversity from the impacts of alien invasive species</p>
<p>Small islands are highly vulnerable to alien and invasive species, and the FSM is no exception. Trade, traffic and weather events such as typhoons all contribute to the risk of introducing such species. For example, a rise in alien plant species was noted in Chuuk state following typhoon Maysak in 2015. There is also significant concern over the introduction of species known to have caused significant problems in neighboring countries, such as the coconut rhinoceros beetle, which has decimated coconut palm populations in Guam. Controlling the spread of species between states is also necessary; for example, the little fire ant was discovered in Yap in 2017 but has not yet reached other states. It should be noted that alien and invasive species are not just a terrestrial issue, as is evidenced by the impact of crown of thorns starfish population booms on reef systems.</p> <p>It is anticipated that increased funding will be made available for projects under this Theme through the sixth replenishment of the Global Environment Facility, which includes alien invasive species as one of three priority drivers of biodiversity loss.</p> <p>A United States Department of the Interior Technical Assistance Program project has recently been agreed that aims to improve food security by taking various measures to address invasive alien species. The plan aims to eradicate false sakau (<i>Piper auritum</i>), chain of love (<i>Antigonon leptopus</i>), ivy gourd (<i>Coccinia grandis</i>), octopus tree (<i>Schefflera actinophylla</i>), Bengal trumpet vine (<i>Thunbergia grandiflora</i>) and Honolulu rose (<i>Cerodendrum chinense</i>) from Pohnpei State. It also calls for the development and implementation of at least three management and control plans for eleven highly prioritized invasive alien species in Pohnpei State, and the establishment of emergency plans and implementation training in all four states to deal with the little fire ant (<i>Wasmannia auropunctata</i>) and coconut rhinoceros beetle (<i>Oryctes rhinoceros</i>).</p> <p>There are three Objectives under this Theme.</p>
<p>This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 9 & 19.</p> <p>This Theme relates to Sustainable Development Goals 15 & 17.</p>

Theme 6, Objective 1: Policy and Legislation
<p>To improve and strengthen appropriate national, state and municipal policies and legislation to ensure the effective management of biosecurity</p>
<p>Rationale</p> <p>Naturally, quarantine legislation exists in the FSM (in the form of the Plant and Animal Quarantine Regulations) and import procedures are in place. However, there is a need for further legislative action to address not just the ever-present threat of invasive species, but also to regulate the importation of genetically-modified organisms. A national biosecurity law has been enacted but a National Biosecurity Act, while developed, has yet to be passed. This Objective responds to the need for increased regulatory control in this area.</p> <p>There are four Actions under this Objective.</p>

<p>Level of application This Objective applies at national and subnational levels</p>
<p>Main related Aichi Biodiversity Targets 9.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 3 & 4 Pohnpei BSAP: Objective 4 Yap BSAP: Objective 4</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 6, Objective 2: Control and Eradication</p>
<p>To identify and develop appropriate programs to ensure effective control and eradication of species threatening biodiversity</p>
<p>Rationale Each state has their own invasives task force and strategic action plans. While these monitor international importation and quarantine, they do not currently have capacity for screening of transportation between states and between islands. This is of particular importance in relation to alien or invasive species that are present but with a limited geographic range, such as the little fire ant, which is currently limited in range to Yap. In the case of certain invasive plants, such as the native <i>Merremia peltata</i>, eradication may not be possible but control measures must be strengthened.</p> <p>This Objective responds to the need for improving measures of alien and invasive species prevention, and increasing control and eradication efforts against alien and invasive species.</p> <p>There are eight Actions under this Objective.</p>
<p>Level of application This Objective applies at a national level</p>
<p>Main related Aichi Biodiversity Targets 9.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 1, 3 & 4 Pohnpei BSAP: Objective 4</p>

Yap BSAP: Objective 4
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

Theme 6, Objective 3: Research and Monitoring

To undertake a systematic and scientific research and monitoring program to allow management of biosecurity threats

Rationale
 A growing number of alien and invasive species are recognized to be present in the FSM and its waters, however, comprehensive up-to-date species lists are not available. It is vital that such research is undertaken given the potential impacts such species can have on the nation’s biodiversity and agrobiodiversity, and therefore on the livelihoods of those depending upon them. Such information will enable the state invasives task forces to better prioritize their activities.

This Objective responds to this need for more research and increasing collaboration with outside agencies.

There are three Actions under this Objective.

Level of application
 This Objective applies at a national level.

Main related Aichi Biodiversity Targets
 9.

Other related Aichi Biodiversity Targets
 19.

Other relevant information
 This objective relates to the following objectives within the State BSAPs:
 Chuuk BSAP: Objective 3
 Pohnpei BSAP: Objective 4
 Yap BSAP: Objective 4

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
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Theme 7. Waste Management

Strategy goal

All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation's biodiversity

Waste management is an issue in the FSM owing to insufficient and ineffective waste management policies and practices, and pollution is an issue in all four states. Sewage treatment, disposal of solid waste, petrochemical spills at sea and the dumping of ballast water are just some of the recognized problems.

Progress has been made in some aspects of pollution control. With assistance from the Japanese International Cooperation Agency, landfill sites in Kosrae and Pohnpei have been improved. A ban on the import and use of plastic bags has been implemented in Yap, and recycling schemes have been established in Pohnpei and Yap. Expanding recycling schemes beyond aluminum cans, plastic bottles and glass, and dealing with large solid waste items such as old domestic appliances and junk cars, is a challenge due to a lack of overseas partners willing and able to accept these kinds of waste under international regulations. However, there has been recent interest from the Association for the Promotion of International Cooperation in helping establish a recycling center to help address this need.

Pollution of essential waterways from domestic pig pens is being addressed in all four states through the development and expansion of a dry-litter piggery scheme (described in Section II); piggery owners are able to access a revolving fund to finance the moving and conversion of their piggeries in order to reduce contamination of the watershed. This system also results in the production of fertilizer that can be sold or distributed.

There are five Objectives under this Theme.

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 8, 10 & 14.

This Theme relates to Sustainable Development Goals 3, 6, 9, 11, 14 & 15.

Theme 7, Objective 1: Solid Wastes and Sewage

Provide an environmentally safe mechanism for the collection, storage and disposal of solid wastes and sewage within the nation to prevent further degradation of the environment and loss of biodiversity within the nation

Rationale

A lack of waste collection services in many municipalities results in illegal dumpsites, often in mangroves, and localized pollution. With many people relying on run-off water in local water courses for their daily needs, improved sewage and waste water infrastructure and management are necessary to ensure the health of the population and the wider environment. For example, marine sewage discharge pipes should be located to limit impacts to the marine environment, and the dumping of waste at sea from visiting and tourist vessels must be controlled. This objective responds to these challenges.

There are five Actions under this Objective.

Level of application

This Objective applies at national and subnational levels.

<p>Main related Aichi Biodiversity Targets 8, 10 & 14.</p>
<p>Other related Aichi Biodiversity Targets This target does not contribute to any other of the Aichi Biodiversity Targets</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 2 & 3 Kosrae BSAP: Objective 4 Pohnpei BSAP: Objective 5 Yap BSAP: Objective 5</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 7, Objective 2: Petrochemicals Provide an environmentally safe mechanism for the collection, storage and disposal of petrochemical wastes to prevent degradation of the environment and loss of biodiversity within the nation</p>
<p>Rationale There is a need for adequate collection, storage and disposal of used petrochemicals across the FSM. Where systems for collection are in place, long-term storage solutions are inadequate. There is a lack of legislation relating to the monitoring of petrochemical wastes and the enforcement of pollution controls, including those relating to the dumping of ship waste at sea and chemical spillages from shipwrecks. This Objective responds to these challenges. There are four Actions under this Objective.</p>
<p>Level of application This Objective applies at national and subnational levels</p>
<p>Main related Aichi Biodiversity Targets 8.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Pohnpei BSAP: Objective 5</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan</p>

Theme 7, Objective 3: Hazardous Chemicals

Provide an environmentally safe mechanism to control and manage the use of hazardous chemicals and to develop and implement correct storage and disposal programs to prevent the degradation of the environment and loss of biodiversity within the nation

Rationale

Challenges around waste disposal extend to hazardous chemicals other than petrochemicals. There is a need to establish appropriate collection, storage and disposal procedures at a national level. As with petrochemicals, where collection systems exist, appropriate storage solutions are inadequate. Importation of such chemicals must also be closely controlled. For example, Yap state regulates pesticide imports and each state has an NGO for Freon monitoring. This Objective recognizes the need for the development and enforcement of legislation related to these challenges.

There are four Actions under this Objective.

Level of application

This Objective applies at national and subnational levels.

Main related Aichi Biodiversity Targets

8.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

Kosrae BSAP: Objective 4

Pohnpei BSAP: Objective 5

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Kosrae Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

Theme 7, Objective 4: Pollution Emergencies

Enhance the nation's capability to effectively respond to pollution emergencies to reduce negative impacts on the environment

Rationale

The risk of pollution emergencies exists in any country but is, perhaps, of particular concern for a country such as the FSM that is so dependent on healthy terrestrial and marine environments for the health and well-being of its population. There is a need to increase and strengthen preparedness to respond to such emergencies, and to expand skills amongst those involved in such responses. Currently, there is a lack of legislation enabling the charging of polluters for the costs of clean-up and any environmental damage caused. This Objective responds to these challenges.

There are five Actions under this Objective.

Level of application

This Objective applies at a national level.

<p>Main related Aichi Biodiversity Targets 8.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Pohnpei BSAP: Objective 5</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan</p>

<p>Theme 7, Objective 5: Air and Noise Pollution</p>
<p>Provide an environmentally safe mechanism for the reduction of all activities that degrade the atmosphere and associated biodiversity</p>
<p>Rationale Though air and noise pollution are not priority environmental issues in the FSM, they are nonetheless recognized as relevant and requiring attention. This Objective responds to the current lack of effective regulations and monitoring programs governing atmospheric pollution and noise pollution in the FSM. There are three Actions under this Objective.</p>
<p>Level of application This Objective applies at a national level.</p>
<p>Main related Aichi Biodiversity Targets 8.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan</p>

Theme 8. Human Resources & International Development

Strategy goal

All citizens, residents and institutions of the nation are aware of the importance of biodiversity and have the technical knowledge, skills and capability to conserve, preserve and sustainably utilize, manage and develop all biodiversity within the nation

Awareness of the importance of the conservation and sustainable use of biodiversity in the FSM is essential. It informs policy-making, skills requirements and behavior towards, and in, the environment in daily life. Linked to this is the issue of capacity, both in terms of human resource capacity and technical skill sets. Capacity at all levels, from government and policy-making to implementation at the community level, is an ongoing challenge in the FSM, limiting what can be achieved even though intentions are good and ambitions high. Capacity building is therefore an essential element in biodiversity conservation.

There are three Objectives under this Theme.

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 1, 4 & 19.

This Theme relates to Sustainable Development Goals 2, 4, 8, 9, 12, 14, 15 & 17.

Theme 8, Objective 1: Human Capacity Building

To develop and strengthen the capacity of resource owners, traditional leaders, communities, technical staff and policy makers in the coordination and implementation of conserving, preserving and sustainably utilizing and developing the biodiversity of the FSM

Rationale

Human resource capacity is an ongoing issue in the FSM, at all levels of biodiversity conservation implementation. The need to develop this capacity stretches to resource owners, traditional leaders and communities owing to the traditional land tenure system in the FSM, and the prominent role of traditional culture and governance; engagement with these groups is pivotal to the success of conservation activities. There is also a need for research and activities supported by outside agencies to engage local people, such that knowledge and capacity can be developed within the country.

Various capacity-building initiatives have been established, including international scholarship programs for FSM students, as well as various skills development training programs at the state level. This Objective addresses a wide range of capacity issues across all stakeholders involved in biodiversity conservation.

At a regional level, capacity sharing and building is supported by organizations such as the Pacific Islands Managed & Protected Area Community (PIMPAC). PIMPAC delivers training and support for site-based management of protected areas, as well as facilitating learning exchanges between marine protected areas to foster peer-to-peer learning.

There are eighteen Actions under this Objective.

Level of application

This Objective applies at national and subnational levels.

Main related Aichi Biodiversity Targets

1 & 4.

<p>Other related Aichi Biodiversity Targets 19.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 1 & 2 Kosrae BSAP: Objective 1 Pohnpei BSAP: Objectives 4, 5, 7 & 8 Yap BSAP: Objectives 4 & 6</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
<p>Theme 8, Objective 2: Institutional Strengthening To develop and strengthen the capacity of national, state and municipal government agencies, NGOs and academic institutions in the coordination, education and implementation of activities for conserving, preserving and sustainably utilizing the biodiversity of the FSM.</p>
<p>Rationale Effective biodiversity conservation requires coordination at a number of levels and between multiple agencies and stakeholders. In addition to addressing human resource capacity challenges, it is also necessary to ensure that those stakeholder organizations involved in conservation initiatives have the capacity and ability to do so effectively. Initiatives such as Micronesians in Island Conservation support peer-learning to help strengthen the organizational and technical skills of the leaders and organizations involved in protected area management. This institutional strengthening Objective is therefore intended to help bolster existing efforts and ensure that those involved in biodiversity conservation in the FSM are adequately equipped to do so.</p> <p>There are five actions under this Objective.</p>
<p>Level of application This Objective applies at national and subnational levels.</p>
<p>Main related Aichi Biodiversity Targets 4 & 19.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objectives 1, 2 & 4 Pohnpei BSAP: Objective 7 Yap BSAP: Objectives 1 & 3</p>

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
<p>Theme 8, Objective 3: Public Awareness and Education</p> <p>To promote, encourage and strengthen the awareness and understanding of all stakeholders (local resource owners, traditional leaders, communities, government agencies, academic institutions, NGOs and policy makers) of the importance of protecting, preserving and ensuring sustainability of the biodiversity of the FSM</p>
<p>Rationale</p> <p>Engaging people in biodiversity conservation relies on an awareness of the need for conservation and the interlinkages between biodiversity, climate change and human health. Numerous awareness activities focusing on different issues and different audiences are undertaken in all states of the FSM. Awareness campaigns must be accessible to all in society, and this Objective identifies the need for translation of materials into all state languages.</p> <p>Engaging with the FSM youth is vital; an environmental student summer camp takes place in Chuuk, and a summer youth program has been established in Kosrae. Though various departments of the College of Micronesia are engaged in raising awareness and expanding knowledge with regard to biodiversity, there remains a need to increase the level of biodiversity-related education within the school systems of the FSM.</p> <p>There are eleven Actions under this Objective.</p>
<p>Level of application</p> <p>This Objective applies at national and subnational levels.</p>
<p>Main related Aichi Biodiversity Targets</p> <p>1.</p>
<p>Other related Aichi Biodiversity Targets</p> <p>19.</p>
<p>Other relevant information</p> <p>This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objective 1 Kosrae BSAP: Objectives 2 & 5 Pohnpei BSAP: Objectives 3, 4, 5, 6 & 8 Yap BSAP: Objectives 4 & 6</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 9. Resource Owners</p> <p>Strategy goal</p> <p>Traditional resource owners and communities are fully involved in the protection, conservation, preservation and sustainable use of the nation’s biodiversity</p> <p>An estimated 70% of terrestrial areas across the FSM as a whole are privately owned, rising to more than 90% in Chuuk and Yap. In these two states, near-shore coastal waters are also in private hands. As such, engagement with land and resource owners and communities is an essential first step in conservation activities. Furthermore, utilizing traditional knowledge provides a highly valuable element to conservation initiatives, and this type of approach has become an increasingly common feature of conservation projects across the FSM. The protected areas established under the Micronesia Challenge exemplify this, ensuring resource owners and communities are central to their development, enforcement and management.</p> <p>There are two Objectives under this Theme.</p> <p>This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 3, 4, 5, 6, 7 & 18.</p> <p>This Theme relates to Sustainable Development Goals 2 & 12.</p>

<p>Theme 9, Objective 1. Traditional Knowledge, Practices and Innovations</p> <p>Preserve traditional knowledge and practices of the cultures of the FSM that are important for the protection, conservation, preservation and sustainable use of biodiversity</p> <p>Rationale</p> <p>There is a wealth of valuable traditional knowledge that is highly relevant to biodiversity conservation and protection in the FSM. This may relate to where traditional fishing grounds lie, or the medical usage of particular species, as examples. However, accessing and recording traditional knowledge can be a challenge owing to the sharing of such knowledge beyond trusted individuals not being the norm. In addition, such knowledge is being lost due to competing social priorities and a decreasing interest in traditional knowledge from younger generations. This Objective seeks to address these key issues.</p> <p>There are three Actions under this Objective.</p> <p>Level of application</p> <p>This Objective applies at national and subnational levels.</p> <p>Main related Aichi Biodiversity Targets</p> <p>18.</p> <p>Other related Aichi Biodiversity Targets</p> <p>This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p> <p>Other relevant information</p> <p>This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objective 1 Kosrae BSAP: Objectives 2 & 5 Pohnpei BSAP: Objective 6 Yap BSAP: Objective 2</p>
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<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
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Theme 9, Objective 2: Empowering Resource Owners

Empowering resource owners and communities to conserve and sustainably manage biodiversity under suitable customary and modern resource management practices

Rationale
 Working with and empowering natural resource owners and communities in relation to biodiversity conservation has a number of benefits. It helps utilize valuable traditional knowledge, it helps to mainstream biodiversity and it also ensures that conservation and the sustainable use of biodiversity are undertaken in a way that meets national, state and local needs and priorities. Community-level initiatives build community capacity, allowing for programs to take place that government agencies and NGOs may not have the capacity to fulfil. Community-based conservation also has the potential to be self-policing. For example, traditional systems of justice may act as an effective deterrent to fishing in a community-defined no-take zone.

There are five Actions under this Objective.

Level of application
 This Objective applies at national and subnational levels.

Main related Aichi Biodiversity Targets
 3 & 18.

Other related Aichi Biodiversity Targets
 4, 5, 6 & 7.

Other relevant information
 This Objective relates to the following Objectives within the State BSAPs:
 Chuuk BSAP: Objectives 1 & 3
 Pohnpei BSAP: Objective 6
 Yap BSAP: Objectives 1 & 2

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
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<p>Theme 10. Mainstreaming Biodiversity</p> <p>Strategy goal All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity</p> <p>Mainstreaming biodiversity in the FSM is vital to ensuring all future social and economic development (and particularly development focused in those sectors identified within the FSM Strategic Development Plan 2004–2023), is undertaken sustainably. In addition to the national Strategic Development Plan each of the four states also has a Strategic Development Plan, each of which incorporate the importance of the conservation and sustainable use of biodiversity.</p> <p>A regional collaboration with Rare designed to empower fishing communities in the adoption of ecosystem-based climate adaptation measures for ongoing food and livelihood security will also address community and individual awareness with respect to the impacts of climate change on marine ecosystems and biodiversity. In this way, the project helps mainstream the concepts of biodiversity and ecosystems with those reliant on them for income and subsistence.</p> <p>There are five Objectives under this Theme.</p> <p>This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Targets 1, 3, 4 & 19.</p> <p>This Theme relates to Sustainable Development Goals 1, 4, 8, 12 & 17.</p>
<p>Theme 10, Objective 1: Population</p> <p>To enhance understanding of links between population and our islands’ carrying capacities</p> <p>Rationale While in recent years the population of the FSM has fallen somewhat to approximately 103,000 people today, population growth was high at the end of the 20th Century and is projected to increase over the next approximately 40 years to reach a maximum population of around 130,000 people. Population growth in the past has, and will again in the future, put pressure on the biodiversity of the FSM, and so a thorough understanding of the potential impact of this is important, as is the raising of awareness amongst the public with regard to the links between population density and the FSM’s natural resources. This Objective responds to these needs.</p> <p>There are four Actions under this Objective.</p> <p>Level of application This Objective applies at a national level.</p> <p>Main related Aichi Biodiversity Targets 1.</p> <p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p> <p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Yap BSAP: Objective 6</p>

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>
<p>Theme 10, Objective 2: Policy To integrate concepts of conservation and sustainable use of biodiversity into all relevant sectoral policies, programs and plans</p>
<p>Rationale The concepts of conservation and the sustainable use of biodiversity have been incorporated into the national and state Strategic Development Plans, and it is necessary to ensure that these concepts are included in any and all future economic and social policies at all levels of governance. Conservation and sustainable use of biodiversity must also be included in policies relating to financing of development and economic hardship.</p> <p>The FSM government has signed a memorandum of understanding with the Blue Prosperity Coalition to work with Blue Prosperity member organizations to develop a science-based plan of research, communications and the development of specific initiatives to enable the full implementation of the Actions under this Objective, as well as others within the NBSAP and state BSAPs and other ocean-focused policies and programs. This will enable the long-term protection and sustainable use of the FSM's marine resources and also help with the achievement of the nation's commitments under the Micronesia Challenge.</p> <p>There are four Actions under this Objective.</p>
<p>Level of application This Objective applies at national and subnational levels.</p>
<p>Main related Aichi Biodiversity Targets 2 & 3.</p>
<p>Other related Aichi Biodiversity Targets 19.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objective 4 Pohnpei BSAP: Objective 1</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Blue Prosperity Coalition</p>

<p>Theme 10, Objective 3: Multi-Sectoral Collaboration</p> <p>To strengthen and develop multi-sectoral collaboration in promoting conservation, preservation, and sustainable use of biodiversity in the FSM</p>
<p>Rationale</p> <p>The conservation and sustainable use of biodiversity within the FSM, and the implementation of the FSM NBSAP and state BSAPs, requires active involvement from all sectors of society and all levels of government. It is therefore necessary to build relationships and partnerships between government, NGOs, community-based organizations, the private sector etc. where these do not already exist, and to strengthen those already in place.</p> <p>The multi-sectoral approach that is required should also be applied to the field of biodiversity research.</p> <p>There are seven Actions under this Objective.</p>
<p>Level of application</p> <p>This Objective applies at national and sub-national levels.</p>
<p>Main related Aichi Biodiversity Targets</p> <p>2 & 4.</p>
<p>Other related Aichi Biodiversity Targets</p> <p>3 & 19.</p>
<p>Other relevant information</p> <p>This Objective relates to the following Objectives within the State BSAPs: Chuuk BSAP: Objective 2 Yap BSAP: Objectives 1 & 4</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 10, Objective 4: Legislation</p> <p>To ensure that appropriate national, state and municipal legislation is developed and effectively enforced to sustainably manage the FSM's biodiversity</p>
<p>Rationale</p> <p>While a revised NBSAP and revised state BSAPs were put in place in 2018, there are significant amounts of legislative, regulatory and policy requirements linked to their many Actions. Current legislation and regulations across a number of relevant sectors should also now be strengthened where applicable. This Objective responds to these needs.</p> <p>There are six Actions under this Objective.</p>
<p>Level of application</p> <p>This Objective applies at national and subnational levels.</p>

<p>Main related Aichi Biodiversity Targets This Objective does not directly contribute to any of the Aichi Biodiversity Targets.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This objective relates to the following objectives within the State BSAPs: Chuuk BSAP: Objective 3 Kosrae BSAP: Objective 1 Pohnpei BSAP: Objectives 2, 4 & 5 Yap BSAP: Objective 7</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 10, Objective 5: Environmental Impact Assessments To ensure that EIAs are conducted for all development projects to minimize any adverse impacts on the FSM’s biodiversity</p>
<p>Rationale Ensuring that environmental impact assessments (EIAs) are carried out for all development projects is essential to ensuring the sustainability of those projects and to limit their impact on the biodiversity of the FSM. These EIAs require expanding to include issues of gender and societal impacts. There are four Actions under this Objective.</p>
<p>Level of application This Objective applies at national and sub-national levels.</p>
<p>Main related Aichi Biodiversity Targets This Objective does not directly contribute to any of the Aichi Biodiversity Targets.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Kosrae BSAP: Objective 3</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Kosrae Biodiversity Strategy and Action Plan</p>

Theme 11. Financial Resources

Strategy goal

Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities

Financial capacity is an ongoing challenge to biodiversity conservation in the FSM, impacting all of the activities detailed within the NBSAP. Significant support comes through the Micronesia Conservation Trust, a regional organization facilitating sustained funding for projects at all levels that support the conservation and sustainable use of biodiversity across the Micronesia region. In addition, the Micronesia Challenge endowment fund provides support for those activities directly related to the Micronesia Challenge. Sustained funding does, however, remain an issue, particularly in the face of changing governmental priorities.

There are four Objectives under this Theme.

This Theme, as a whole and through the Actions under it, contributes to Aichi Biodiversity Target 20.

This Theme relates to Sustainable Development Goal 17.

Theme 11, Objective 1. State Commitment

To define support needed to implement and monitor progress on the NBSAP and state BSAPs at the national and state levels

Rationale

The FSM's first NBSAP was produced in 2002, with the first state BSAPs following 2 years later in 2004. Various National Reports have been produced over time fulfilling obligations to the CBD, however, a revised NBSAP was not produced until 2018. Many of the Actions from the original NBSAP remained unfulfilled at that time. This indicates the need for increased commitment from state governments, who are responsible for the management of natural resources, to the implementation and monitoring of progress on these plans, as well as from national government in its support of state government actions. This Objective recognizes the need for this, and the defining of the resources needed to enable this.

There are three Actions under this Objective.

Level of application

This Objective applies at a national and subnational levels.

Main related Aichi Biodiversity Targets

This Objective does not directly contribute to any of the Aichi Biodiversity Targets.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

Chuuk BSAP: Objectives 1 & 3

Pohnpei BSAP: Objective 5

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Chuuk Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

Theme 11, Objective 2: National Commitment

To provide, in accordance with national capabilities, long-term national financial support and incentives for undertaking conservation programs

Rationale

The FSM national government is responsible for facilitating funding to the state governments in relation to a great deal of the natural resource management activities that are required to enable implementation of the NBSAP and state BSAPs. It is therefore necessary for the national government to ensure adequate funding is provided, either from government budget allocations or through alternative routes. Sustainable conservation funding mechanisms may include conservation endowment funds or user fees. Strengthening of support for NGOs and community-based organizations will also be necessary.

There are five Actions under this Objective.

Level of application

This Objective applies at a national level.

Main related Aichi Biodiversity Targets

20.

Other related Aichi Biodiversity Targets

This Objective does not contribute to any other of the Aichi Biodiversity Targets.

Other relevant information

This Objective relates to the following Objectives within the State BSAPs:

Chuuk BSAP: Objectives 1 & 2

Pohnpei BSAP: Objective 7

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

[Chuuk Biodiversity Strategy and Action Plan](#)

[Pohnpei Biodiversity Strategy and Action Plan](#)

Theme 11, Objective 3: International Cooperation

To effectively acquire and allocate resources available under cooperation schemes with members of the international community

Rationale

While international financial support is vital for funding biodiversity conservation within the FSM, ensuring this funding is sustained is challenging. This situation can be improved through stronger relationships with regional and global funding organizations, and through comprehensive short and long-term financial planning. This Objective responds to these needs.

There are four Actions under this Objective.

<p>Level of application This Objective applies at a national level.</p>
<p>Main related Aichi Biodiversity Targets 20.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This objective relates to the following objectives within the State BSAPs: Pohnpei BSAP: Objective 7 Yap BSAP: Objective 4</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan Yap Biodiversity Strategy and Action Plan</p>

<p>Theme 11, Objective 4: Conservation Trust Fund</p>
<p>The continued establishment and development of the Micronesia Challenge Endowment Fund for implementation of the NBSAP and relevant biodiversity work</p>
<p>Rationale Ensuring the endowment funding mechanism that is in place linked to the Micronesia Challenge is formally established and effectively managed is essential to the funding of biodiversity activities across the FSM. This Objective recognizes this, and the need for supporting funding mechanisms at all levels, including down to the community level, to enable effective conservation. There are five Actions under this Objective.</p>
<p>Level of application This Objective applies at a regional and national level.</p>
<p>Main related Aichi Biodiversity Targets 20.</p>
<p>Other related Aichi Biodiversity Targets This Objective does not contribute to any other of the Aichi Biodiversity Targets.</p>
<p>Other relevant information This Objective relates to the following Objectives within the State BSAPs: Pohnpei BSAP: Objective 7</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Pohnpei Biodiversity Strategy and Action Plan</p>

Section II: Implementation measures taken, assessment of their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

This section provides information about a number of specific conservation measures of national significance that have been undertaken to support the Objectives contained within the FSM NBSAP, and outlined in Section I. This is by no means an exhaustive list of conservation activities within the nation but highlights some of the major initiatives supporting the implementation of the FSM NBSAP.

A number of these measures emphasize the powerful link between biodiversity and climate change, with conservation measures delivering important routes to climate adaptation.

The following conservation initiatives are discussed:

- The Micronesia Challenge
- Protected Area Network and National Protected Area Network Policy Framework
- FSM Shark sanctuary
- FSM for 10%
- Yela Ka Forest Conservation Easement
- UNESCO Biosphere Reserves: Utwe, Kosrae and Ant Atoll, Pohnpei
- Nan Madol UNESCO World Heritage Site

The Micronesia Challenge

The Micronesia Challenge was established in 2006 as a joint commitment to conservation by the governments of the FSM, the Republic of the Marshall Islands, the Republic of Palau, Guam, and the Commonwealth of the Northern Mariana Islands. Based upon the understanding that the future economic, cultural and political health of the islands of Micronesia depend upon the conservation of their marine and terrestrial resources, the Micronesia Challenge was established to conserve and protect those natural resources unique to the island nations in the Micronesia region of the Pacific. Through this conservation it also supports and preserves the traditional cultures across the region that are intrinsically bound to its natural resources, and increases the adaptive capacity of the region towards climate change by securing the natural resources and ecosystems needed to protect and sustain these small island states.

Since its initiation, the Micronesia Challenge has driven the creation of a host of mutually reinforcing projects across the Micronesia region, reflecting the region's diversity of cultures, resource tenure systems and traditional resource management practices. These projects engage stakeholders at all levels, from national and state government entities to NGOs and community groups and organizations, with necessary scientific input provided from international universities and conservation organizations.

At its inception, all parties committed to effectively conserve at least 30% of near-shore marine resources and 20% of terrestrial resources across Micronesia by 2020. In 2019 agreement was reached by all parties to extend these targets with a new commitment to effectively manage at least 50% of near-shore marine resources and 30% of terrestrial resources across Micronesia by 2030. Furthermore, the 2030 commitments include increasing the number of community members within each jurisdiction who are deriving livelihoods, including any type of income or revenue, from sustainably managed natural resources, and reducing invasive species and increasing restoration of habitats. Furthermore, as well as responding to climate change impacts through the protection and restoration of habitats, which supports climate adaptation, the Micronesia Challenge responds directly to climate change through the commitment to reduce the risks from climate impacts for communities within flood zones on low lying islands. These Micronesia Challenge 2030 commitments are aligned with the UN 2030 Agenda for Sustainable Development.

In working to achieve the Micronesia Challenge commitments, national and state governments within the FSM, the Micronesia Conservation Trust, numerous NGOs and community partners have all collaborated through participatory processes to identify and establish more than fifty state, municipal, and community-legislated and/or traditionally-declared protected areas. These cover an array of marine, terrestrial, and atoll ecosystems. In September 2018, the national government of the FSM endorsed the National Protected Areas Network Policy Framework (NPANPF), described separately within this report.

The FSM's Micronesia Challenge Endowment Fund was established as a result of the FSM's commitment to the Micronesia Challenge. This fund supports protected area management through contributions and investments, and further sustainable funding for protected areas is also being addressed through National and State governments.

Contribution to national targets or Aichi Biodiversity Targets

At the time of its coming into force, the Micronesia Challenge specifically contributed to global targets set out in the Millennium Development Goals, the Mauritius Strategy for Small Island Developing States and various Programmes of Work under the CBD. It also responded to the forthcoming development of the CBD Island Biodiversity program of work.

The Micronesia Challenge contributes to Actions under many of the Themes and Objectives within the FSM NBSAP. However, it most clearly directly contributes to the following Themes:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 3: Waste Management

Achievement of the Micronesia Challenge commitments would significantly exceed the targets laid out in Aichi Biodiversity Target 11. In addition, it contributes to Aichi Biodiversity Targets 1, 5, 6, 7, 10, 12, 14, 15 & 20.

The Micronesia Challenge supports Sustainable Development Goals 13, 14 & 15.

Assessment of effectiveness

Measure taken has been partially effective (progress begun but target not achieved)

Explanation of selection

That both the original (2020) Micronesia Challenge goals and the updated 2030 goals have been agreed to by leaders across the region, including the FSM, demonstrates a significant level of success in gaining such strong commitments to protect and conserve substantial amounts of the marine and terrestrial environments. At a national level, 39% of marine resources and 15% of terrestrial resources have been effectively conserved. A state-level PAN gap analysis demonstrates that progress has certainly been made toward the 2020 goals within the FSM, with Pohnpei State meeting or exceeding the 2020 marine and terrestrial goals, Chuuk exceeding the 2020 marine goal and Kosrae exceeding the 2020 terrestrial goal (specific progress can be seen under the Protected Area Network measure below).

It is the lack of comprehensive achievement of the 2020 targets alone that has driven this assessment of effectiveness. However, it should be recognized that this evaluation of the effectiveness reflects only one dimension of the Micronesia Challenge, and does not consider the full breadth and depth of its impact. Whilst the Micronesia Challenge has not yet achieved its goals with regard to the percentage of marine and terrestrial resources currently conserved, it has engendered engagement in conservation planning and natural resource management at all levels of society, raising awareness at the community

level and developing a network of protected areas (see the Protected Area Network measure below) of significant conservation value across the FSM.

Relevant websites, web links, and files

[Micronesia Challenge](#)

[Micronesia Challenge Regional Terrestrial Monitoring Initiative](#)

[FSM Protected Area Network state level gap analysis](#)

[FSM National Biodiversity Strategy and Action Plan](#)

Protected Area Network and National Protected Area Network Policy Framework

A large number of terrestrial and marine areas have been designated as protected areas through extensive and inclusionary consultation processes. These protected areas are state, municipal or community-legislated and/or traditionally declared and support the goals of the Micronesia Challenge, both the 2020 goals of effectively conserving 30% of marine resources and 20% of terrestrial resources and the newly-agreed 2030 goals of effectively managing 50% of marine resources and 30% of terrestrial resources. The purpose of these protected areas is biodiversity conservation and supporting the sustainable use of biodiversity, e.g. community-declared marine protected areas support ongoing sustainable fishing, and climate change adaptation. By including such protected areas in an officially recognized Protected Area Network (PAN) it is possible to ensure a standard of protection is achieved through the introduction of recognized criteria, with appropriate levels of monitoring, public awareness raising etc. being undertaken, and legally obliges managing entities to fulfil the management plans of each protected area network site. It also opens up funding to support ongoing management of the protected areas and the enforcement of regulations.

Previously, state and national legislation was inadequate to support the development of the PAN, however, in September 2018, the national government of the FSM endorsed the National Protected Areas Network Policy Framework (NPANPF). The NPANPF is supported by new state-level legislation in Chuuk, Pohnpei and Kosrae, and by existing legislation in Yap. The NPANPF provides for a transparent, fair, and efficient system of designation and management of this nationwide network of protected areas, inclusive of state-level protected area networks in Yap, Chuuk, Pohnpei, and Kosrae. It enables the national government to support the states in their protection of significant areas of biodiversity, key habitats and ecosystems, and other valuable resources.

Through the NPANPF, specific procedures have been put in place for those entities responsible for the management of specific protected areas to be able to apply to join the protected area management network, which makes long-term, sustained technical and financial assistance available. The operation of the NPANPF will be funded from a combination of national government allocations, state financial and in-kind support, and investment earnings from the FSM’s Micronesia Challenge Endowment Fund.

The current PAN extends to 39% of marine resources and 15% of terrestrial resources nationally, and varies by state with Pohnpei demonstrating the highest percentage protection.

	% of near-shore marine resources in Protected Area Network	% of terrestrial resources in Protected Area Network
Chuuk	34%	11%
Kosrae	4%	21%
Pohnpei	59%	20%
Yap	11%	0%

Each state has developed a spatial analysis to support the development of the PAN, identifying priority ecosystems and habitats for inclusion in the PAN and recommendations by municipality.

Contribution to national targets or Aichi Biodiversity Targets

The FSM’s NPANPF is designed to augment efforts at the state, municipal, and community levels throughout the country to achieve conservation and climate change adaptation goals, broadly reflecting commitments under the Micronesia Challenge, the CBD, and the United Nations Framework Convention on Climate Change.

The NPANPF contributes to Actions under many of the Themes and Objectives within the FSM NBSAP. However, it directly contributes to the following Themes:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 3: Waste Management

The NPANPF contributes to Aichi Biodiversity Targets 1, 2, 5, 6, 10, 12, 14 & 15.

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

The FSM PANFP was endorsed by the government in September 2018, bringing this policy into effect across the country.

Relevant websites, web links, and files

[Micronesia Challenge](#)

[FSM National Biodiversity Strategy and Action Plan](#)

[FSM Protected Area Network Framework Policy Resolution](#)

[All state spatial analyses](#)

FSM Shark Sanctuary

The waters of the FSM support an incredible abundance of biodiversity, including a variety of shark species. Amongst these are the endangered whale shark (*Rhincodon typus*) and hammerhead shark (*Sphyrna mokkaran*), as well as the vulnerable thresher shark (*Alopias pelagicus*) and the near threatened tiger shark (*Galeocerdo cuvier*) (IUCN, 2018). As top predators, sharks are essential to the health of marine ecosystems, maintaining a balance of other species and thereby supporting specific ecosystems such as sea grass beds.

In recognition of the vital role sharks play in the health of the FSM's marine environment, and following legislative action by all four states to protect sharks in their waters, national legislation was implemented in 2015 creating a shark sanctuary across the full extent of the FSM's Exclusive Economic Zone. This effectively protects sharks from being purposefully caught throughout the entirety of the FSM's 1,158,300 sq. miles/3,000,000 km² waters. Specifically, the legislation makes it illegal to catch sharks within FSM waters, with any animals caught required to be returned to the ocean whole, i.e. with fins attached, if still alive or landed whole if dead.

The FSM shark sanctuary is part of the wider Micronesia regional shark sanctuary, the first of its kind in the world, which covers 2.5 million sq. miles/6.5 million km² and comprises the waters of the FSM, the Republic of Palau, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands and Guam.

IUCN. (2018). Retrieved from: <http://www.iucnredlist.org> Accessed: July 2018).

Contribution to national targets or Aichi Biodiversity Targets

The FSM's shark sanctuary most clearly directly contributes to the following Themes within the FSM NBSAP:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 9: Resource Owners

The shark sanctuary contributes to Aichi Biodiversity Targets 1, 4, 6, 10 & 12.

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

The shark sanctuary came into full effect in 2015.

Relevant websites, web links, and files

[FSM Shark Sanctuary Law: Public Law No. 18-108](#)

[FSM National Biodiversity Strategy and Action Plan](#)

FSM for 10%

Recognizing the value of marine biodiversity and respecting both the jurisdiction of the four states over coastal waters up to 12 nautical miles from shore and the traditional tenure of these waters in Chuuk and Yap, a congressional bill was signed into law in 2017 setting aside FSM waters up to 12 nautical miles seaward of the territorial sea. This legislation, which impacts approximately 10% of the Exclusive Economic Zone, conserves these waters by prohibiting fishing and exploitation of natural resources within them. This ensures that from the shoreline to 24 nautical miles is a no-commercial fishing zone throughout the FSM. Valuable ecosystems are thereby protected from non-sustainable fishing activities, supporting the health of the FSM's marine environment.

The legislation was supported by the 'FSM for 10%' campaign. This campaign was designed to raise awareness around the need for sanctuaries and protected areas in FSM waters, and gained widespread public support for these, in particular including the expansion of the no-commercial-fishing zone. The campaign utilized banners, posters, stickers and t-shirts to raise awareness, distributing these to communities, women's groups, schools, and state and national leaders. Awareness activities were undertaken throughout the time that the proposed resolutions were waiting to be heard in the state legislative sessions, with the bill passed by FSM Congress in April 2017. The congressional act was signed by the FSM President later the same month.

Contribution to national targets or Aichi Biodiversity Targets

This legislation and the associated 'FSM for 10%' campaign directly contributes to the following Themes within the FSM NBSAP:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 10: Mainstreaming biodiversity

The legislation and 'FSM for 10%' campaign contribute to Aichi Biodiversity Targets 1, 5, 6, 11 & 14.

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

Legislation for the no commercial fishing to 24 nautical miles was enacted in April 2017.

Relevant websites, web links, and files

[FSM Public Law No. 19-167](#)

[FSM National Biodiversity Strategy and Action Plan](#)

Yela Ka Forest Conservation Easement

Kosrae state supports what is possibly the only remaining intact ka tree (*Terminalis carolinensis*) swamp forest worldwide. The ka tree is endemic to Kosrae and Pohnpei, growing to approximately 30m in height with large buttresses and forming swamp forest wetlands. While ka trees occur in Pohnpei, agriculture has fragmented the population to an extent where no coherent stands of ka trees exist today.

The Yela Ka Forest forms a significant portion of Kosrae's ka forests, amounting to approximately 400 acres of the island (approximately 1.5% of the entire island). It is positioned between the Yela watershed and montane cloud forest and the mangroves, seagrass beds and coral reefs of the coast. The forest supports the health of these surrounding ecosystems, trapping sediments being washed downstream that would otherwise enter the seagrass beds and coral reefs, and acting to prevent flood events for incoming tidal surges. The wetland provides habitat for various endemic and threatened plant and animal species (including the Kosrae flying fox and the ka trees themselves), as well as supporting traditional agroforestry and the utilization of forest resources for practices such as the construction of traditional canoes. The Yela Ka Forest therefore delivers a number of ecosystem services across the four key service groups; provisioning, regulating, supporting and cultural services, and is a unique ecosystem of immeasurable value. The Yela Ka Forest is recognized as a Priority Action Area for conservation under the nation-wide ecoregional conservation plan *A Blueprint for Conserving the Biodiversity of the Federated States of Micronesia*.

Threatened by the development of the islands road system that put the integrity of the swamp forest at risk and had the potential to disturb the vital water cycle, the Yela Ka Forest Conservation Easement was established in a collaboration between the landowners, the state government, The Nature Conservancy and the US Forest Service. The easement, which covers 87 acres of privately-owned freshwater swamp within the wider forest and is surrounded by publicly owned watershed, mangrove forests and sea-grass beds, was established such that the landowners retain ownership of the forest but give up certain access and usage rights in exchange for annual dividends paid from an easement trust fund. The landowners retain the right to specific sustainable, traditional uses of the forest and forest resources. Through the foregoing of any other types of usage the entire wetland ecosystem is conserved and protected. The easement therefore provides a sustainable source of income for the landowners while conserving this unique and essential ecosystem.

Contribution to national targets or Aichi Biodiversity Targets

The Yela Ka Forest Conservation Easement supports the Micronesia Challenge and directly contributes to the following themes within the FSM NBSAP:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 5: Ecological Sustainable Industry Development
- Theme 9: Resource Owners

The Yela Ka Forest Conservation Easement contributes to Aichi Biodiversity Targets 1, 2, 5, 7, 11, 12, 14, & 15.

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

The conservation easement model is working well, with appropriate monitoring in place. Dividends have been paid to the landowners, demonstrating that obligations are being met and the wetland is being appropriately protected.

Relevant websites, web links, and files

[US Forest Service article](#)

[Micronesia Challenge](#)

[FSM National Biodiversity Strategy and Action Plan](#)

UNESCO Biosphere Reserves: Utwe, Kosrae and Ant Atoll, Pohnpei

Kosrae State and Pohnpei State each host a UNESCO Biosphere Reserve; Utwe in Kosrae (designated in 2005) and Ant Atoll in Pohnpei (designated in 2007).

UNESCO Biosphere Reserves are designated areas consisting of terrestrial, coastal and marine ecosystems that demonstrate the promotion of conservation of biodiversity alongside its sustainable use. They integrate cultural and biological diversity, incorporating traditional knowledge into the management of the ecosystems within them.

The Utwe Biosphere Reserve is located on the south-west of Kosrae. Extending to 5.17 km², it incorporates lagoon, reef, mangrove, swamp, and river and stream habitats. The Reserve hosts a great variety of endemic and native species, including the ka tree (*Terminalis carolinensis*), the endangered bumphead Parrot Fish (*Bolbometopon muricatum*) and Napoleon wrasse (*Cheilinus undulatus*), and innumerable other significant species. The Reserve has a vision to increase the abundance of existing species and revive species that have not been present for some years, and development and human activity are limited to varying degrees in different zones of the Reserve.

The Ant Atoll Biosphere Reserve is located 18.5 km off the coast of Pohnpei. It is comprised of thirteen forested islets around a lagoon approximately 74 km² in size. It is the most biologically diverse atoll in Pohnpei State and is home to, amongst many other species, the green turtle (*Chelonia mydas*) and hawksbill turtle (*Eretmochelys imbricata*), as well as nesting seabirds and a healthy colony of giant clams. Ant Atoll is uninhabited but for a small number of caretakers. Ant Atoll is a popular destination for tourists.

Together these Biosphere Reserves support areas of local, national and global biodiversity importance, and provide examples of how the sustainable use of biodiversity and its conservation can successfully coexist.

Contribution to national targets or Aichi Biodiversity Targets

The Utwe and Ant Atoll Biosphere Reserves support the Micronesia Challenge and directly contribute to the following themes within the FSM NBSAP:

- Theme 1: Ecosystem Management
- Theme 2: Species Management
- Theme 5: Ecological Sustainable Industry Development
- Theme 9: Resource Owners

The Utwe and Ant Atoll Biosphere Reserves contribute to Aichi Biodiversity Targets 1, 2, 5, 6, 11, 12, 13 & 14.

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

The Utwe and Ant Atoll Biosphere Reserves are fully established with management plans in place.

Relevant websites, web links, and files

[Ant Atoll Biosphere Reserve](#)

[Utwe Biosphere Reserve](#)

[Utwe Biosphere Reserve Management Plan](#)

[Micronesia Challenge](#)

[FSM National Biodiversity Strategy and Action Plan](#)

Nan Madol World Heritage Site

Nan Madol is a UNESCO World Heritage site located off the south-east coast of Pohnpei. Inscribed onto the World Heritage list in 2016, it consists of over 100 islets constructed with megalithic basalt walls. The ceremonial center of the Saudeleur dynasty, which brought government to Pohnpei, construction of Nan Madol started around 900 years ago. Today, Nan Madol survives with no intrusion from development, no modification and no reconstruction.

Nan Madol is important in terms of biodiversity owing in large part to the marine environment within which it is situated. The outer reef slope adjacent to the site is one the richest fish sites in Pohnpei (Conservation Society of Pohnpei, 2006), while seagrass communities are present on the fringing reef platform north of Nan Madol (Conservation Society of Pohnpei, 2006). Part of the buffer zone surrounding Nan Madol is within the Nemwen Nahningi Stingray Sanctuary Marine Protected Area, and the mangroves within the site are considered important for biodiversity. There are also a number of Marine Protected Areas (MPAs) within close vicinity of Nan Madol, including Nemwen Na MPA and Nan Wap MPA, as well as the Senpehn Iehdau mangrove forest reserve. This places Nan Madol at a very important position in this network of protected areas.

Conservation Society of Pohnpei. (2006). A Rapid Ecological Assessment of the Coral, Fish and Seagrasses of Pohnpei, Ahnd and Pakin, Federated States of Micronesia – Findings and Recommendations. Pohnpei, FSM: Conservation Society of Pohnpei.

Contribution to national targets or Aichi Biodiversity Targets

The Nan Madol UNESCO World Heritage Site support directly contributes to the following themes within the FSM NBSAP:

- Theme 1: Ecosystem Management

Assessment of effectiveness

Measure taken has been effective (completely met or surpassed target)

Explanation of selection

Nan Madol is an inscribed UNESCO World Heritage site and forms part of a mosaic of officially recognized protected areas.

Relevant websites, web links, and files

[UNESCO page on Nan Madol](#)

[FSM National Biodiversity Strategy and Action Plan](#)

Section III: Assessment of progress towards each national target

This section examines the progress made towards each of the Objectives under the eleven Themes within the FSM NBSAP. This is based on an assessment of progress made 12 months after the development of the revised FSM NBSAP. While many of the activities described have, therefore, taken place within the past 12 months, some predate this but remain highly relevant, with ongoing progress. The FSM NBSAP document itself contains information on progress made since the Fifth National Report in 2014.

The assessments contained in this Section are made primarily based upon the outputs of four state-specific expert consultation meetings. These meetings brought together national and state government personnel, non-governmental personnel and expert community representatives.

Information regarding specific conservation activities included in this Section may overlap with that provided in other Sections, and vice versa. For example, activities within the FSM NBSAP also contribute to the Aichi Biodiversity Targets, as described in Section IV. Where detail is provided as “Additional information”, this should be considered as being examples of the types of activities being undertaken, rather than being an exhaustive account of all relevant completed or ongoing activities within the FSM.

Theme 1, Objective 1
Theme 1. Ecosystem Management
A full representation of the FSM’s marine, freshwater and terrestrial ecosystems are protected, conserved and sustainably managed, including selected areas designated for total protection
Objective 1: Research and monitoring
To undertake research and resource assessment/evaluation for the identification, documentation and monitoring of the FSM’s ecosystems for the implementation of appropriate resource management programs, including conservation and protected areas
Progress towards implementation
Progress towards target but at an insufficient rate
Progress towards this Objective was considered to be on target in Kosrae and Pohnpei, but at an insufficient rate in Chuuk and Yap.
Date assessment performed
November 2019
Additional information
Every state within the FSM continues to work with communities and resource owners to identify, protect and sustainably manage areas of the marine and terrestrial environments as part of the nation’s Protected Area Network. Protected areas are regularly monitored, for example annual coral monitoring surveys of all marine protected areas are undertaken. Both marine and terrestrial monitoring surveys are conducted under the nationwide Ridge to Reef program, though terrestrial surveys outside of this program are limited by a lack of financial resources in some states. Geographic Information System (GIS) mapping is being undertaken in all four states, while detailed mangrove maps have been produced for the island of Pohnpei.
A database supporting marine protected areas is in place under the Micronesia Challenge, which is maintained by the Marine Laboratory of the University of Guam, while the Micronesia Challenge Regional Terrestrial Monitoring Initiative provides data on United States Department of Agricultural Forest Service and Micronesia Challenge Forest Inventory Analysis plots. State departments also maintain their own data repositories.

<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the undertaking of regular comprehensive biological resource surveys of the nation’s terrestrial, marine and freshwater biodiversity, and periodically obtaining aerial imagery to update vegetation maps, document and evaluate land use practices and conditions of the aquatic environment.</p> <p>In addition to these, a key indicator is the establishment of state-level Protected Area Network legislation or regulations that support the national Protected Area Network Policy Framework. This has been achieved, with a Protected Area Network Coordinator in post in two of four states at the time of writing (November 2019).</p> <p>A further indicator includes the publication of research data, which is being made available through the Micronesia Challenge database, which is maintained by the Marine Laboratory of the University of Guam, and individual state departments.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan Micronesia Challenge Regional Terrestrial Monitoring Initiative</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>All the while the ability to conduct comprehensive monitoring surveys is limited (by financial or technical resource capacity), assessment of this objective relies on a combination of available data and expert opinion.</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>
<p>Monitoring</p> <p>The Micronesia Protected Area Management Effectiveness (MPAME) tool is being utilized across many protected areas, both marine and terrestrial.</p> <p>A Forest Inventory and Analysis program is in place in collaboration with the United States Forestry Service.</p>

<p>Theme 1, Objective 2</p>
<p>Theme 1. Ecosystem Management</p> <p>A full representation of the FSM’s marine, freshwater and terrestrial ecosystems are protected, conserved and sustainably managed, including selected areas designated for total protection</p>
<p>Objective 2: Conservation Areas</p> <p>To enhance the management of existing conservation areas and establish new areas to achieve a full representation of the FSM’s ecosystems and support climate change resilience building</p>
<p>Progress towards implementation</p> <p>Progress towards target but at an insufficient rate</p>

<p>Progress towards this Objective was considered to be on target in Kosrae and Pohnpei, but at an insufficient rate in Chuuk and Yap.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information The establishment and management of protected areas is an area of ongoing activity across the FSM, with a ridge-to-reef approach being adopted to ensure comprehensive and coherent protection of ecosystems.</p> <p>The FSM Department of Resources and Development, alongside other resource management agencies, is undertaking gap analysis research of the Protected Area Network to support its expansion.</p> <p>Management of protected areas across the FSM is undertaken through close collaboration between municipal governments, communities and resource owners. In Kosrae, a community-based ecosystem approach to fisheries management is being utilized, while in Pohnpei the Conservation Society of Pohnpei is working with communities and municipal governments to review and update Protected Area management plans. In Chuuk, state government agencies are working with three marine protected areas, with a memorandum of understanding signed in relation to one and plans in progress for two.</p> <p>Traditional conservation techniques are incorporated into all management plans. In Pohnpei and Yap, the Urban and Community Forestry Program is promoting agroforestry as a means to support sustainable agriculture.</p> <p>New protected areas are being established across the FSM, including (but not limited to) the Awak Watershed Basin in Pohnpei, the Peibi Mangrove Channel in Pohnpei, and the Kuop marine protected area in Chuuk.</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include undertaking regular gap analyses of protected areas to support the expansion of the Protected Area Network, and the integration of traditional conservation techniques into all management plans.</p>
<p>Other tools or means used for assessing progress Expert opinion</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level It is not currently possible to generate robust data for all protected areas, and therefore expert opinion must be relied upon to assess progress under this Objective.</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Monitoring The Micronesia Protected Area Management Effectiveness (MPAME) tool is being utilized across many protected areas, both marine and terrestrial.</p> <p>A Forest Inventory and Analysis program is in place in collaboration with the United States Forestry Service.</p>
<p>Theme 1, Objective 3</p>
<p>Theme 1. Ecosystem Management A full representation of the FSM's marine, freshwater and terrestrial ecosystems are protected, conserved and sustainably managed, including selected areas designated for total protection</p>
<p>Objective 3: Sustainable Use of Ecosystems To develop and implement effective management programs that ensure income-generating activities that use biodiversity resources do so sustainably</p>
<p>Progress towards implementation Progress towards target but at an insufficient rate.</p> <p>Progress towards this Objective was considered to be on target in Kosrae and Yap, but at an insufficient rate in Chuuk and Pohnpei.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information The development of legislation and enforcement of ecosystem management plans is a key area of action under this Objective. In Kosrae, regulations for the establishment and management of the Mahkontowe Conservation Area have been developed and are currently under public review. A community-based ecosystem approach to fisheries management is utilized in Kosrae for the management of marine protected areas. In Pohnpei there is state-level legislation supporting ecosystem management plans, with ongoing activities in Chuuk. In Yap, legislation is not utilized, with conservation and management addressed at the community and municipal levels.</p> <p>In terms of ensuring foreign investment that utilizes biodiversity is sustainable, there is some concern that new investment legislation in Pohnpei may jeopardize rather than protect biodiversity.</p> <p>There are plans in place for undertaking some economic valuations of ecosystems within the FSM, and this is recognized as an area of need.</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the legislating and enforcing of management plans, and the development of guidelines and protocols for the sustainable use of the nation's biodiversity.</p>
<p>Other tools or means used for assessing progress Expert opinion</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment Based on comprehensive evidence</p>

Explanation of confidence level There is clear evidence of the presence or absence of specific legislation, plans and protocols under this Objective.
Adequacy of monitoring to support assessment Partial

Theme 2, Objective 1
Theme 2. Species Management
The FSM’s native, endemic, and traditionally important species are protected and used sustainably, and its threatened species protected, for the benefit of the people of the FSM and the global community
Objective 1: Conservation of Species
To identify, preserve and conserve all native, endemic, threatened, and traditionally important species in the FSM through effective conservation programs
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress towards this Objective was considered to be on target in Kosrae and Yap, but at an insufficient rate in Chuuk and Pohnpei.
Date assessment performed
November 2019
Additional information
The protection of specific species in the FSM is ongoing, with species protection laws in place. For example, all four states have banned commercial harvesting of Napoleon wrasse (<i>Chelinus undulatus</i>) and bumphead parrotfish (<i>Bolbometopon muricatum</i>). While guidelines and procedures for registering species as threatened are not established, lists of threatened species do exist in different states.
Regular monitoring of the marine environment and of species such as the Napoleon wrasse, giant clam and bumphead parrotfish is ongoing, and in Pohnpei rules and regulations concerning size limits for particular fish species are under review with the Attorney General.
Seasonal and commercial bans on various species exists across the country, including (but not limited to) a nationally legislated seasonal ban on harvesting turtles, and a moratorium on the commercial harvesting of sea cucumbers in Chuuk.
Extensive efforts are made to deal with invasive crown of thorns starfish (<i>Acanthaster planci</i>) populations to help protect coral reef ecosystems, with over 2,000 collected in Kosrae alone in 2018. The collected starfish were distributed to local farmers for use as fertilizer.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the establishment and maintenance of a threatened species list, and the development and implementation of programs for the conservation and protection of native species and varieties from the destructive impact of alien and invasive species.
Other tools or means used for assessing progress
Expert opinion.
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan Digital Atlas of Micronesia
Level of confidence of assessment
Based on comprehensive evidence

<p>Explanation of confidence level There is evidence of the presence or absence of legislation, species lists etc. under this Objective.</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 2, Objective 2</p>
<p>Theme 2. Species Management</p> <p>The FSM’s native, endemic, and traditionally important species are protected and used sustainably, and its threatened species protected, for the benefit of the people of the FSM and the global community</p>
<p>Objective 2: Research and Monitoring</p> <p>To undertake research for the identification, documentation and monitoring of species contributing to the implementation of appropriate conservation and management programs</p>
<p>Progress towards implementation</p> <p>On track to achieve target.</p> <p>Progress towards this Objective was considered to be on track to achieve target in Chuuk, Kosrae and Pohnpei, but at an insufficient rate in Yap.</p>
<p>Date assessment performed</p> <p>November 2019</p>
<p>Additional information</p> <p>Monitoring of species occurs throughout the FSM via a number of regular activities, such as the annual coral monitoring that takes place in marine protected areas. This monitoring is undertaken with data analysis support from the Marine Laboratory of the University of Guam. Further data is produced by the National Oceanic and Atmospheric Administration. Forest Inventory and Analysis is undertaken in Kosrae and Pohnpei by the Micronesia Conservation Trust in collaboration with the United States Forest Service. These monitoring programs naturally include monitoring of species that are threatened, rare, endemic, commercially harvested and culturally significant. Data from monitoring supports the development or adaptation of management plans and protocols.</p> <p>The availability of funding for monitoring and research is well established, primarily under the Micronesia Challenge.</p> <p>Marine data for Chuuk are held by the Marine Laboratory of the University of Guam, by the Pohnpei State Department of Resource & Development in Pohnpei, and by the online FSM Environmental Data Portal supported by the Secretariat of the Pacific Regional Environment Programme (SPREP).</p>
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include undertaking ongoing research programs to complete the identification and current status of the nation’s flora and fauna, and developing research and monitoring programs to identify the presence and evaluate effects of invasive species and develop control and/or eradications programs where appropriate.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Federated States of Micronesia Environment Data Portal</p>
<p>Level of confidence of assessment Based on comprehensive evidence</p>
<p>Explanation of confidence level There is clear certainty around the programs in place that support this Objective.</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 2, Objective 3</p>
<p>Theme 2. Species Management The FSM's native, endemic, and traditionally important species are protected and used sustainably, and its threatened species protected, for the benefit of the people of the FSM and the global community</p>
<p>Objective 3: Sustainable Use and Management of Species To ensure the sustainable use and management of species for social and economic development</p>
<p>Progress towards implementation Progress towards target but at an insufficient rate.</p> <p>This level of progress was agreed by all states.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information Progress has been made on the evaluation or development of management plans for the harvesting of marine resources in Chuuk, Kosrae and Pohnpei. In Chuuk, this is dealt with by the state Strategic Development Plan and the Protected Area Network law. In Pohnpei there is a State Management Plan in place along with municipal management plans for Kitti and U, as well as community management plans.</p> <p>In terms of legislation to prevent destructive fishing, this is in place in Chuuk, Kosrae and Pohnpei. In Yap, prevention of destructive fishing is dealt with at the community level, rather than through legislation.</p> <p>The Kosrae Island Resource Management Authority and the Kosrae State Department of Resources and Economic Affairs oversee forest regeneration and rehabilitation. In Pohnpei there are watershed and mangrove reserves in place under Pohnpei state law. An example of forest regeneration can be seen in Chuuk, where the Nefo watershed is being replanted with native tree species. Also in Chuuk, a forest stewardship plan has been agreed in Fefen, which includes the conservation and replanting of specific big tree species such as the eeme tree (<i>Cynometra yokotai</i>), perfume flower plant (<i>Fagraea berteriana</i>), and the large aaw tree (<i>Ficus trukensis</i>).</p> <p>Sustainable production and resource use are ongoing throughout all states. For example, the Vital energy group has established the Coconut for Life program. This is a rehabilitation program for the country's coconut industry with the aim of sustainably producing crude coconut oil, copra meal and virgin coconut oil for export.</p>

<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the elimination of all destructive harvesting practices through legislation and enforcement, and the development and implementation of forest regeneration and rehabilitation programs.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan Vital Group Coconut for Life</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>

Theme 3, Objective 1
Theme 3. Genetic Resource Use
The FSM's genetic resources are accessible for utilization and all benefits derived are equitably shared amongst the stakeholders
Objective 1: Equitable Sharing of Benefits of Genetic Resources
To develop and implement appropriate national and state legislation measures to effectively access genetic resources and carry out fair and equitable sharing of benefits from the use of these resources
Progress towards implementation
No significant change
There was considered to be no significant change under this Objective in Chuuk, Pohnpei and Yap, with only Kosrae considering progress towards target to have been made but at an insufficient rate.
Date assessment performed
November 2019
Additional information
Progress under this objective has been very limited. Provisions for Access and Benefits Sharing are in place in Kosrae, which has an Access and Benefits Sharing Act, and in Pohnpei, which has an Access and Benefits Sharing Framework. Chuuk has a draft law, while there is no legislation in Yap. Despite these provisions, enforcement is not possible owing to a lack of overarching national legislation.
Progress on developing a code of conduct for research and bioprospecting, a permitting process and a tracking system for biodiversity research has been limited, with no significant change occurring at the national level.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with limited progress recognized for each of these. Examples of these include the development of national and state bioprospecting legislation, and the development of national and state legislation asserting royalty rights over final products involving FSM natural resources.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on partial evidence
Explanation of confidence level
This assessment draws on a mix of progress on individual Actions and expert opinion
Adequacy of monitoring to support assessment
Monitoring considered to be partial in Kosrae and Pohnpei, with no monitoring in place in Chuuk and Yap.

Theme 4, Objective 1
Theme 4. Agrobiodiversity
The conservation and sustainable use of agrobiodiversity contributes to the nation's development and the future food security of the FSM
Objective 1: Conservation and Sustainable Use of Agrobiodiversity
To develop and ensure the effective implementation of appropriate conservation measures for the sustainable use of agrobiodiversity
Progress towards implementation
Progress towards target but at an insignificant rate
Progress was considered to be on track to achieve target in Kosrae and Pohnpei but was considered to be at an insufficient rate in Chuuk and Yap.
Date assessment performed
November 2013
Additional information
A major initiative under this Objective has been the dry litter piggery project under the Ridge to Reef program, which is being implemented in all four states. This system utilizes wood chip produced from alien tree species (primarily African tulip) as litter in pig pens. This removes the need to wash out the pig pens into local watercourses as well as providing a sustainable source of fertilizer that can be distributed or sold to local farmers. The dry litter system therefore supports sustainable agricultural practices, as well as addressing issues of pollution, water security and alien species.
Sustainable agricultural practices are further supported in Kosrae with the promotion of composting, crop rotation and intercropping. In Pohnpei, an FSM-China Friendship Demonstration Farm has been opened at the College of Micronesia to serve as a center for agronomy practice courses. Amongst other things, the farm will demonstrate the production of Biogas.
Also in Pohnpei, regular farmer's day exhibitions and market day business license exemptions encourage the growing and selling of agricultural products. In Chuuk, the Chuuk Women's Council regularly organizes fares during which seedlings and produce from the Chuuk Women's Council's own nurseries are distributed to farmers and households.
The College of Micronesia FSM Land Grant Cooperative and Research Extension department in Chuuk collaborates with the Chuuk Women's Council on various agroforestry-related projects, conducts cooking demonstrations to promote the growth and use of local, traditional crops and collects cultivars of local food crops such as sweet taro and sweet potato, amongst other activities.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the promotion of methodologies for the sustainable use of agrobiodiversity, and the creation and maintenance of seed banks for all native, endemic, endangered and threatened species.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan

<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level Data generation is lacking, with the assessment relying on expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 4, Objective 2</p>
<p>Theme 4. Agrobiodiversity The conservation and sustainable use of agrobiodiversity contributes to the nation’s development and the future food security of the FSM</p>
<p>Objective 2: Promotion and Development To compile existing research findings and develop programs and projects critical to the development of agrobiodiversity</p>
<p>Progress towards implementation On track to achieve target</p> <p>Progress was considered to be on track to achieve target in Kosrae, Pohnpei and Yap, but was considered to be at an insufficient rate in Chuuk.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information Progress under this Objective has been good, with numerous projects being undertaken that focus on the development of agrobiodiversity related activities.</p> <p>Farm projects have been initiated with communities in Kosrae, supported by the Division of Agriculture under the Department of Resources and Economic Affairs as a way to enhance agroforestry. Also in Kosrae, traditional agrobiodiversity knowledge and practices have been used to produce a lunar calendar for planting and harvesting.</p> <p>In Chuuk value is being sought from agrobiodiversity through home gardening to sell produce. This is being supported through the distribution of seedlings to households by the College of Micronesia FSM Land Grant Cooperative and Research Extension, and the Chuuk Women’s Council. In Pohnpei an example of the production of value-added goods is flour made from taro and breadfruit.</p> <p>Research findings are being communicated to farmers through training programs and public education. In Pohnpei this is occurring through a number of routes, including the Pilot Farm project supported by the Chinese government and the College of Micronesia FSM Land Grant Cooperative and Research Extension.</p> <p>In all four states awareness activities are ongoing in relation to alien species that have the potential to impact agrobiodiversity. Species control and eradication is dependent upon funding availability, with further financial support possible under the Global Environment Fund’s sixth replenishment.</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development</p>

and expansion of existing markets for local species and varieties that can be produced on a sustainable basis, and the promotion of existing research findings with farmers through training programs and public education.
Other tools or means used for assessing progress Expert opinion
Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment Based on partial evidence
Explanation of confidence level Activities under this Objective primarily consist of discrete projects rather than being data driven
Adequacy of monitoring to support assessment Partial

Theme 4, Objective 3

Theme 4. Agrobiodiversity

The conservation and sustainable use of agrobiodiversity contributes to the nation's development and the future food security of the FSM

Objective 3: New Research and Development

To conduct relevant research critical to the development of agrobiodiversity

Progress towards implementation

On track to achieve target

Progress was considered to be on track to achieve target in Kosrae, Pohnpei and Yap, but was considered to be at an insufficient rate in Chuuk.

Date assessment performed

November 2019

Additional information

Progress is being made in all four states towards the development and implementation of research and development training programs for relevant agencies. In Kosrae this is being undertaken by the Department of Resources and Economic Affairs and the Kosrae Island Resource Management Authority, while in Chuuk training is being led by the College of Micronesia Land Grant Cooperative and Research Extension.

In Chuuk, a variety of programs and a range of research are being undertaken by the College of Micronesia Land Grant Cooperative and Research Extension. These include the testing of local swamp taro varieties for salt tolerance, and the building of collections of local varieties of sweet potato and sweet taro.

Expansion of the market for local varieties of commonly grown crops is pursued through the sale of plants at events such as the farmer's market day in Pohnpei and during Yap Day celebrations in Yap. Across the FSM the Coconut for Life program developed by the Vital energy group is intended to rehabilitate the coconut industry through the sustainable production of crude coconut oil, copra meal and virgin coconut oil for export.

<p>Though little progress has been made in developing state clearing house mechanisms, it is recognized that this function will be achieved through the Digital Atlas of Micronesia that is currently in development. In addition, a growing library of information is being developed by the Secretariat of the Pacific Regional Environment Programme.</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the conducting of research on the ecology of traditional agricultural methods and the monitoring of all introduced agricultural species.</p>
<p>Other tools or means used for assessing progress Expert opinion</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Vital Group Coconut for Life Digital Atlas of Micronesia Federated States of Micronesia Environment Data Portal</p>
<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 4, Objective 4</p>
<p>Theme 4. Agrobiodiversity</p> <p>The conservation and sustainable use of agrobiodiversity contributes to the nation’s development and the future food security of the FSM</p>
<p>Objective 4: Food and Health Security</p> <p>To enhance and strengthen food and health security through the use of sustainable agrobiodiversity practices</p>
<p>Progress towards implementation Progress towards target but at an insignificant rate</p> <p>Progress was considered to be on track to achieve target in Kosrae and Yap but was considered to be at an insufficient rate in Chuuk and Pohnpei.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information The production of local, nutritional foods is promoted in a number of ways, including programs conducted by the Chuuk Women’s Council and the College of Micronesia Land Grant Cooperative and Research Extension in Chuuk. These programs include cooking demonstrations, distribution of recipes utilizing local produce, and the distribution of seedlings of local crop varieties.</p>

Sustainable livestock breeding practices are being promoted by the Department of Resources and Economic Affairs and the College of Micronesia in Kosrae, and by the China-supported Pilot Farm in Pohnpei.

Indicators used in this assessment

The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and implementation of new and existing programs promoting the production of local, nutritional food, and the development and implementation of programs that increase local food production and enhance agrobiodiversity.

Other tools or means used for assessing progress

Expert opinion

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

Level of confidence of assessment

Based on limited evidence

Explanation of confidence level

Assessment of progress relies heavily on expert opinion

Adequacy of monitoring to support assessment

Partial

Theme 5, Objective 1
Theme 5. Ecological Sustainable Industry Development
Economic development activities in the FSM meet the needs of the population while sustaining resources for the benefit of future generations
Objective 1: Ecologically Sustainable Industries
To develop, utilizing the precautionary principle, long-term smart and ecologically sustainable industries that provide attractive incomes while minimizing the exploitation of and impact on natural resources
Progress towards implementation On track to achieve target. Progress was considered to be on track to exceed target in Kosrae and Pohnpei, however, there was considered to be progress towards target but at an insufficient rate in Yap, and showing no significant change in Chuuk.
Date assessment performed November 2019
Additional information In terms of pilot programs being undertaken to build partnerships between government and the private sector, there are a number of initiatives in place throughout the country. The dry litter piggery initiative under the Ridge to Reef program is one such example. In Kosrae, a program to re-seed giant clams and corals is underway in a number of municipalities. Supported by the state government, the clams will be grown on by local communities as a future sustainable income source. The government is promoting sustainable tourism, and in Pohnpei work is being done to ensure that tourist attractions are as eco-friendly as possible. The Kepirohi Falls in Pohnpei has recently undergone repair work to access paths and trails to make the waterfall more accessible to tourists with a view to increasing tourist numbers. User fees have been introduced at the Lelu, Tafunsak and Utwe Marine Parks in Kosrae. Production of eco plates utilizing betel leaves has been started in Yap, and by the Awak Farmers Association in Pohnpei, as a way to develop a small, ecologically sustainable industry that also tackles issues of pollution. Also in Pohnpei, fish smoking facilities have been created that will provide value-added products for human consumption, as well as producing animal feed and fertilizer. As described under Theme 4, the Coconut for Life program developed by the Vital energy group intends to rehabilitate the coconut industry through the sustainable production of crude coconut oil, copra meal and virgin coconut oil for export.
Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized by some states for each of these. Examples of these include the promotion and support of research and pilot programs that develop partnerships between government and the private sector to develop ecologically sustainable industries, and the exploration of the potential for ecologically benign industries that can drive economic growth.
Other tools or means used for assessing progress Expert opinion

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Vital Group Coconut for Life Yap Eco Leaf Plates</p>
<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 5, Objective 2</p>
<p>Theme 5. Ecological Sustainable Industry Development Economic development activities in the FSM meet the needs of the population while sustaining resources for the benefit of future generations</p>
<p>Objective 2: Income Generating Activities To develop and promote long-term ecologically sustainable income generating activities for resource owners and the community</p>
<p>Progress towards implementation Progress towards target but at an insufficient rate.</p> <p>Progress was considered to be on track to achieve target in Kosrae, but at an insufficient rate in all other states.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information There are a number of programs across the FSM that demonstrate progress under this Objective that also support various other Themes and Objectives. One examples of this is the dry litter piggery project, which aims to make pig farming more sustainable. This program is supported by a revolving fund that helps farmers with the cost of conversion of their pig pens, with supporting funds paid back by farmers through the sale of pigs and fertilizer. Another example is the rehabilitation of the coconut industry in partnership with the Vital energy group to support the sustainable production of coconut products.</p> <p>Government supported, community-based giant clam reseeded and culturing is being undertaken in Kosrae, sponge farming is ongoing in Pohnpei in a collaboration between local sponger farmers and the Marine and Environmental Research Institute of Pohnpei (MERIP), and seaweed farming is being undertaken in Kosrae. All of these support sustainable income generation for local communities.</p> <p>Production of eco plates utilizing betel leaves has been started in Yap, and by the Awak Farmers Association in Pohnpei, as a way to develop a small, ecologically sustainable industry that also tackles issues of pollution. Also in Pohnpei, fish smoking facilities have been created that will provide value-added products for human consumption, as well as producing animal feed and fertilizer.</p>

<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the identification and implementation of appropriate programs to promote and support sustainable income generating activities at the community level and provide financial incentives and capacity building to assist in the development of these programs, and the development of mechanisms to derive income and develop capacity from eco-education and eco-research industries.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan MERIP supported Pohnpei sponge farming</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>

Theme 5, Objective 3

Theme 5. Ecological Sustainable Industry Development

Economic development activities in the FSM meet the needs of the population while sustaining resources for the benefit of future generations

Objective 3: Energy Resources

To secure long-term efficient and sustainable energy sources that promote the use of technology contributing to energy conservation and the protection of biodiversity

Progress towards implementation

Progress towards target but at an insufficient rate.

Progress was deemed to be on track to achieve target in Kosrae, but at an insufficient rate in all other states.

Date assessment performed

November 2019

Additional information

Sustainable energy is an important issue for the FSM, which currently relies on diesel power plants run on imported fuel. There is a National Energy Policy in place along with a National Strategic Development Plan and Joint State Action Plans, all of which consider the importance of renewable energy and its role in the future sustainable development of the FSM. The more recent FSM Sustainable Energy Sector Development and Access Project (SEDAP) contains a component to scale up renewable energy generation in Chuuk, Yap and Kosrae.

Other activities aimed at renewable energy production and energy conservation include the increasing installation of solar panels in Kosrae and the use of LED lights in various public buildings in Pohnpei. The FSM Development Bank Home Energy Loan Program supports customers committed to building

<p>more energy efficient homes by offering preferential loan rates for buildings that meet certain energy efficiency standards.</p> <p>Wood is heavily relied upon as a fuel in the FSM, with pressure on mangroves to support demand. In Kosrae a system of rotating designated areas for harvest has been implemented to reduce the pressure on any single mangrove stand and to help conserve the integrity of the mangroves. In Pohnpei, between thirty and fifty Biogas systems have been constructed in association with piggeries as an alternative to wood fuel.</p> <p>The Okeanos Foundation is operating a small fleet of traditionally-styled, fossil fuel-free vessels to provide sustainable inter-island transportation. Traditionally-based sailing canoes, which can also operate on coconut oil, are utilized to transport goods to outer islands in Pohnpei and Yap.</p>
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development of national and state strategies for energy safety and efficiency, and the promotion of renewable energy resources and the provision of incentives for their use.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan National Energy Policy National Strategic Development Plan State Joint Action Plans FSM Sustainable Energy Sector Development and Access Project FSM Development Bank Home Energy Loan Program The Okeanos Foundation</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>

Theme 6, Objective 1
Theme 6. Biosecurity
Border control, quarantine and eradication programs are effectively protecting the FSM's native biodiversity from the impacts of alien invasive species
Objective 1: Policy and Legislation
To improve and strengthen appropriate national, state and municipal policies and legislation to ensure the effective management of biosecurity
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress was considered to be on track to exceed target in Kosrae, at an insufficient rate in Chuuk and Pohnpei, and showing no significant change in Yap.
Date assessment performed
November 2019
Additional information
Various national and state policies exist in relation to this Objective, including a national biosecurity bill. However, there is a further need for the FSM national government to consider issues of biosecurity in terms of state-to-state transportation.
As with issues in relation to invasive alien species, it is considered that further progress will be made with financial assistance through the sixth replenishment of the Global Environment Fund.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development of national and state policies and actions for the management of all biosafety issues, and the development of national and state policies and actions for the management of genetically modified organisms.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan Report for the Secretariat of the Pacific Regional Environment Programme
Level of confidence of assessment
Based on limited evidence
Explanation of confidence level
The progress defined under this Objective is reliant on expert opinion.
Adequacy of monitoring to support assessment
Partial

Theme 6, Objective 2
Theme 6. Biosecurity
Border control, quarantine and eradication programs are effectively protecting the FSM's native biodiversity from the impacts of alien invasive species
Objective 2: Control and Eradication
To identify and develop appropriate programs to ensure effective control and eradication of species threatening biodiversity
Progress towards implementation
On track to achieve target.
While progress is considered to be at an insufficient rate in Chuuk and Yap, it is considered to be on track to achieve target in Kosrae and on track to exceed target in Pohnpei.
Date assessment performed
November 2019
Additional information
Progress is being made across all of the Actions under this Objective, with capacity building around customs and quarantine an ongoing activity. Training and education of relevant personnel has been occurring in Kosrae in collaboration with the Pacific Community (SPC), the United States Department of Agriculture, the Secretariat of the Pacific Region Environmental Programme (SPREP), as well as through the utilization of local funds. Training has also been provided in Chuuk.
Control and eradication of invasive species is an ongoing challenge. Work has been undertaken to eradicate crown of thorns starfish (<i>Acanthaster planci</i>) from reef systems in Chuuk and Kosrae with more than 2,000 starfish collected in Kosrae in 2018 and given to farmers as fertilizer. Each state has its own priority list of alien and invasive species to address, with most focus being on plants. In Yap, mile-a-minute (<i>Mikania micrantha</i>) has been successfully eradicated, and coverage of cogon grass (<i>Imperata cylindrica</i>) has been reduced from more than 60 acres to less than 1 square foot. In Pohnpei, funding of \$200,000 has been received from the US Department of the Interior to support prevention and eradication efforts.
In terms of the export of endemic species, in Kosrae the collection and export of sea cucumber is overseen by the Kosrae Island Resource and Management Authority. In Pohnpei relevant legislation is being drafted to regulate the export of endemic species.
It is recognized that further progress is needed in relation to the screening of international and domestic watercraft entering the nation's ports and operating within the nation.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development of programs for the control of all endemic species being exported from the nation, and implementation of regional and international programs to protect native marine biodiversity on the high seas and all coastal ports.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan

<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

Theme 6, Objective 3

Theme 6. Biosecurity

Border control, quarantine and eradication programs are effectively protecting the FSM’s native biodiversity from the impacts of alien invasive species

Objective 3: Research and Monitoring

To undertake a systematic and scientific research and monitoring program to allow management of biosecurity threats

Progress towards implementation

Progress towards target but at an insufficient rate.

Progress under this Objective is considered to be on track to exceed target in Kosrae, on track to achieve target in Pohnpei, at an insufficient rate in Yap and showing no significant change in Chuuk.

Date assessment performed

November 2019

Additional information

Collaborating with outside agencies is an important element of work in relation to the identification and control of alien and invasive species across the FSM. In Kosrae, the Korean Institute of Ocean Science and Technology is supporting national and state government agencies in the research and assessment of introduced species. Further collaborations in relation to invasive species identification and control are in place in Kosrae with the Pacific Community (SPC) and the Korean National Institute of Biological Resources. In Pohnpei collaborations are in place between the Invasive Species Taskforce of Pohnpei (iSTOP) and the National Invasive Species Council of Palau, the Regional Invasive Species Council of Micronesia, and Pacific Invasive Species Network.

A list of aquatic and terrestrial invasive species in Pohnpei was completed in 2018.

Indicators used in this assessment

The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the review, evaluation, updating and prioritizing of lists of terrestrial and aquatic invasive species, and the increased collaboration with regional and international agencies to assist in the identification, control and eradication of invasive species.

Other tools or means used for assessing progress

Expert opinion

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

Level of confidence of assessment Based on limited evidence
Explanation of confidence level This assessment relies heavily on expert opinion
Adequacy of monitoring to support assessment Partial

Theme 7, Objective 1
Theme 7. Waste Management
All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation's biodiversity
Objective 1: Solid Wastes and Sewage
Provide an environmentally safe mechanism for the collection, storage and disposal of solid wastes and sewage within the nation to prevent further degradation of the environment and loss of biodiversity within the nation
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress was considered to be insufficient in Chuuk, Kosrae and Yap, and showing no significant change in Pohnpei.
Date assessment performed
November 2019
Additional information
Waste management is a priority issue across the FSM. In terms of assessing waste management needs and the development of appropriate programs, Chuuk, Kosrae and Yap have all developed Solid Waste Management Strategies, covering the periods 2018–2027, 2018–2027 and 2019–2028, respectively. These plans contain key targets relevant to each state in relation to the collection and disposal of household and commercial waste, recycling and the development of appropriate container deposit legislation. These mark significant progress for the states under this Objective. In Pohnpei, the Clean Pohnpei plan expired in 2018, and ongoing waste management assessments have been limited to animal waste with progress needed in other areas such as health and hospital waste.
Contamination of freshwater is being prevented throughout the FSM, with the dry litter piggery projects under the Ridge to Reef program playing a significant role in the management of freshwater pollution.
In terms of the reusing and recycling of wastes, it is considered that a lack of financial resources limits this in Kosrae. In Pohnpei, there is an aluminum can recycling program, with collected cans sent overseas, and in Yap aluminum cans, glass bottles and PET containers are subject to container deposit legislation, with refunds given to consumers and the recycling program operator for these items.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include state-level assessments to identify priority waste management and sewage needs, and the development and implementation of programs for the reuse and recycling of wastes, both within and outside the country.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Chuuk Solid Waste Management Strategy
Kosrae Solid Waste Management Strategy
Yap Solid Waste Management Strategy

Level of confidence of assessment Based on partial evidence
Explanation of confidence level Clear evidence of progress under some Objectives is demonstrable, while others rely on expert opinion.
Adequacy of monitoring to support assessment Partial

Theme 7, Objective 2

Theme 7. Waste Management

All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation's biodiversity

Objective 2: Petrochemicals

Provide an environmentally safe mechanism for the collection, storage and disposal of petrochemical wastes to prevent degradation of the environment and loss of biodiversity within the nation

Progress towards implementation

Progress towards the target but at an insufficient rate.

This level of progress was agreed by all states.

Date assessment performed

November 2019

Additional information

Petrochemical wastes create a challenge in the FSM, with limited capacity to collect and appropriately store them. In addition, the physical nature of the country's marine environment puts them at substantial risk of ship groundings and subsequent petrochemical pollution.

Dealing with petrochemical waste falls under the state Solid Waste Management Strategies. Specifically, in Kosrae, the Kosrae Island Resource Management Authority currently collects petrochemical wastes but there is no appropriate storage facility in place and no disposal program. In Pohnpei, petrochemicals can be taken to the Environmental Protection Agency for storage, and a new used oil recovery facility has been completed with a view to stored oil being exported for recycling or treatment.

In terms of petrochemical waste from shipwrecks, in Pohnpei the Environmental Protection Agency is responsible for this. In Chuuk, the Japan Mine Action Service is working to remove oil and other chemicals from Japanese World War II wrecks in Chuuk Lagoon, and to stabilize the structures of those wrecks. However, while waste from shipwrecks can be removed, there is a lack of capacity to remove the vessels themselves.

Indicators used in this assessment

The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and implementation of programs for the reuse and disposal of petrochemical wastes and for the collection and disposal of such wastes from shipwrecks.

Other tools or means used for assessing progress

Expert opinion

<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Chuuk Solid Waste Management Strategy Kosrae Solid Waste Management Strategy Yap Solid Waste Management Strategy</p>
<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

<p>Theme 7, Objective 3</p>
<p>Theme 7. Waste Management All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation’s biodiversity</p>
<p>Objective 3: Hazardous Chemicals Provide an environmentally safe mechanism to control and manage the use of hazardous chemicals and to develop and implement correct storage and disposal programs to prevent the degradation of the environment and loss of biodiversity within the nation</p>
<p>Progress towards implementation Progress towards target but at an insufficient rate.</p> <p>The level of progress was agreed in Chuuk, Pohnpei and Yap, while it was considered to be unknown in Kosrae.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information The three state Solid Waste Management Strategies that are in place do not cover non-petrochemical hazardous waste. However, as with petrochemical waste described under the previous Objective, hazardous chemical wastes are collected by the Kosrae Island Resource Management Authority in Kosrae, and in Pohnpei can be taken to the Environmental Protection Agency for storage. In Chuuk a collection system is in place, but no disposal strategy. In Yap regulations are in place for the safe handling and storage of hazardous chemicals, but these do not cover disposal. It is recognized that National Government assistance is needed in this regard.</p> <p>In terms of regulations, in Kosrae this is covered by the Kosrae State Code, and in Pohnpei while the Pohnpei Utilities Corporation have internal regulations there are no regulations around domestic usage of hazardous chemicals.</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and implementation of programs for the importation, handling, use and safe disposal of hazardous wastes (including lead batteries, pesticides, fertilizers, and chlorine) both within and outside the</p>

country, and the revision and further development of legislation and regulations on hazardous chemicals, including importation requirements.
Other tools or means used for assessing progress Expert opinion
Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment Based on partial evidence
Explanation of confidence level The situation in terms of facilities and regulations relating to the handling of hazardous waste is clear across the FSM
Adequacy of monitoring to support assessment Partial

Theme 7, Objective 4

Theme 7. Waste Management

All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation’s biodiversity

Objective 4: Pollution Emergencies

Enhance the nation’s capability to effectively respond to pollution emergencies to reduce negative impacts on the environment

Progress towards implementation

Progress towards target but at an insufficient rate.

Progress was considered to be at an insufficient rate in all states with the exception of Pohnpei, where it was considered to be on track to achieve target.

Date assessment performed

November 2019

Additional information

A National Disaster Response Plan has been in place since 2016, which outlines the arrangements for the national response to emergencies, including pollution emergencies. It is considered that the coordination between national and state governments is a challenge and the link between the two needs to be strengthened around this issue.

Pollution emergency preparedness training and drills are conducted across the FSM. In Kosrae, this is the responsibility of the Kosrae Island Resource Management Authority. In Pohnpei, the United States Navy conducts preparedness training every 4 years, and the Pohnpei Port Authority undertakes training in collaboration with United Airlines and conducts annual drills. In Yap, a State Preparedness and Response Plan is in place, however, there are no resources to implement the plan. In Chuuk, emergency drills are conducted regularly.

The FSM is a party to a number of relevant international agreements and protocols, including the Waigini Convention to ban the importation into forum island countries of hazardous and radioactive wastes and to control the transboundary movement and management of hazardous wastes within the

South Pacific Region, and the Stockholm Convention on Persistent Organic Pollutants. However, it is recognized that awareness around such agreements is sub-optimal. For example, in Pohnpei, not all state agencies are aware of which international agreements have been ratified.

Indicators used in this assessment

The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the enhancement and strengthening of links between National, State and Municipal governments with regard to coordination and response to petrochemical spills and other hazardous chemical emergencies, and ensuring relevant international agreements and protocols are endorsed by the FSM national government to better support state responses.

Other tools or means used for assessing progress

Expert opinion

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)
[FSM National Disaster Response Plan 2016](#)

Level of confidence of assessment

Based on partial evidence

Explanation of confidence level

This assessment draws on a mix of progress on individual Actions and expert opinion

Adequacy of monitoring to support assessment

Partial

Theme 7, Objective 5

Theme 7. Waste Management

All human-generated wastes are effectively managed to prevent or minimize environmental degradation, pollution and loss of the nation's biodiversity

Objective 5: Air and Noise Pollution

Provide an environmentally safe mechanism for the reduction of all activities that degrade the atmosphere and associated biodiversity

Progress towards implementation

Progress towards target but at an insufficient rate.

Progress was considered to be insufficient in Chuuk and Yap, showing no significant change in Pohnpei and unknown in Kosrae.

Date assessment performed

November 2019

Additional information

Air pollution and, in particular, noise and light pollution are not priorities for any of the states within the FSM. There are state regulations in Yap regarding air and noise monitoring and quality, however, no ongoing monitoring is undertaken. In Pohnpei noise disturbance regulations are in place in Kolonia, and municipal governments have their own laws. Air pollution legislation is also in place in Chuuk.

Overall, this is not considered a priority issue. It is noted, however, that there is no capacity to measure vehicle emissions, which may present a future problem given the numbers of cars, and particularly used

cars, being imported. For example, an average of 70 used cars per month are being imported into Pohnpei.
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and implementation of air and noise quality monitoring for residential and commercial premises, and the revision and further development of related legislation and regulation.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment</p> <p>Based on limited evidence.</p>
<p>Explanation of confidence level</p> <p>The lack of data supports the low prioritization of this Objective and the limited progress.</p>
<p>Adequacy of monitoring to support assessment</p> <p>No monitoring overall. Partial monitoring was identified in Yap state only</p>

Theme 8, Objective 1
Theme 8. Human Resources & Institutional Development
All citizens, residents and institutions of the nation are aware of the importance of biodiversity and have the technical knowledge, skills and capability to conserve, preserve and sustainably utilize, manage and develop all biodiversity within the nation
Objective 1: Human Capacity Building
To develop and strengthen the capacity of resource owners, traditional leaders, communities, technical staff and policy makers in the coordination and implementation of conserving, preserving and sustainably utilizing and developing the biodiversity of the FSM
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress was considered to be on track to achieve target in Kosrae, but at an insufficient rate in Chuuk, Pohnpei and Yap.
Date assessment performed
November 2019
Additional information
Human capacity is an essential element in the success of conservation initiatives but is often a challenge in the FSM. That being said, numerous capacity-building activities have been implemented and are ongoing throughout the country across a broad spectrum of topics, from waste management training to enforcement training.
Financial support for capacity building comes from a variety of sources. In Kosrae, the Kosrae Conservation and Safety Organization provides funding assistance to help communities and resource owners undertake conservation activities. In Pohnpei it is noted that not all relevant sectors are receiving adequate funding to build capacity, and in Yap seeking financial assistance from national and international entities is an ongoing process.
The involvement of communities/local individuals in the development of all program documentation is often inherent to conservation projects in the FSM, based upon their involvement in the development of project concepts and proposals. It was noted in Kosrae that communities are always welcome to be involved, and in Chuuk that this is not always required. Ongoing Adaptation Fund work in Pohnpei requires the involvement of local stakeholders and individuals.
Awareness of legal rights and procedures for reporting environmental offences is not deemed to be sufficient amongst the public. In Kosrae, the Kosrae Conservation and Enforcement Taskforce provides training and is able to deputize Community Conservation Officers. In Pohnpei the Community Conservation Network reports illegal activities, as do Community Conservation Officers, while in Yap communities take the responsibility for enforcing regulations.
Various training and education programs are implemented throughout the country. For example, the Women in Farming group in Kosrae have taken grant writing workshops. School-based educational activities take place in all states. A national environmental curriculum has been mandated but has not been adopted.
In terms of the Environmental Impact Assessment (EIA) process, all development projects require community consultations and awareness raising. Awareness activities are ongoing in Pohnpei, and training and awareness is conducted at the community level in Yap. It is noted, however, that in

<p>Pohnpei there is a lack of coordination between the agencies involved in the process, with EIAs often being undertaken part way through a project.</p> <p>The Bill Raynor Micronesia Challenge scholarship program and the Association for Promotion of International Cooperation, Bill Raynor and Sophia University scholarship program both support individuals from Micronesia in pursuing graduate qualifications in conservation, resource management and environmental science. These programs are now well established and running successfully, with two recent graduates from the Association for Promotion of International Cooperation, Bill Raynor and Sophia University scholarship program having returned to the FSM and working in resource management-related positions.</p>
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include developing and implementing capacity building training for local communities, resource owners and traditional leaders on the principals and benefits of EIA, so EIA activities can be applied to development projects at community levels, and establishing multi-sectoral groups of local experts to co-ordinate and undertake biological surveys and monitoring programs, and seek outside assistance when necessary.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>

<p>Theme 8, Objective 2</p>
<p>Theme 8. Human Resources & Institutional Development</p> <p>All citizens, residents and institutions of the nation are aware of the importance of biodiversity and have the technical knowledge, skills and capability to conserve, preserve and sustainably utilize, manage and develop all biodiversity within the nation</p>
<p>Objective 2: Institutional Strengthening</p> <p>To develop and strengthen the capacity of national, state and municipal government agencies, NGOs and academic institutions in the coordination, education and implementation of activities for conserving, preserving and sustainably utilizing the biodiversity of the FSM</p>
<p>Progress towards implementation</p> <p>Progress towards target but at an insufficient rate.</p> <p>Progress was considered to be on track to achieve target in Kosrae, but at an insufficient rate in Chuuk, Pohnpei and Yap.</p>
<p>Date assessment performed</p> <p>November 2019</p>

<p>Additional information</p> <p>Behavioral change projects have been undertaken in Kosrae in collaboration with Rare, and project management training has been delivered through the Micronesia Conservation Trust with support from the Ridge to Reef program and The Nature Conservancy.</p> <p>Various sources of financial assistance to support institutional strengthening have been secured, including the Micronesia Conservation Trust, federal grants, FSM Congress, and the Joint Economic Management Committee under the Compact of Free Association with the United States.</p> <p>The integration of traditional and modern conservation management practices to improve agrobiodiversity is being addressed in all four states. In Kosrae, a lunar calendar has been developed using traditional knowledge to guide planting and harvesting. In Pohnpei it is identified that formal recognition from the government about traditional approaches to conservation is needed.</p>
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include developing and implementing institutional strengthening training programs for national, state and municipal government agencies, educational institutions and NGOs involved in the formation and implementation of conservation related programs, and the securing of financial assistance to do so.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment</p> <p>Based on partial evidence</p>
<p>Explanation of confidence level</p> <p>This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment</p> <p>Partial</p>

<p>Theme 8, Objective 3</p>
<p>Theme 8. Human Resources & Institutional Development</p> <p>All citizens, residents and institutions of the nation are aware of the importance of biodiversity and have the technical knowledge, skills and capability to conserve, preserve and sustainably utilize, manage and develop all biodiversity within the nation</p>
<p>Objective 3: Public Awareness and Education</p> <p>To promote, encourage and strengthen the awareness and understanding of all stakeholders (local resource owners, traditional leaders, communities, government agencies, academic institutions, NGOs and policy makers) of the importance of protecting, preserving and ensuring sustainability of the biodiversity of the FSM</p>
<p>Progress towards implementation</p> <p>Progress towards target but at an insufficient rate.</p>

<p>Progress was considered to be on track to exceed target in Kosrae, on track to achieve target in Pohnpei, and at an insufficient rate in Chuuk and Yap.</p>
<p>Date assessment performed November 2019</p>
<p>Additional information Public awareness programs play a major role in the success of conservation initiatives at both national and state levels. These range from public awareness posters on the benefits of composting and newspaper articles regarding invasive species in Pohnpei to campaigns relating to the Yela Ka Forest Conservation Easement and Utwe Biosphere Reserve in Kosrae.</p> <p>In terms of public awareness around environmental legislation, this is somewhat limited by a lack of resources. In Kosrae, awareness raising was conducted around the 'FSM for 10%' campaign extending the commercial no fishing zone out to 24 nautical miles from the shoreline. In Pohnpei, interns from the College of Micronesia translate awareness posters for the Pacific Community (SPC), and in Chuuk awareness raising is focused on some, but not all, environmental legislation.</p> <p>Awareness of proper sanitation practices, waste management and pollution programs is increasing, with work being conducted in Yap under an Adaptation Fund project, Environmental Protection Agency-conducted programs in Pohnpei, and outreach on waste management in Kosrae led by the Kosrae Island Resource Management Authority and the Kosrae Conservation and Safety Organization.</p> <p>Dissemination and sharing of information have been improved through the information portal developed and hosted by the Secretariat of the Pacific Regional Environment Programme (SPREP).</p>
<p>Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include increasing public awareness on the functions and benefits of conserving and sustainably utilizing biodiversity, and increasing public awareness on legislation relating to biodiversity.</p>
<p>Other tools or means used for assessing progress Expert opinion</p>
<p>Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan Federated States of Micronesia Environment Data Portal</p>
<p>Level of confidence of assessment Based on partial evidence</p>
<p>Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion</p>
<p>Adequacy of monitoring to support assessment Partial</p>

Theme 9, Objective 1
Theme 9. Resource Owners
Traditional resource owners and communities are fully involved in the protection, conservation, preservation and sustainable use of the nation's biodiversity
Objective 1. Traditional Knowledge, Practices and Innovations
Preserve traditional knowledge and practices of the cultures of the FSM that are important for the protection, conservation, preservation and sustainable use of biodiversity
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress under this Objective is considered to be on track to exceed target in Kosrae, on track to achieve target in Yap, at an insufficient rate in Pohnpei and showing no significant change in Chuuk.
Date assessment performed
November 2019
Additional information
Traditional knowledge is extremely important in the FSM, playing a large role in everyday life. However, the recording and preservation of traditional knowledge is neither comprehensive nor consistent. In Kosrae, the State Historic Preservation Office maintains archives of information that include traditional knowledge. In Pohnpei, though there have been discussions with the Historic Preservation Office, records of traditional knowledge have not been biodiversity-specific, and no specific entity is currently compiling this type of information.
Traditional knowledge is captured in conservation management plans such as those developed at the community level for marine protected areas. In Kosrae, the Kosrae Conservation and Safety Organization are undertaking a climate-focused project that is specifically aimed at utilizing traditional knowledge.
There are royalty acts in place in Kosrae and Yap to ensure benefits from the use of natural resources overseas are returned to the states, but nationwide legislation on Access and Benefit Sharing is not in place, as discussed under Theme 3.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and maintenance of a register of traditional knowledge, practices and innovations important for biodiversity conservation, and the development of national and state legislation to protect traditional knowledge, practices and innovations and provide a mechanism for benefit sharing.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on partial evidence
Explanation of confidence level
This assessment draws on a mix of progress on individual Actions and expert opinion

Adequacy of monitoring to support assessment

Partial

Theme 9, Objective 2**Theme 9. Resource Owners**

Traditional resource owners and communities are fully involved in the protection, conservation, preservation and sustainable use of the nation's biodiversity

Objective 2: Empowering Resource Owners

Empowering resource owners and communities to conserve and sustainably manage biodiversity under suitable customary and modern resource management practices

Progress towards implementation

On track to achieve target.

Progress was considered to be on track to exceed target in Kosrae and Pohnpei, on track to achieve target in Yap, but showing no significant change in Chuuk.

Date assessment performed

November 2019

Additional information

Private ownership of natural resources is extensive in the FSM, and so the engagement of resource owners in the conservation and sustainable management of biodiversity is essential. Examples of this can be seen in Kosrae, where landowning families are vital to the ongoing successful conservation of both the Yela Ka Forest Conservation Easement and the Olum Watershed. Across the FSM, local communities are crucial to the initiation and ongoing management of marine protected areas.

In Pohnpei, communities are engaged in forest conservation and management through the development of Community Forest Stewardship Plans. All municipalities in Pohnpei also have their own laws relating to community use of biodiversity, while in Kosrae the Kosrae Conservation and Environment Taskforce is in place. This group comprises community members as well as personnel from the Kosrae Conservation and Safety Organization, the Kosrae Island Resource Management Authority, the Department of Resources and Economic Affairs and local and state police to enforce municipal and state environmental regulations.

In Yap, conservation activities are initiated, implemented and regulated at the community level, ensuring engagement from resource owners and communities.

Indicators used in this assessment

The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and implementation of programs for resource owners, traditional leaders, communities and municipalities to be responsible for the conservation and sustainable use of biodiversity, and the encouragement of these groups to fully participate in the formulation and implementation of programs for the conservation and sustainable use of biodiversity.

Other tools or means used for assessing progress

Expert opinion

Relevant websites, web links, and files

[FSM National Biodiversity Strategy and Action Plan](#)

Level of confidence of assessment Based on partial evidence
Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion
Adequacy of monitoring to support assessment Partial

Theme 10, Objective 1
Theme 10. Mainstreaming Biodiversity
All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity
Objective 1: Population
To enhance understanding of links between population and our islands' carrying capacities
Progress towards implementation
Progress towards target but at an insufficient rate.
This level of progress was agreed by all states.
Date assessment performed
November 2019
Additional information
A clearer understanding of the link between population, natural resource use and sustainable development would be useful in the FSM owing to the size of the islands and the limits that exist on available resources. The Micronesia Challenge database provides some supporting information. However, there has been no real progress on the development of indicators of sustainable development.
Progress is considered to have been made in all states with regard to the development of health programs supporting responsible parenthood. In Kosrae this includes the Personal Responsibility Education Program aimed at mothers in the early stages of pregnancy.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development and monitoring of indicators of sustainable development, and the implementation of public health programs that support responsible parenthood.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on limited evidence
Explanation of confidence level
This assessment relies heavily on expert opinion
Adequacy of monitoring to support assessment
Partial

Theme 10, Objective 2
Theme 10. Mainstreaming Biodiversity
All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity
Objective 2: Policy
To integrate concepts of conservation and sustainable use of biodiversity into all relevant sectoral policies, programs and plans
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress towards this target is considered be at an insufficient rate in Kosrae and Pohnpei, and showing no significant change in Chuuk and Yap.
Date assessment performed
November 2019
Additional information
Concepts of biodiversity and sustainable development have been incorporated into all state action plans, and in the National Tourism Plan. However, no real progress has been made toward developing a population policy related to environmental and resource carrying capacities, sustainable financing and economic hardships. Similarly, a national-level NBSAP awareness campaign is still to be developed.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include incorporating the concepts of biodiversity conservation into all future national, state and municipal social and economic policies and development strategies, and the development of a national-level NPSAP awareness campaign.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on limited evidence
Explanation of confidence level
The assessment of progress under this Objective relied heavily upon expert opinion
Adequacy of monitoring to support assessment
Partial

Theme 10, Objective 3
Theme 10. Mainstreaming Biodiversity
All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity
Objective 3: Multi-Sectoral Collaboration
To strengthen and develop multi-sectoral collaboration in promoting conservation, preservation, and sustainable use of biodiversity in the FSM
Progress towards implementation
Progress towards target but at an insufficient rate.
This level of progress was agreed by all states.
Date assessment performed
November 2019
Additional information
Partnerships and collaborations with external parties are essential to the conservation of FSM biodiversity, helping deliver necessary financial and technical capacity. Many such collaborations are ongoing throughout the country, such as the UNDP-supported Ridge to Reef program. Further examples include ongoing projects in partnership with the Korea Institute of Ocean Science and Technology in Chuuk, the climate adaptation projects being undertaken by the Women in Farming group in Kosrae and supported by The Nature Conservancy, and work being undertaken by the Invasive Species of Pohnpei Taskforce in collaboration with the Palau National Invasive Species Council and the Regional Invasive Species Council.
Ongoing monitoring activities, such as the annual coral monitoring of marine protected areas, bring together multi-disciplinary teams of domestic and international experts, and it is felt that some progress has been made in ensuring that when such groups are formed they represent all key sectors.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include enhancing the collaboration and assistance from regional and international agencies to assist the nation's stakeholders, and the establishment of a multi-sector team of experts to conduct biological research, resource evaluations and monitoring on the FSM biodiversity.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on limited evidence.
Explanation of confidence level
Uncertainty over some assessments was highlighted, with expert opinion a major factor.
Adequacy of monitoring to support assessment
Partial

Theme 10, Objective 4
Theme 10. Mainstreaming Biodiversity
All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity
Objective 4: Legislation
To ensure that appropriate national, state and municipal legislation is developed and effectively enforced to sustainably manage the FSM's biodiversity
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress under this Objective was considered to be on track to achieve target in Pohnpei, but at an insufficient rate in Chuuk, Kosrae and Yap.
Date assessment performed
November 2019
Additional information
Environmental legislation has been strengthened in various ways throughout the FSM. For example, in Chuuk, the Clean Environment Act of 2018 will come into force in January 2020. Among other things, this will phase out single use plastic shopping bags and result in the State removal of unclaimed vehicles. In Kosrae the State Sanitary Pigpen Regulation is under review.
Also in Kosrae, regulation enforcement is being supported through the establishment of the Kosrae Conservation and Enforcement Taskforce. This group comprises community members as well as personnel from the Kosrae Conservation and Safety Organization, the Kosrae Island Resource Management Authority, the Department of Resources and Economic Affairs and local and state police to enforce municipal and state environmental regulations.
It is recognized that no progress has been made with regard to developing ecological planning based on an assessment of the carrying capacities of the islands of the FSM.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the further development of national, state and municipal capabilities for the enforcement of biodiversity legislation, and the development of mechanisms and a legal framework regulating access to traditional knowledge, intellectual property issues, genetic resources and bioprospecting.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Based on partial evidence
Explanation of confidence level
This assessment draws on a mix of progress on individual Actions and expert opinion

<p>Adequacy of monitoring to support assessment Partial</p>
<p>Theme 10, Objective 5</p>
<p>Theme 10. Mainstreaming Biodiversity</p> <p>All economic and social activities of the FSM take full account of impacts on and fully consider sustainability of biodiversity</p>
<p>Objective 5: Environmental Impact Assessments</p> <p>To ensure that EIAs are conducted for all development projects to minimize any adverse impacts on the FSM’s biodiversity</p>
<p>Progress towards implementation</p> <p>Progress towards target but at an insufficient rate.</p> <p>Progress was considered to be on track to exceed target in Kosrae, on track to achieve target in Pohnpei, and at an insufficient rate in Chuuk and Yap.</p>
<p>Date assessment performed</p> <p>November 2019</p>
<p>Additional information</p> <p>Some progress is considered to have been achieved for all Actions under this Objective. Environmental Impact Assessment (EIA) regulations and templates are in place across the States. In terms of the EIA process, all development projects require community consultations and awareness raising. Awareness activities are ongoing in Pohnpei, and training and awareness is conducted at the community level in Yap. It is noted, however, that in Pohnpei there is a lack of coordination between the agencies involved in the process, with EIAs often being undertaken part way through a project.</p>
<p>Indicators used in this assessment</p> <p>The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the further development and regular review of relevant state and municipal EIA legislation and policies as they relate to biodiversity, and the expansion of the scope of EIAs to include gender and social impacts.</p>
<p>Other tools or means used for assessing progress</p> <p>Expert opinion</p>
<p>Relevant websites, web links, and files</p> <p>FSM National Biodiversity Strategy and Action Plan</p>
<p>Level of confidence of assessment</p> <p>Based on limited evidence</p>
<p>Explanation of confidence level</p> <p>This assessment was based upon expert opinion, with limited further information provided</p>
<p>Adequacy of monitoring to support assessment Partial</p>

Theme 11, Objective 1
Theme 11. Financial Resources
Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities
Objective 1. State Commitment
To define support needed to implement and monitor progress on the NBSAP and state BSAPs at the national and state levels
Progress towards implementation
Progress towards target but at an insufficient rate. Progress was considered to be at an insufficient rate in Chuuk, Kosrae and Pohnpei, and showing no significant change in Yap.
Date assessment performed
November 2019
Additional information
Progress under this Objective toward implementing the FSM NBSAP and state BSAPs is primarily related to the strengthening of support for community-based NGOs and other community organizations that are essential stakeholders in conservation activities. Availability of financial resources to strengthen the support of these organizations has increased under the Protected Area Network legislation.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the determination of necessary staffing and resources to carry out the NBSAP, and establishing incentives to supports its implementation.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Limited
Explanation of confidence level
This assessment relies heavily on expert opinion owing to the limitations of insight into state financial situations
Adequacy of monitoring to support assessment
Partial

Theme 11, Objective 2
Theme 11. Financial Resources
Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities
Objective 2: National Commitment
To provide, in accordance with national capabilities, long-term national financial support and incentives for undertaking conservation programs
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress was considered to be on track to exceed target in Kosrae, at an insufficient rate in Chuuk and Yap, and showing no significant change in Pohnpei.
Date assessment performed
November 2019
Additional information
The provision of long-term financial support varies between States. For example, in Yap, while a Joint State Action Plan is in place, there is currently insufficient funding to fully implement the activities defined within it. In Kosrae, a Protected Area Fund bill is in place to support conservation of Protected Areas under the Protected Area Network legislation, however, the necessary regulations to support the bill have yet to be developed.
It was noted that there is a lack of understanding of the need to support conservation efforts by state leadership.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development of sustainable conservation funding mechanisms within the nations, and the strengthening and improving of support for conservation/biodiversity programs for NGOs and community-based organizations.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment
Limited
Explanation of confidence level
This assessment relies heavily on expert opinion owing to limitations on available financial information.
Adequacy of monitoring to support assessment
Partial

Theme 11, Objective 3
Theme 11. Financial Resources
Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities
Objective 3: International Cooperation
To effectively acquire and allocate resources available under cooperation schemes with members of the international community
Progress towards implementation
Progress towards target but at an insufficient rate.
Progress was considered to be on track to achieve target in Kosrae, and at an insufficient rate in all other states.
Date assessment performed
November 2019
Additional information
Resources are provided by the international community for biodiversity conservation work in the FSM on an ongoing basis, with new partners being continually sought.
Linkages with donor foundations have grown with new partnerships including the Blue Prosperity Coalition. Significant ongoing initiatives, such as the Ridge to Reef program, are supported by UNDP, while the Global Environment Fund is a source of support for a variety of activities. More recently, funding through the Adaptation Fund has been sought for projects linking biodiversity conservation with climate adaptation.
Secured long-term funding continues to be a challenge in the FSM, however, efforts are continually being made to address this.
Indicators used in this assessment
The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the development of short and long-term financial plans for undertaking sustainable biodiversity management and conservation programs, and the maintenance of a database of all potential donor assistance programs that is distributed to all relevant agencies.
Other tools or means used for assessing progress
Expert opinion
Relevant websites, web links, and files
FSM National Biodiversity Strategy and Action Plan Waitt Institute & Blue Prosperity Coalition in FSM
Level of confidence of assessment
Limited
Explanation of confidence level
This assessment relies heavily on expert opinion owing to a lack of specific financial data
Adequacy of monitoring to support assessment
Partial

Theme 11, Objective 4
Theme 11. Financial Resources
Local, regional and international financial sources provide for the long-term financial sustainability of all conservation and biodiversity-related activities
Objective 4: Conservation Trust Fund
The continued establishment and development of the Micronesia Challenge Endowment Fund for implementation of the NBSAP and relevant biodiversity work
Progress towards implementation Progress towards target but at an insufficient rate. Progress under this Objective was deemed to be on track to achieve target in Kosrae, but at an insufficient rate in all other States.
Date assessment performed November 2019
Additional information Various of the Actions under this Objective relate directly to both the Micronesia Challenge Endowment Fund and the Protected Area Network that it supports. Good progress has been made establishing the Micronesia Challenge Endowment Fund, but it is yet to be implemented. Implementation should begin in the near future; legislation to enable its implementation relates to the Protected Area Network, with the National Protected Areas Network Policy Framework in place, and necessary new state-level legislation and regulations also in place where required. The strengthening and empowering of resource owners and communities to manage resources sustainably relies to a great degree on the work of state-level Protected Area Network Coordinators. These have been appointed in Chuuk, Kosrae and Pohnpei to date. Little progress has been made in formalizing revenue streams, such as through taxes, for the use of biodiversity resources, or in the supporting and funding of community-based conservation funding mechanisms.
Indicators used in this assessment The individual Actions under this Objective within the FSM NBSAP serve as indicators of progress, with a degree of progress recognized for each of these. Examples of these include the formal establishment of implementation of the Micronesia Challenge Endowment Fund, and its utilization to strengthen and empower resource owners and communities to manage their resources sustainably.
Other tools or means used for assessing progress Expert opinion
Relevant websites, web links, and files FSM National Biodiversity Strategy and Action Plan
Level of confidence of assessment Based on partial evidence
Explanation of confidence level This assessment draws on a mix of progress on individual Actions and expert opinion

Adequacy of monitoring to support assessment

Partial

Section IV: Describe the national contribution to the achievement of each global Aichi Biodiversity Target

The FSM is contributing to the Aichi Biodiversity Targets (ABTs) in many ways, from community-led activities to government-driven programs and legislation, and participation in regional conservation commitments. Owing to the autonomy of the individual states, the majority of activities are state-based and tailored to specific local needs. It is therefore impossible to provide exhaustive information here. This section therefore details a selection of programs and activities that best demonstrate the contributions being made to the ABTs to give a national picture. It is also important to note that supporting data are limited, with information largely based upon expert opinion and experience. Many of the activities described in the Section cross over with those described under the eleven Themes of the FSM NBSAP. Where the FSM NBSAP supports a specific Target, this is highlighted.

Target 1. By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably

Traditional conservation practices and techniques remain an integral part of daily life in communities across the FSM, resulting in there being an associated awareness of the importance of natural environment and biodiversity conservation. There remains a need for further awareness raising, and activities to do so form part of a great many of the conservation initiatives conducted throughout the FSM.

Awareness activities are often directly related to specific conservation projects. In addition, a number of more broad-based awareness activities are in place in each state. For example, in Kosrae there are specific radio spots and question-and-answer programs broadcasting conservation information. In Yap there is a program providing community-based education around watershed and protected-area management linked to the Ridge-to-Reef program. The Ridge-to-Reef program also conducts awareness-raising activities in Chuuk. It is recognized in Chuuk that revitalization of community-outreach programs is required.

Young people in the FSM are considered to have the lowest participation in biodiversity conservation-related activities of all age groups. Various youth-focused programs are in place, such as the annual, week-long Youth-to-Youth environmental program in Kosrae that is aimed at 12–14-year olds. The Kosrae Conservation and Safety Organization (KCSO), the Kosrae State Department of Resources and Economic Affairs, and the Kosrae Island Resource Management Association all conduct school and community awareness-raising activities. The KCSO conduct pre- and post-activity surveys that demonstrate an improved understanding of the importance of and need for biodiversity conservation.

In Pohnpei, the Environmental Protection Agency supports school environmental clubs and children take Pohnpei Studies, which is a place-based learning program that includes the environment amongst other areas of focus such as traditional culture and intergenerational learning. The Green Roadshow in Pohnpei supports biodiversity conservation awareness amongst 5th grade students. The Yap State Division of Agriculture and Forestry runs an elementary school environmental awareness program. In Chuuk, school and community awareness activities are conducted by various organizations including the Cooperative and Research Extension department of the College of Micronesia, the Chuuk Women's Council, and various government departments and agencies.

There is an agreed environmental science school curriculum in place, however, this is currently not being taught, and further work is required to ensure that uptake of this is comprehensive.

This Target is supported by the Objectives under Theme 10 *Mainstreaming Biodiversity* of the FSM NBSAP. Further support comes from Objectives 1 and 3 under Theme 8 *Human Resources & Institutional Development*.

Target 2. By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems

Beyond limited data regarding the value of the FSM fisheries, no biodiversity valuation studies have been undertaken in the FSM. There is a clear and recognized need for these. As such, biodiversity has not been integrated into national accounting and reporting systems. More broadly, the value of biodiversity is recognized in the National Strategic Development Plan, and in state development plans.

Measurements of poverty differ throughout the FSM. For example, no measure or assessment of poverty by income is made in Chuuk; all natural resources are privately owned and so income-based assessments are an unreliable representation of household wealth. However, various initiatives are in place across the country to support and develop livelihoods. These include the distribution of plant seedlings to communities, and the distribution of giant-clam seedlings to communities with marine protected areas, both in Kosrae and both supported by the Kosrae Island Resource Management Authority. In Nukuoro Municipality, Pohnpei, black pearl preservation and related revenue generation activities are underway, while in Yap food security programs are focusing on salt and drought tolerant varieties of various traditional crops.

This Target is directly addressed by an Action within the FSM NBSAP under Objective 1 of Theme 5 *Ecological Sustainable Industry Development*, and is supported by Theme 10 *Mainstreaming Biodiversity*.

Target 3. By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions

While it is recognized that development activities in the FSM can negatively impact biodiversity, there are no specific national incentives identified as being either harmful or beneficial to biodiversity.

In Yap, there are ongoing activities between the government and communities to promote ecotourism. Both Yap and Chuuk have container deposit legislation in place to incentivize better management of waste.

It is noted that stakeholders in Pohnpei expressed concern regarding recent changes to Pohnpei State legislation aimed at simplifying the law in relation to international investment, which may negatively impact biodiversity by opening up resource utilization in the state.

This Target is supported by a number of Actions within the FSM NBSAP that call for incentives that encourage conservation and the sustainable use of biodiversity. These Actions fall under Objective 1 of Theme 4 *Agrobiodiversity*, Objective 1 of Theme 5 *Ecological Sustainable Industry Development*, Objective 2 of Theme 9 *Resource Owners*, Theme 10 *Mainstreaming Biodiversity* and Objective 1 of Theme 11 *Financial Resources*.

Target 4. By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits

Sustainable production and consumption are areas of increasing focus across the FSM, with legislation regulating the harvest of specific species, and a variety of initiatives encouraging the development and use of sustainable products.

Marine protected areas in all states, and the traditional marine closures practiced in Chuuk, support the sustainable use of marine resources. On land, pesticide and fertilizer-free agroforestry remains the predominant form of agriculture practiced across the country.

Regulations exist across all four states in relation to the harvesting of specific species, to prevent over consumption. Examples include a ban on sea cucumber harvesting for commercial purposes in Chuuk, a seasonal ban on turtle harvesting across all states, and size regulations related to various fish species in Pohnpei. The bumphead parrotfish and Napoleon wrasse are the subject of commercial fishing bans across all four states. In Chuuk the 2016 Chuuk Coastal Fisheries Management Act was legislated to protect numerous threatened fish species, including grouper, in addition to those species already mentioned. While the majority of regulations relate to marine species, in Pohnpei the Pohnpei Pigeon is the subject of a seasonal ban on hunting.

The PMK (Pohnpei Menin Katengensed) fish market in Pohnpei further supports sustainable fishing, buying only from fishers using sustainable fishing techniques, and raising awareness about sustainable fisheries amongst fishers and the public.

Programs supporting conversion of water-side piggeries to a dry litter system are in place across all four states. This system utilizes wood chip produced from alien tree species (primarily African tulip) as litter in pig pens. This removes the need to wash out the pig pens into local watercourses and provides a source of fertilizer that can be distributed or sold to local farmers. The dry litter system therefore addresses issue of pollution, water security and helps to deal with alien tree species.

The Vital energy group, which is the energy supplier for the FSM, has established the Coconut for Life program. This program is rehabilitating the country's coconut industry as a sustainable route to economic development. The program will sustainably produce crude coconut oil, copra meal and virgin coconut oil, and offer farmers a guaranteed buyer for their coconuts.

Specific local projects support sustainable production and consumption of goods, such as the production of 'eco plates' in both Pohnpei and Yap, whereby biodegradable plates are produced from betel leaves. In Kosrae the Green Banana Paper company produces a wide range of consumer goods from waste banana trees. Both Pohnpei and Yap have introduced a ban on the provision of plastic grocery bags, however, this is not being enforced in Pohnpei.

Other activities include the cultivation of vegetable and crop seedlings for distribution to individuals and communities. This type of activity is undertaken across the states, often by or in collaboration with the College of Micronesia Land Grant. Such activities may be accompanied by educational materials and cooking demonstrations to support the growth and use of local, traditional crops.

This Target is primarily supported by Theme 5 *Ecological Sustainable Industry Development* in the FSM NBSAP, with additional supporting Actions found under Objective 3 of Theme 1 *Ecosystem Management*, Objective 3 of Theme 2 *Species Management*, and Theme 4 *Agrobiodiversity*, Objectives 1 and 2 of Theme 5

Ecological Sustainable Industry Development, Objectives 1 and 2 of Theme 8 Human Resources & Institutional Development, Objective 2 under Theme 9 Resource Owners, and Theme 10 Mainstreaming Biodiversity.

Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced

Estimates of habitat extent in the FSM pre-date the Fifth National Report (2014) and assessment of the loss of natural habitats is limited by a lack of accurate and up-to-date aerial photography, with detailed aerial photographs dating from 1976 and less-detailed photographs dating from 2006. It is therefore not possible to assess the rate of loss of natural habitats.

The Micronesia Challenge (see Section II) and the commitment by the FSM to conserve at least 30% of near-shore resources and at least 20% of terrestrial resources by 2020, and effectively manage 50% of near-shore resources and at least 30% of terrestrial resources by 2030, links to this Target. Achievement of these targets relies on the ongoing growth of the nationwide Protected Area Network (PAN). Currently only Pohnpei State has achieved the 2020 goals, with 30% of near-shore resources and 25% of terrestrial resources part of the PAN. The extent of protection in all states is described in detail under Target 11.

Ongoing loss of natural habitats as an issue is being addressed by numerous projects and initiatives. Examples include the mangrove replanting initiatives that are being undertaken in all states. Limited to this, Kosrae State is operating a system of rotating sites for mangrove harvest to prevent localized over-harvesting.

In Chuuk re-planting of the Nefo watershed is underway, while in Pohnpei the Conservation Society of Pohnpei is collaborating with the Ridge-to-Reef program to undertake terrestrial restoration in Kitti municipality. The Ridge-to-Reef program is also involved in coastal rehabilitation work in Yap, in collaboration with Tamil Resources Conservation Trust.

It must be recognized that a significant amount of habitat degradation and loss in the FSM is the result of climate change. This is particularly the case when it comes to the marine environment. For example, coral monitoring in Pohnpei between 2012 and 2017 demonstrated a significant degree of coral bleaching during this period, and an increase in algal blooms has been seen in Kapingamarangi Municipality. This highlights the need for expanding the PAN to ensure the conservation of healthy ecosystems that are best able to cope with changing conditions.

The FSM NBSAP supports this Target through Objectives 2 and 3 under Theme 1 *Ecosystem Management* and Objective 2 under Theme 9 *Resource Owners*.

Target 6. By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits

Numerous challenges are being faced with regards to the marine environment and fisheries in the FSM, with overfishing recognized as a problem in every state. Stakeholders in Yap consider that the safe ecological limits for that state are not well understood, and this may reasonably be considered the case elsewhere too.

The FSM State of the Environment 2018 report considers that the FSM tuna fishery is stable while the coastal reef fisheries are deteriorating. In 2017 a Congressional Act was signed into law that declares an area 12 nautical miles seaward of the territorial sea to be closed to commercial fishing and natural resource exploitation. This puts coastal waters equating to approximately 10% of the FSM's Exclusive Economic Zone (EEZ) under conservation (see Section II).

Marine protected areas (MPAs) are in place across all states, though with greater utilization in some than others (see data under Target 11). All MPAs operate under management plans developed by the local community in collaboration with the municipal government and relevant government or conservation agencies. In addition, traditional closures and zoning of marine areas is practiced by communities in Chuuk.

In Kosrae a community-based ecosystem approach to fisheries management is being utilized, and a Fisheries Advisory Council has been established, which includes all communities with a marine protected area, to better support management of the marine environment. In addition, fish aggregating devices are being deployed to help increase pelagic fishing and reduce reef fishing.

Regulations exist across all four states in relation to the harvesting of specific species to support sustainable consumption. Examples include a ban on sea cucumber harvesting for commercial purposes in Chuuk, and size regulations related to various fish species in Pohnpei. The bumphead parrotfish and Napoleon wrasse are the subject of commercial fishing bans across all four states, and a nationally legislated seasonal ban on turtle harvesting is enforced in all states. In Chuuk the 2016 Chuuk Coastal Fisheries Management Act was legislated to protect numerous threatened fish species, including grouper in addition to those already mentioned. In Kosrae, assessments of sea cucumber and trochus populations inform their availability for harvest, and a trochus sanctuary has been established. There is also a complete ban on harvesting sharks in the FSM's EEZ (see Section II).

The FSM NBSAP supports this Target through Objectives 2 and 3 under Theme 1 *Ecosystem Management*, Objectives 1 and 3 under Theme 2 *Species Management* and Objective 2 under Theme 9 *Resource Owners*.

Target 7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity

Agroforestry continues to be the predominant form of agriculture across the FSM. This is a sustainable system and one that does not utilize inputs in the form of chemical fertilizers or pesticides. Many biodiversity-related activities focus on agroforestry.

In Kosrae, the Division of Agriculture within the Department of Resources and Economic Affairs is supporting communities in the clearing of land for farming, with the promotion of traditional agroforestry plots. Registered farmers can receive free food crop seedlings from both the Division of Agriculture and the Kosrae Island Resource Management Authority. In Pohnpei, an agrobiodiversity project is being run by Pohnpei State in collaboration with the UNDP to identify and conserve varieties of traditional crops, with distribution of seedlings an additional element to this.

Aquaculture is currently limited in extent across the FSM. Giant clam farming is being undertaken in both Chuuk and Yap, and it is recognized that aquaculture is currently at a sustainable level with no cause for concern.

There is no significant commercial forestry activity in the FSM. That being said, mangroves are often harvested for timber and fuel. In Kosrae, a system of rotating harvesting sites is being implemented to reduce the pressure on individual mangroves, with a permitting process associated with this. In Pohnpei, where the watershed forest is under pressure from encroachment for the growing of kava for the production of sakau, efforts are being made to revitalize the “Grow Low” campaign, which promotes the growing of kava on lower, non-forested land, with the provision of information to growers to help do this productively.

Coconut rehabilitation is underway in Kosrae, under the Division of Agriculture within the Department of Resources and Economic Affairs. More broadly, coconut rehabilitation is ongoing across the FSM as part of the Coconut for Life program being run by the Vital energy group. In Yap the converse situation is problematic, with over 20 acres of native savannah grassland having been converted to forest for timber. In Yap, Weloy Municipality’s Forest Stewardship Management Plan was initiated in Yap in 2017 to conserve and effectively manage natural resources in the plan’s focus area, and to promote awareness of good management practices amongst the community.

The FSM NBSAP supports this Target through Objectives 2 and 3 under Theme 1 *Ecosystem Management*, Objective 3 under Theme 2 *Species Management*, Theme 4 *Agrobiodiversity*, Objectives 1 and 2 of Theme 5 *Ecological Sustainable Industry Development*, and Theme 9 *Resource Owners*.

Target 8. By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity

Waste and pollution, and particularly fresh and marine water pollution, are priority issues across the FSM. Land-based activities not only result in terrestrial and inland water pollution but ultimately impact the marine environment.

Pig waste is an area of particular concern throughout the FSM; standard pig-pens are commonly located adjacent to waterways, with pig waste washed out into those waters. This makes inland freshwater sources unusable and also impacts the marine environment; excess nutrients have been identified as causing changes to the texture of mangrove peat in Pohnpei. An initiative under the Ridge to Reef program to convert standard pig pens to a dry-litter-type has the potential to have a major impact on water pollution and quality across the FSM. Utilizing a revolving fund to enable piggery owners to convert their pig pens, the program prevents pig waste entering waterways and produces fertilizer as a by-product that can be distributed or sold to farmers. This program is being undertaken in all four states and has been demonstrated to be successful in the Awak community of Pohnpei, where the water quality of local waterways rose from being entirely unusable to meeting recreational standards.

Nutrient pollution from sedimentation is being tackled under the Red Cross “green belt” mangrove replanting project aimed at preventing coastal erosion, with numerous sites in Chuuk and Kosrae being replanted.

The risk of marine pollution from oil spills and grounded vessels is being dealt with in a number of ways. In Chuuk, the United States Navy operates an ongoing operation to remove grounded vessels from the reefs. Also in Chuuk, the Japan Mine Action Service is working to remove oil and other chemicals from ships within Chuuk Lagoon that were sunk during World War II.

The FSM as a whole is a member of the European Union-funded PacWaste (Pacific Hazardous Waste) project, which is focused on improving the management of healthcare waste and asbestos. In Kosrae, Pohnpei and Yap, measures are in place for the collection of used oil and dangerous chemicals, including petrochemicals. In Kosrae, the Kosrae Island Resource Management Authority collects these, but there is no designated storage facility or method of disposal in place. In Pohnpei, chemicals can be taken to the Environmental Protection Agency for storage.

Some recycling measures are in place, particularly for aluminum cans and plastic bottles, but various challenges remain around the storage and disposal of waste and pollutant materials. These include end-of-life vehicles and domestic appliances, for which there are no satisfactory methods of disposal at present.

Actions and Objectives under Theme 7 *Waste Management* of the FSM NBSAP deals directly with the issue of waste and pollution, with further supporting actions found under Objectives 1 and 2 of Theme 5 *Ecologically Sustainable Industry Development*.

Other activities contributing to this Aichi Biodiversity Target at the global level

A joint FSM/United Nations Environment Program is underway to phase out 23 priority persistent organic pollutants under the Stockholm Convention.

Target 9. By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment

Invasive alien species are a priority environmental concern in the FSM, with species such as the brown tree snake (*Boiga irregularis*) and coconut rhinoceros beetle (*Oryctes rhinoceros*) demonstrating a particular potential threat to local biodiversity and livelihoods. Preventing alien species from entering the FSM via points of entry such as airports and ports is the responsibility of the national government, with quarantine procedures in place. It is, however, recognized that quarantine needs to be enhanced at points of entry across the country. Control and eradication of those invasive alien species already present in the FSM falls to the individual states, and each state has its own alien species task force.

The Chuuk State Department of Agriculture has an invasive species program in place. Work has also been undertaken to eradicate Crown of Thorns starfish (*Acanthaster planci*) from reef systems. The African tulip tree (*Spathodea campanulata*), Honolulu rose (*Clerodendron chinensis*), and sensitive plant (*Mimosa pudica*) are priority invasive plant species on Chuuk and subject to management action. Additional activities include the eradication of invasive plant species in the Nefo watershed, followed by plantation with native species.

A Kosrae Invasive Species Taskforce is in place, though this needs re-activating. Though the number of alien species in Kosrae is known to have risen, the Taskforce focuses on five priority species. These include the non-alien but invasive Crown of Thorns starfish, with eradication efforts leading to the collection of over 2,000 in 2018. The Kosrae Island Resource Management Authority focusses its efforts on eradicating invasive alien plants, with mile-a-minute (*Mikania micrantha*), firecracker bush (*Clerodendron quadriloculare*), *Lucanea* spp. and Siam weed (*Chromolaena odorata*) identified as priority species. The Department of Resources & Economic Affairs focuses on plants as well as animal species such as the giant African snail (*Achatina fulica*) and brown sparrow (*Passer montanus*).

The Invasive Species Taskforce of Pohnpei (iSTOP) targets the most damaging invasive alien species in the state. The focus is on plant species, owing to a lack of technical expertise in relation to other species types. Current activities are focusing on the eradication or control of false sakau (*Piper auritum*), chain of love (*Antigonon leptopus*), ivy gourd (*Coccinia grandis*), purple trumpet vine (*Thunbergia grandiflora*) and octopus tree (*Schefflera actinophylla*), amongst others. Removal of invasive plants, followed by the planting of native species, has been undertaken in Sapwaufik.

A number of eradication activities have been successful in Yap, with four-years of monitoring for the mile-a-minute weed demonstrating no sightings. Coverage of cogon grass (*Imperata cylindrica*) has been reduced from more than 60 acres to less than 1 square foot; monitoring of this will continue for the next 3 years. Each year two species from the national list of priority species are focused on in Yap. In 2019 these species have been lantana (*Lantana camara*) and the African tulip tree. T-shirts printed with the names of invasive alien and potential invasive alien species were utilized as part of an awareness campaign, highlighting the little fire ant (*Wasmannia auropunctata*), brown tree snake, coconut rhinoceros beetle and giant African snail.

All states recognize the potential for increased efforts under this Target with the support of funding from the Global Environment Fund's sixth replenishment.

The FSM NBSAP deals with issues of invasive and invasive alien species comprehensively under Theme 6 *Biosecurity*, though progress has been mixed and is generally considered as being made at an insufficient rate.

Target 10. By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning

The impact of climate change on ecosystems within the FSM is, to a significant degree, beyond the control of the FSM, a country with CO₂ emissions estimated to be 0.0004% of the global total (World Bank Group, 2019). Although climate change mitigation is not a realistic option for the FSM, reducing the pressures on at-risk ecosystems is being undertaken in a variety of ways.

All of the activities discussed under Section II support this target, as do many of the Actions being undertaken as part of the FSM NBSAP (and state BSAPs), particularly under Objective 2 of Theme 1 *Ecosystem Management*, Objectives 1 and 3 of Theme 2 *Species Management*, Theme 5 *Ecologically Sustainable Industry Development* and Theme 7 *Waste Management*.

Additional activities supporting this target not previously described include the annual underwater clean-up activities undertaken in Kosrae, with different communities targeted each year. In addition to marine protected areas, there is a Locally Managed Area Network in place in Yap. Traditional navigation techniques are also being supported in Yap through the Waa'gey organization and the Traditional Navigation Society, as a route to reducing anthropogenic pressures on the marine environment.

Target 11. By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes

As discussed in detail in Section II, the FSM has committed to the Micronesia Challenge. This regional commitment established in 2006 is for each participating country to effectively conserve 30% of their near-shore marine resources and 20% of their terrestrial resources by 2020. Achievement of this commitment would surpass this Target. When considered nationally, 39% of marine resources and 15% of terrestrial resources are effectively conserved. At the state level, currently only Pohnpei has achieved both marine and terrestrial targets, though Chuuk has exceeded the marine target and Kosrae the terrestrial target.

	% of near-shore marine resources in Protected Area Network	% of terrestrial resources in Protected Area Network
Chuuk	34%	11%
Kosrae	4%	21%
Pohnpei	59%	20%
Yap	11%	0%

In 2019 the commitments under the Micronesia Challenge were extended to 2030 with the more ambitious goals of the effective management of 50% of near-shore marine resources and 30% of terrestrial resources.

More specifically, all states have marine protected areas, with spill-over effects from these being recognized in Yap. In Pohnpei, the percentage of terrestrial habitats protected includes 21% of the watershed, though it is recognized that many important terrestrial and marine areas remain unprotected.

Objective 2 Under Theme 1 *Ecosystem Management* of the FSM NBSAP directly supports this Target and the ongoing expansion of the Protected Area Network under the Micronesia Challenge.

Target 12. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained

The IUCN identifies 325 species as being threatened to some degree or extinct across the FSM. Threats to those species considered to be threatened within the FSM are primarily related to over-harvesting, particularly of marine species. A number of such threatened species are the subject of various regulations across the states controlling their harvesting. These include bumphead parrotfish, Napoleon wrasse, giant clam and sea cucumber. While there is little information on changes to the conservation status of threatened species within the FSM, recorded sightings of bumphead parrotfish having been made in Kosraean waters since 2010, and grouper species numbers are considered to be improving in Chuuk.

Bat and trochus sanctuaries have been implemented in Kosrae, with regulations on trochus harvesting put in place in both Chuuk and Yap. Yap is also developing a bat sanctuary.

There is no national guideline for the protection of threatened species, though Chuuk and Pohnpei both have state laws in place.

Protection of threatened species in the FSM is supported by various Actions within the FSM NBSAP, particularly under Theme 2 *Species Management*, as well as under Objective 1 of Theme 4 *Agrobiodiversity*.

Target 13. By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity

The traditional crops of the FSM demonstrate a large number of varieties grown under agroforestry systems. The main risks to these varieties are the growing reliance on imported foods and loss from disease, particularly under changing climatic conditions.

It is recognized that traditional crop use is declining in the FSM, and various activities are being undertaken to address this. A joint project between Pohnpei State and the Food and Agriculture Organisation of the United Nations aims to identify and conserve the numerous varieties of different traditional crops, such as banana, being grown in home gardens and agroforest gardens. Seedlings will also be distributed to households to ensure the ongoing cultivation of different varieties. In Yap, during Yap Day celebrations, farmers sell traditional varieties of crops for home growing and propagation. A funding proposal to the Green Climate Fund has been submitted through the Micronesia Conservation Trust in collaboration with the FSM Government to support a project comprehensively addressing food security on a national scale that will support the use of traditional food crops.

The development of state seed banks has been undertaken with financial support from the Secretariat of the Pacific Region Environmental Programme. The College of Micronesia Land Grant has propagation centers across the FSM that uses tissue culture techniques to cultivate seedlings of traditional crop plants for distribution to farmers and communities. In Chuuk, the College of Micronesia Land Grant Cooperative and Research Extension has collected local varieties of sweet taro and sweet potato, also undertaking research on the salt tolerance of different local giant swamp taro varieties.

The Pohnpei State Department of Natural Resource Management has a program distributing seedlings of culturally valuable plant varieties, recognizing the need to maintain those plants that have a specific place in traditional culture and practices. A collection of varieties of breadfruit from Pohnpei is currently held in Maui, Hawaii, as a protective measure.

Objective 1 under Theme 4 *Agrobiodiversity* of the FSM NBSAP deals directly with this issue and supports this Target. This Target also links directly to activities supporting Target 7.

Also related to this Target is the issue of Access and Benefit Sharing. As discussed in Section II under Theme 3 *Genetic Resources* of the FSM NBSAP, and under Target 16, no national Access and Benefit Sharing legislation is in place, hampering the ability of those states with their own Access and Benefit Sharing legislation to enforce it.

Target 14. By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable

Ecosystem health is essential to the FSM, which relies heavily on its marine and terrestrial environments for the fulfilment of everyday needs. Many of the activities relevant to this Target have been described in previous targets, such as the importance of the Protected Area Network under the Micronesia Challenge, and the role of marine protected areas in ensuring healthy marine ecosystems. Owing to the nature of Micronesian society, community involvement is an essential part of these projects.

Projects in Chuuk, Kosrae and Pohnpei are focusing on enhancing existing agroforestry systems and the replanting of endemic and native species, as is happening through the Nanwel En Rohi Community Stewardship Project in Pohnpei.

In Pohnpei over the past few years the percentage of rivers deemed unsafe for use has fallen from 68% to 30% owing to activities to improve water quality, including the dry litter piggery system described under Theme 7 *Waste Management* in Section I, Objective 1 of Theme 4 *Agrobiodiversity* in Section II, and under Aichi Biodiversity Target 8. The dry litter piggery project is active in all four states.

A number of water security projects are being undertaken in Yap. These include improving community wells and installing household guttering to enable better rain capture supported under the European Union SPC (Pacific Community) Readiness for El Niño project. Other projects include Adaption Fund-supported activities in Woleai and Eauripik that include the building of compost toilets, and various projects focusing on water security in the Yap outer islands.

Water harvesting projects are being supported in the communities of Eot and Udot in Chuuk.

This Target is directly supported by Actions within the FSM NBSAP under Objectives 2 and 3 of Theme 1 *Ecosystem Management*.

Target 15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification

The majority of biodiversity conservation activities within the FSM support this Target, with most initiatives adopting a holistic approach to conserving ecosystems that also works to address issues of climate change and the strengthening of their adaptive capacities of ecosystems.

As described in Section II, and under Target 11, the Micronesia Challenge commits the FSM to conserving 30% of near-shore marine resources and 20% of terrestrial resources by 2020 and effectively managing 50% of near-shore marine resources and 30% of terrestrial resources by 2030. This approach ensures that substantial areas are conserved not only for their inherent value, but also to support climate change adaptation based upon the principle that effective protection supports more resilient ecosystems that are better able to withstand the impacts of climate change. Pohnpei is the only state so far to have reached both the 2020 marine and terrestrial targets, with Chuuk achieving the marine target and Kosrae the terrestrial.

Specific additional examples of activities being undertaken that contribute to this Target include the mangrove replanting that is occurring within all four states, as described under Targets 5 and 8. This expansion of mangrove area helps restore this degraded ecosystem, provides additional coastal protection against climate-induced storm surges and coastal erosion, as well as helping to increase the capacity for carbon sequestration within the FSM.

In Chuuk, the replantation of the Nefo watershed with native tree species is helping restore this degraded ecosystem. The Yela Ka Forest Conservation Easement in Kosrae described in Section II is of particular relevance to this Target owing to the levels of carbon sequestered in the peat of this protected wetland. In Yap, restoration of degraded savannah, which has been lost to tree planting for timber, is being undertaken to allow for the relocation of people moving within the state due to the impacts of climate change.

Actions under Objectives 2 and 3 of Theme 1 *Ecosystem Management* also support this Target.

Target 16. By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation

The FSM ratified the Nagoya Protocol in 2013, and a national focal point was identified. However, as discussed under Objective 1 of Theme 3 *Genetic Resource Use*, as yet there is no national Access and Benefits Sharing legislation in place in the FSM, which severely limits the national contribution to this Target. Therefore, whilst Kosrae State has an Access and Benefits Sharing Act in place, Pohnpei an Access and Benefits Sharing Framework, and Chuuk a draft piece of legislation, enforcement is not possible owing to the lack of national legislation.

Target 17. By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan

The *FSM National Biodiversity Strategy and Action Plan (NBSAP) 2018–2023* was developed, adopted and implementation began in 2018 following nationwide consultation and validation exercises. Representatives from national and state government departments and agencies, along with non-governmental organization representatives and relevant experts took part in the development of the NBSAP.

The NBSAP is comprised of eleven key Themes, each of which is supported by multiple Objectives. These Objectives are themselves fulfilled through a series of Actions. As such, the NBSAP provides clear direction on the activities and initiatives required to protect, preserve and sustainably utilize biodiversity in the FSM over the five-year period of the plan. Progress of the Objectives under each Theme of the NBSAP is provided in detail in Section III.

The NBSAP is supported by four State Biodiversity Strategy and Action Plans, also developed in 2018.

Target 18. By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels

The concepts of indigenous and non-indigenous are generally not found within FSM society; residents of the FSM make no such distinctions.

Traditional culture and systems of customary practice are a fundamental element of governance within the FSM. Although there is no role for traditional chiefs at the national level, the Constitution of the FSM allows for a Council of Chiefs to be implemented if deemed necessary. At the state level, Yap is the only state to constitutionally provide for a traditional leadership branch of the State Government, which comprises a council of chiefs from the Yap main islands and another from the outer islands. Tenure systems differ somewhat between states; in Yap and Chuuk land and near-shore marine areas are privately owned, while in Pohnpei and Kosrae, the land is under a mix of private and State ownership, while the majority of coastal waters are publicly held.

The result of this situation is that across the FSM the engagement of local communities, the consideration and incorporation of traditional knowledge, customs and practices, and endorsement of activities from traditional leaders are all essential to the success of any biodiversity conservation initiative. Conservation activities that bypass communities or ignore traditional cultural practices and procedures are unlikely to achieve any level of success. It is, however, recognized that the transference of traditional knowledge is declining.

Various individual Actions within the FSM NBSAP address issues of traditional knowledge, including (but not limited to) those under Objective 2 of Theme 1 *Ecosystem Management*, Objective 1 of Theme 3 *Genetic Resource Use*, Objectives 1, 2 and 3 of Theme 4 *Agrobiodiversity*, and Objective 1 & 2 of Theme 9 *Resource Owners*.

A specific example of the role of traditional practices contributing to this Target is that of the traditional resource conservation practices known as 'pwau' and 'mechen' utilized in Chuuk. Under pwau and mechen areas of land and ocean, respectively, are closed against harvesting to allow resources to replenish.

Target 19. By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied

As an increasing array of conservation activities are undertaken across the FSM, so ever-expanding datasets are generated and shared. A good example of this is monitoring data collected under Micronesia Challenge and United States Department of Agriculture Forest Service Forest Inventory Analysis plots shared through the Micronesia Challenge Terrestrial Measures data portal, as described in Section II.

Annual coral monitoring forms a part of all marine protected area management plans across the FSM, with the data analyzed by partners at the University of Guam Marine Lab. Under the Micronesia Challenge marine protocol, data are being collected and analyzed to support the development of regulations around fishing practices.

A science base is a requirement of all natural resource management and decision making in Pohnpei, and numerous non-governmental and technical partners support research and the provision of data, such as the University of Guam, the University of Hawaii, the Pacific Community (SPC), the Secretariat of the Pacific Regional Environment Programme (SPREP) and the International Organisation of Migration.

Programs in Yap endeavor to combine local and external expertise, adopting an adaptive approach to natural resource management and biodiversity conservation. In Chuuk, in addition to coral reef monitoring, sea-level rise monitoring is being undertaken, as are hazard and flood mapping activities. In addition, a weather monitoring system that also measures sea-level rise and sea surface temperature is being piloted in a number of outer islands.

Across the FSM, partnerships with organizations such as the National Oceanic and Atmospheric Administration (NOAA) and the Water and Environment Research Institute of the Western Pacific University of Guam are helping generate, analyze and share data to support the conservation and management of biodiversity within the FSM.

This Target is supported by the FSM NBSAP through Actions under Objective 1 of Theme 1 *Ecosystem Management*, Objective 2 of Theme 2 *Species Management*, Objectives 2 and 3 of Theme 4 *Agrobiodiversity*, Objective 3 of Theme 6 *Biosecurity* and via Theme 8 *Human Resources and Institutional Strengthening* and Theme 10 *Mainstreaming Biodiversity*.

Target 20. By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties

The FSM completed the Financial Reporting Framework under this Target, submitting it to the Secretariat of the Convention on Biological Diversity in 2016, reporting average annual national and state government expenditure on biodiversity to 2015 in excess of \$5 million.

The FSM NBSAP supports this Target through Theme 11 *Financial Resources*.

Support for the implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals

Details of how the FSM NBSAP Themes support the Sustainable Development Goals is detailed in Section I.

Section V: Updated biodiversity country profile

Biodiversity facts

Status and trends of biodiversity, including benefits from biodiversity and ecosystem functions

The Federated States of Micronesia (FSM) is part of the Polynesia-Micronesia biodiversity hotspot, which has a level of endemism higher than any other island biodiversity hotspot. There are two terrestrial ecoregions identified in the FSM; the Yap Tropical Dry Forest Ecoregion and the Carolines Tropical Moist Forest Ecoregion. The FSM is also a tropical coral ecoregion, containing some of the largest coral atoll complexes in the world.

The coral reefs of the FSM support an abundance of biodiversity, including 427 species of coral, 100 of which are considered to be vulnerable and three endangered. 1,221 species of fish have been recorded in the waters of the FSM, 1,070 associated with the extensive reef system. Recent surveys suggest that 50% of outer reefs, 20% of channel reefs and 75% of inner reefs in Yap are effectively conserved, while 17% of outer reefs, 17% of patch reefs and 43% of inner reefs in Chuuk, 14% of inner and 30% of outer reefs in Pohnpei, and 20% of outer reefs in Kosrae are described as being the same. It is estimated that coral reefs provide an annual value of \$16 million through tourism and recreation, while more than 70% of households engage in fishing activities.

There are four turtle species native to the FSM, with seventeen cetacean species having been found in the waters of the FSM. 139 marine invertebrate species have been recorded by the IUCN in the waters around the FSM, including three species of sea cucumber that are considered endangered and four that are considered vulnerable, one vulnerable species of cockle and three conservation-dependent clam species.

On land, it is estimated that forest covers nearly 90% of the FSM. Unsurprisingly, plant diversity is extremely high, with over 1,200 species of fern and flowering plants described. Of these, 782 species are considered native, and 110 species endemic. It is estimated that 138 fungal species belonging to 67 genera exist in Pohnpei, and approximately 105 species belonging to 41 genera exist in Kosrae. The number of new or endemic species remains, as yet, unknown.

The FSM is home to 128 native species of bird, including 22 endemic species and 12 globally threatened species. One of these, the Pohnpei starling (*Aplonis pelzelni*), is considered to be critically endangered with a declining population. There are fifteen Important Bird Areas (IBAs) across the FSM, totaling 57,336 sq. miles/148,500 km² of land and ocean, and two endemic bird areas.

The IUCN identifies six species of terrestrial mammal in the FSM: three endemic species of flying fox and one endemic species of sheath-tailed bat, along with the introduced Polynesian rat (*Rattus exulans*) and the Philippine deer (*Rusa marianna*).

Biological surveys for reptiles in the FSM have been rare, though current data suggest there are 35 species of reptile either resident in the FSM or that are visitors. Of these, endemic species include the Ant Atoll blind snake (*Ramphotyphlops adocetus* sp. Nov.), the Ulithi Atoll blind snake (*Ramphotyphlops batmalieyeb* sp. nov.), the Pohnpei skink (*Emoia ponapea*), the Mortlock Islands scaly-tailed gecko (*Lepidodactylus oligoporus*), and possibly the giant Micronesian gecko (*Perochirus scutellatus*).

There are records of 64 species of freshwater dwelling fish in the FSM, including four endemic species and two introductions. Information regarding terrestrial invertebrate fauna is scattered and incomplete.

There are 325 species listed as being threatened to varying degrees or, in some cases, extinct, and pressures on the biodiversity of the FSM are increasing.

Main pressures on and drivers of change to biodiversity (direct and indirect)

Overall, the main threats to biodiversity in the FSM are recognized as being environmental conversion and degradation, over-exploitation of resources, waste management and pollution, invasive and alien species, climate change and infrastructure development.

The marine environment demonstrates most clearly the changes to biodiversity, with up to 25% of hard coral species in Kosrae considered vulnerable to regional extinction, and unsustainable fishing practices leading to changes in catch composition, a reduction in catch-per-unit-effort and a reduction in overall volume caught in the Pohnpei near-shore fishery. In addition to over-fishing, the marine environment is at risk from dredging to support development activities, coral bleaching due to rising sea temperatures, and the impact of Crown of Thorns starfish (*Acanthaster planci*).

On land, an assessment of selected amphibians, birds, mammals and plants has suggested that 90% of assessed species in the FSM are affected by habitat loss, 48% by over-exploitation, 38% by invasive species and 10% by pollution. Forest loss is a significant pressure, with loss due to conversion for the growth of cash crops. Waste management is a continuing challenge, as is disposal of scrap metal, with abandoned vehicles a source of pollution from chemical leakage.

Small islands like those that make up the FSM are particularly vulnerable to the effects of alien and invasive species; the Global Register of Introduced and Invasive Species contains 592 entries for the FSM. Verified records suggest that 526 invasives are plant species, 62 are animal and one is fungal. Invasive species range from cane toads (*Bufo marinus*) and brown tree snakes (*Boiga irregularis*) to feral populations of domestic livestock such as chickens and water buffalo. Priority invasives species include rat species, cats and pigs, with rats implicated in the extinction of two bird species endemic to Kosrae; the Kosrae crane (*Porzana monasa*) and the Kosrae starling (*Aplonis corvina*).

Measures to enhance implementation of the Convention

Implementation of the NBSAP

Many of the necessary tools for implementation have been developed in the 16 years following the initial FSM National Biodiversity Strategy and Action Plan (NBSAP). Of particular significance are the ecoregional plan *A Blueprint for Conserving the Biodiversity of the Federated States of Micronesia* and the Micronesia Challenge. The 'Blueprint' identifies 130 Areas of Biological Significance and 24 Priority Action Areas across the FSM, to help focus conservation efforts in a way that supports a full representation of the nation's ecosystems. The Micronesia Challenge is a regional commitment to conserve at least 30% of near-shore resources and at least 20% of terrestrial resources across Micronesia by 2020, with the commitment extended to effectively manage at least 50% of near-shore resources and at least 30% of terrestrial resources across Micronesia by 2030. This has acted as a catalyst for the creation of a web of mutually reinforcing projects and has driven the creation of new terrestrial and marine protected areas. The establishment of the Micronesia Conservation Trust has enabled a constant focus to be maintained on biodiversity conservation programs and activities. Together these will continue to be central to the implementation of the FSM NBSAP.

With responsibility for natural resources lying with the states, implementation of the FSM NBSAP is also intrinsically linked to implementation of the individual state BSAPs. The FSM NBSAP will also be a natural guide for donor-funded programs, with those agencies involved able to ensure programs address the objectives and actions within the FSM NBSAP.

Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011–2020

Many of the Objectives and Actions under specific Themes within the FSM NBSAP contribute directly to the implementation of the Strategic Plan for Biodiversity 2011–2020. Where Themes link to specific Aichi Biodiversity Targets, this is highlighted within the FSM NBSAP document.

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming etc.)

Many of the support mechanisms for national implementation of the Convention are built into the Themes, Objectives and Actions of the FSM NBSAP. The most relevant are:

- Theme 8: *Human Resources & Institutional Development*
- Theme 10: *Mainstreaming Biodiversity*
- Theme 11: *Financial Resources*

Mechanisms for monitoring and reviewing implementation

Monitoring the implementation of the NBSAP will be undertaken in two ways. Each state will be requested to complete an annual quick assessment, using the assessment form provided in an Appendix to the NBSAP. This process will involve each state identifying which actions have been completed or achieved, which actions some progress has been made on, and which require initiating. States will also be able to identify necessary additional actions under each Theme and Objective. This fast assessment process will be overseen and managed by the Micronesia Conservation Trust. A full review and revision of the NBSAP will be undertaken after five years, in 2023. This will follow a similar process of consultations and validation that was utilized to develop the current NBSAP. This review will provide an opportunity for major progress, changes or developments to be recorded and considered for inclusion in the next revision of the NBSAP, and will ensure that all Themes, Objectives and Actions remain relevant and reflect the challenges and unmet needs of the FSM's biodiversity at that time. This will also provide an opportunity to ensure that the NBSAP remains in line with any new strategies or initiatives under the Convention for Biological Diversity.