The Federated States of Micronesia

Kosrae State Biodiversity Strategy and Action Plan

2026–2030

Foreword

GOVERNMENT OF KOSRAE
Office of the Governor
Kosrae State
Post Office Box 158
Tofol, Kosrae FM 96944
Telephone (691) 370-3002/3003/3009

May 20, 2026

The Honorable Elina P. Akinaga
Secretary of FSM R&D
FSM National Government

Subject: Transmittal of the KBSAP Final Draft

I am happy to transmit herewith the final draft of the **Kosrae State Biodiversity Strategy & Action Plan** (KBSAP) with gratitude to you and your consultation team for the guidance and continuous support in the updating process. We appreciate the opportunity given our State's decision makers, policy makers, resource managers, resource users and relevant stakeholders in reviewing this draft plan before its finalization process.

A comment period of two weeks from April 28- May 18, 2026 for review of the draft resulted in no further inputs received from stakeholders except for a few clerical errors cited that will be shared by KIRMA before final print.

Should there be need for more information or assistance from our end, do let us know.

Sincerely,

Tulensa W. Palik
Governor of Kosrae State

cc: Speaker, 13th Kosrae State Legislature
Lt. Governor of Kosrae State
Dr. Iain Hall, Island Insights
KIRMA

Table of Contents

Foreword 2

Table of Contents 3

Acknowledgements 4

Part 1: Introduction 5

Part 2: Biodiversity in Kosrae 7

Part 3: Background to the Kosrae Biodiversity Strategy and Action Plan 9

Development Process for the Revised Kosrae BSAP 9

Part 4: The Kosrae State Biodiversity Strategy and Action Plan 10

Vision 10

Guiding principles 10

Information Presented in this BSAP 10

Implementation and Monitoring 10

Objective 1. To develop, review, and enforce policies and regulations for sustainable harvesting of natural resources 12

Objective 2. To create and implement education and awareness programs in the community that address biodiversity conservation and climate change 14

Objective 3. To improve, manage and preserve areas of biological significance 16

Objective 4. To minimize waste contributing to the pollution of our environment 17

Objective 5. To implement programs and practices for the security of our genetic, historic, and traditional resources and knowledge 20

Objective 6. To develop programs for restoring biodiversity and species habitat 21

References 23

Acknowledgements

The Kosrae State Biodiversity Strategy and Action Plan (BSAP) 2026–2030 would not have been possible without the great efforts of a large number of people from a number of government agencies, non-governmental organizations, community-based organizations and communities, who gave freely of their time, their experience and invaluable expertise. This has enabled this revised plan to reflect not only the priorities of Kosrae today, but also the considerable ongoing efforts being made to conserve biodiversity and support sustainable development across the country.

The development of this plan was made possible through the generous financial support provided through the GEF Global Biodiversity Framework Early Action Support.

The Kosrae BSAP revision process was coordinated and facilitated by Island Insights, with many people from a great number of organizations, both governmental and non-governmental, and communities contributing to the consultation and validation workshops, and providing essential additional information. It is these people that have made the development of this Kosrae BSAP possible:

Annie Esau, Jacob George, James George, Bruce Howell, Killion Isisaki, Dison D. Kephas, Yoshihiro Kitaura, Tamae S. Luckymis, Dave Matthias, Bruno Ned, Jeffrey Nelson, Freddy Nena, Onmiel Nena, Maxson Nithan, Steven Palik, Tatyana Panuelo, Horace Salik, Bond Segal, Moses T. Sigrah, Trenton Skelling, Rynold Talley, Austin Tilfas, Reed Tilfas, Swenson Thomson, Erica Waguk.

Those involved represented the following organizations:

FSM Department of Environment, Climate Change, and Emergency Management, FSM Department of Resources & Development, Kosrae Conservation and Safety Organization, Kosrae Department of Resources & Economic Affairs, Kosrae Historic Preservation Office, Kosrae Island Resources Management Authority, Kosrae Office of the Governor, Kosrae Program Management Office, Kosrae State Finance Office (FSM Department of Finance and Administration), Tafunsak Municipal Government, Utwe Municipal Government.

The Kosrae BSAP document was prepared by the Island Insights team comprising Dr Iain Hall, Anne McDonald, Dr Erika Salazar, Tamara Greenstone Alefaio, Vanessa Fread, Julia Bolton, and Oriana Fernandez.

Part 1: Introduction[1]

The State of Kosrae differs geographically from the other three states of the Federated States of Micronesia (FSM) in that it is comprised of a single high volcanic island. The interior of the island is characterized by high, steep, rugged mountains rising to 2064 ft. at Mt. Finkol, and covered with dense tropical rainforest. It is the least populous state with a population of 5,092 (FSM Division of Statistics, 2023). The island has a roughly triangular shape totaling approximately 43 sq. miles and has four municipalities, namely Lelu, Malem, Tafunsak and Utwe. The population lives mainly along the coastal areas as the basaltic mountain interior is very inaccessible.

Several light industries exist on the island, including construction company sites, gravel quarries, a power plant, a relatively small petroleum/oil/lubricants storage tank farm, an airport, a seaport and an aquaculture center. Several hotels service a small tourist industry, which peaked in 2000 with almost 3,700 visitors that year (FSM, 2004). As with the other FSM states, the majority of the workforce in Kosrae is in the public sector. The average annual wage (real, i.e. adjusted for inflation) in Kosrae in the fiscal year 2022 was $5,020, slightly lower than the national average of $5,594. Much of the population remains dependent on the land and sea for food, with approximately 81% of households engaging in at least one subsistence activity (agriculture and forestry, handicrafts and home production, livestock and aquaculture, or fishing, hunting and gathering), which is slightly higher than the national average of 77% (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, 2014).

The FSM is a constitutional democracy, operating at national, state, municipal and local levels, with most power delegated to the four states by the national constitution. The State Government of Kosrae is the smallest in the FSM and is structurally similar to the FSM National Government, with executive, legislative, and judicial branches. Key agencies, departments, and conservation organizations involved in natural resource management and sustainable use include the Department of Resources and Economic Affairs, the Kosrae Island Resource Management Authority, Attorney General's Office, the Kosrae Conservation and Safety Organization, and the College of Micronesia FSM Land Grant Research. At the community level, each municipality has formed Resource Management Committees comprised of community volunteers with the motivation to assist in the conservation and sustainable use of the resources of the island. The state government holds jurisdiction over coastal waters up to 12 nautical miles from land. Beyond this, the National government has jurisdiction over the remainder of the EEZ, i.e. from 12 nautical miles to 200 nautical miles from land.

Traditional culture and systems play an important part in governance of the FSM. Kosraean traditional culture was highly influenced by missionaries in the mid-19th century. Today, religious activities influence much of the lives of Kosraeans, whilst Western influence continues to impact traditional Kosraean culture.

Systems of land ownership and tenure differ across the four states of the FSM. Land ownership in the FSM is limited to citizens of the FSM only, with land lease terms varying by state (US Department of State, 2017).

The FSM experiences a tropical climate, with consistently warm weather driven by the north-east trade winds. The average annual temperature in Kosrae between 1991 and 2020 was 80.8°F (NOAA NCEI, 2025). There is little variation throughout the year, with high islands such as Kosrae being generally hot and humid. Rainfall across the FSM is generally plentiful, with Kosrae receiving an annual average of approximately 196 inches based upon 1991–2020 records (NOAA NCEI, 2025).

The FSM as a whole, including Kosrae, is strongly affected by the El Niño Southern Oscillation (ENSO), which has a particularly forceful influence on minimum air temperatures during the wet season (Australian Bureau of Meteorology and CSIRO, 2011). El Niño is also associated with reduced rainfall during the dry season. La Niña years are associated with extremely high tides in the FSM, which can lead to seawater inundation of crops and freshwater supplies (Fletcher & Richmond, 2010). The FSM is also vulnerable to extreme weather-related events, particularly typhoons, storm waves, flooding, landslides and drought.

Air and sea surface temperatures across the FSM are increasing, with waters around the FSM warming by approximately 0.11°C per decade in the eastern regions of the country and by 0.8°C per decade in the western regions since 1970 (Australian Bureau of Meteorology and CSIRO, 2011). Under a high emissions scenario, temperature increases greater than 2.5°C by 2090 are projected with high confidence for the FSM, with a similar temperature increase projected for the ocean surface (Australian Bureau of Meteorology and CSIRO, 2011).

Rainfall data show no significant changes over time in Kosrae. That being said, historical projections have suggested that annual rainfall may increase, somewhere in the range of >5% and >15% by 2090 depending upon the model used and the specific location within the FSM (Australian Bureau of Meteorology and CSIRO, 2011). Increasingly intense rainfall events, particularly when following drought conditions, are increasing sedimentation run-off and coastal erosion, which in turn impacts essential marine ecosystems, such as seagrass meadows, and in turn marine productivity (Houk et al, 2013).

Of particular importance to the FSM as a whole, and also to Kosrae, owing to reliance on near-shore coastal fisheries, are ocean acidification and sea level rise. In the case of ocean acidification, this is projected to rise throughout the 21st century resulting in reductions in the available form of calcium carbonate necessary for coral growth (Australian Bureau of Meteorology and CSIRO,

[1] Where recent, authoritative data were available through established national, regional, or global sources, these have been incorporated. Data sets lacking recent updates retain values from the previous Kosrae BSAP (2018) to avoid introducing unsupported estimates.

2011). As regards sea level, models suggest a rise of approximately 2–6 inches by 2030, and of approximately 8–24 inches by 2090 under a high emissions scenario (Australian Bureau of Meteorology and CSIRO, 2011). A 2010 study using the Coastal Module of the integrated Climate Framework for Uncertainty, Negotiation and Distribution assessment model suggested that a 1-meter sea-level rise by 2100 would incur damage costs in excess of 5% of GDP in the FSM (Anthoff et al, 2010).

A number of sectors within the FSM economy are recognized as being vulnerable to climate change, including fisheries, agriculture and tourism (FSM Department of Finance and Administration, 2018). These three sectors are all dependent upon a healthy environment and thriving biodiversity, which are themselves also considered highly vulnerable to climate change (FSM Department of Finance and Administration, 2018).

Kosrae State Vital Statistics based on 2005 Forest Inventory Analysis and 2010 Kosrae State Census

Geography	
Location	05° N, 163° E
Number of islands	1
Land area	43 sq. miles (27,520 acres)
Forest (including agroforest)	41.4 sq. miles (26,496 acres)
Non-forest vegetation	1 sq. miles (665 acres)
Cropland	0.006 sq. miles (4 acres)
Urban (including urban cultivated)	1.2 sq. miles (751 acres)
Other (including water)	0.4 sq. miles (247 acres)
Ocean area	560 sq. miles
Climate	
Annual average temperature (1991–2020)	80.8°F
Annual average rainfall (1991–2020)	196 inches
Demographics	
Population	5,092
% of total FSM population	6.7%
Population density	118 per sq. mile
Economics	
Average annual wage (real)	$5,020
% households involved in subsistence activity	81%
% contribution to national total household income	7.1%

Part 2: Biodiversity in Kosrae[2]

Biodiversity across the FSM is incredibly rich, with FSM recognized as part of the globally important Polynesia-Micronesia biodiversity hotspot (CEPF, 2007).

The waters of the FSM are home to 1,221 species of fish. Of these, 1,070 are associated with the extensive reef system (Froese & Pauly, 2018). In fact, the wider Micronesia region is estimated to contain 4% of the world's coral reefs, with reefs a defining feature of the FSM.

There are four main harbors nestled amongst the mostly mangrove-ringed island, which is dotted with several strands of sandy beaches and surrounded with a fringing reef. The reef flats that surround Kosrae are considered to be among some of the most pristine remaining in the world. The basis of the reefs, the corals themselves, are incredibly diverse in the waters of the FSM, with both soft and hard/stony corals extensively represented. The International Union for Conservation of Nature (IUCN) Red List of Threatened Species lists 436 species of coral in the FSM's waters, 153 of which are considered to be endangered and 26 vulnerable (IUCN, 2025). Biological surveys of reefs across the FSM have assessed the percentage of reefs that can be considered to be above the 'effectively conserved' threshold in the context of the Micronesia Challenge, based upon a number of criteria contributing to an overall ecosystem condition score. In Kosrae, 20% of outer reefs meet the threshold. The data from these surveys also demonstrated that fishing pressure was a primary determinant of reef condition.

The FSM also supports approximately 36.3 sq. miles of mangrove forest across the islands, approximately 5.4 sq. miles of which are in Kosrae (Donnegan et al, 2011). Indeed, much of the FSM is covered with forests, and Kosrae is no exception. With an estimated 41.4 sq. miles of forest, almost 95% of Kosrae is forested (Donnegan et al, 2011). Of this, upland forest covers 28.5 sq. miles, swamp forest covers 1.8 sq. miles and agroforest covers 5.8 sq. miles (Donnegan et al, 2011). Cropland accounts for only approximately 4 acres of land in Kosrae, and areas classified as 'urban cultivated' account for 438 acres (Donnegan et al, 2011).

Kosrae is home to a number of important endangered species, including a fruit bat and the Micronesian pig. The only remaining stand of *Terminalia carolinensis* trees in the world, locally known as Ka, is found in Kosrae.

Of the many environmental threats facing many places on Earth today, including the State of Kosrae, perhaps none is more serious than the loss of biodiversity – the variety of species, ecosystems, and ecological processes that form the basis for continued life on Earth. The problem of biodiversity loss is so significant and urgent simply because of its irreversibility. Once a species is extinct, it is lost forever. Moreover, because humankind is so dependent on ecosystem services provided by biodiversity, the degradation or loss of habitat and species poses a serious risk to humans. Thus, the significance of nurturing the biodiversity of Kosrae State through maintaining its habitats and ecosystems is vital to ongoing social, economic and cultural development, and to sustaining its rich traditions.

As demand for a consumer lifestyle increases, there are growing pressures on the island's resources that must be managed sustainably for future generations. A coordinated approach to biodiversity conservation through an agreed-upon plan can contribute to the overall environmental health of the island. The people of Kosrae therefore outline below the Kosrae Biodiversity Strategy and Action Plan (BSAP) that should be used in conjunction with the FSM National Biodiversity Strategy and Action Plan (NBSAP), the land use plan and other resource management strategies to address priorities for the conservation and sustainable use of its biological resources.

It is recognized that a number of threats to the biodiversity of Kosrae, and the entire FSM, exist. These threats, which have been identified at a national level and are relevant to Kosrae State, are broadly categorized as climate change, environmental conversion and degradation from unsustainable land use, over-exploitation of resources, pollution from solid waste and land-based sources, the proliferation of invasive alien species, and infrastructure development that often proceeds without adequate environmental impact assessments (Kingsford et al., 2009).

In light of these threats, since the introduction of the first Kosrae BSAP in 2004, significant developments toward comprehensive biodiversity conservation in Kosrae and throughout the FSM have been undertaken, with a network of strong partnerships having been built between governments at all levels, academic and research institutions, international, regional, national and state-based non-governmental organizations and community-based organizations. The multitude of initiatives that has been undertaken demonstrates the recognition of the importance of biodiversity conservation. For example, in 2005, Utwe, Kosrae was declared a biosphere reserve under the United Nations Educational, Scientific and Cultural Organization (UNESCO) biosphere reserves program, which is designed to identify sites that support both biodiversity conservation and sustainable use.

Notably, the first conservation easement in the region was established in Kosrae in 2014. The easement, a system whereby landowners surrender certain development rights in return for annual payments from an easement fund, was implemented to protect the Yela Ka Forest, the largest stand of *Terminalia carolinensis* trees in the world. This enables traditional ownership of the forest, and sustainable

[2] Where recent, authoritative data were available through established national, regional, or global sources, these have been incorporated. Data sets lacking recent updates retain values from the previous Kosrae BSAP (2018) to avoid introducing unsupported estimates.

traditional harvest of forest and medicinal resources, to continue while preventing future development of the land. The easement also allows for some eco-tourism activities.

Perhaps the most significant conservation initiative to come about since the initial Kosrae BSAP was drafted is the establishment of the Micronesia Challenge. In 2006 the FSM, along with the Republic of the Marshall Islands, the Republic of Palau, Guam, and the Commonwealth of the Northern Mariana Islands (CNMI), developed and committed to the Micronesia Challenge, which had the dual aims of conserving 30% of near-shore resources and 20% of forest resources across Micronesia by 2020. This initiative has now evolved into the more ambitious Micronesia Challenge 2030, with an expanded goal for the "*effective management of 50% of marine resources and 30% of terrestrial resources by 2030*." This goal encapsulates the initial conservation goals and sees the incorporation of additional goals related to sustainable livelihoods, fisheries management, and climate resilience (Micronesia Challenge, 2024).

Recently, the nation has operationalized the Protected Areas Network (NPANPF), which is designed to facilitate the national government's delivery of assistance to its states in the protection of significant areas of biodiversity, key habitats, and other valuable resources. The NPANPF is designed to augment efforts at the state, municipal, and community levels throughout the country to achieve conservation and climate change adaptation goals, which broadly reflect the country's participation in the Micronesia Challenge, the United Nations Convention on Biological Diversity, and the United Nations Framework Convention on Climate Change. There are currently four marine protected area sites and two terrestrial protected area sites in Kosrae.

In working to achieve the Micronesia Challenge marine and terrestrial targets, government and non-government partners across the FSM have championed the creation of new terrestrial and marine protected areas to support resilient ecosystems, better able to withstand the impacts of climate change and marine protected areas have proven to be one of the best ways to protect diverse and healthy marine ecosystems and coral reef communities. As of January 2022, these efforts have ensured that 6,684 km^2 (30%) of the marine environment and 96 km^2 (15%) of the terrestrial environment are under effective management (Micronesia Challenge, 2024). Kosrae has placed 4% of its marine resources and 21% of its terrestrial resources under effective management (Micronesia Challenge, 2024).

The FSM National and State governments and their numerous partners are also working towards sustainable financing for protected areas. This includes the FSM's Micronesia Challenge Endowment Fund, administered by the MCT and valued at $6.42M as of January 2024 (Micronesia Challenge, 2024).

Part 3: Background to the Kosrae Biodiversity Strategy and Action Plan

Development Process for the Revised Kosrae BSAP

The Kosrae BSAP revision process consisted of extensive desk research, in-person consultations, and a subsequent validation process, as described below.

Initial, extensive research was undertaken to provide the latest possible data and information regarding the status of biodiversity within the FSM as a whole, and Kosrae State, and the pressures it is under.

The Objectives and Actions as defined in the prior Kosrae BSAP were taken out to consultation, and a multi-stakeholder group was engaged in a two-day workshop to review the BSAP for ongoing relevance, identifying what progress had been made, where additional efforts were needed under current Objectives and Actions, where new actions were required, and what costs might be associated with implementation of individual Actions. These groups comprised officials from State and Municipal governments, regional, state and community NGO representatives, technical experts, scientists, researchers and educators.

In addition to these consultations, a specific women's focus group was held to ensure that the different interactions with and observations of biodiversity experienced by women in Kosrae were understood and incorporated into the revised BSAP.

Following this process, all feedback was collated and combined into a revised document. This document was circulated to a select group from the original consultations, who then convened for a further two-day validation workshop.

This process was part of a wider set of consultations undertaken as part of the revision of the FSM National Biodiversity Strategy and Action Plan (NBSAP). The revision of the NBSAP took account of each of the states' revised BSAPs, as well as being consulted upon separately. By following this process, it is intended that the NBSAP and individual state BSAPs are mutually supportive and reflect each other.

Part 4: The Kosrae State Biodiversity Strategy and Action Plan

Vision

To achieve a sustainable, diverse, and healthy environment respected and safeguarded by Kosraeans for present and future generations.

Guiding Principles

The goal of the Kosrae BSAP is successful action to conserve Kosrae State biodiversity, and must address the full range of causes of its current loss through conservation programs, protection of biodiversity, sustainable use of natural resources, restoration of endangered species, and the building of individual human capacity for conserving biodiversity through awareness programs.

Information presented in this BSAP

The Kosrae Biodiversity Strategy and Action Plan is structured around six Objectives:

- Objective 1. To develop, review, and enforce policies and regulations for sustainable harvesting of natural resources
- Objective 2. To create and implement education and awareness programs in the community that address biodiversity conservation and climate change
- Objective 3. To improve, manage and preserve areas of biological significance
- Objective 4. To minimize waste contributing to the pollution of our environment
- Objective 5. To implement programs and practices for the security of our genetic, historic, and traditional resources and knowledge
- Objective 6. To develop programs for restoring biodiversity and species habitat

Indicators for each Action under these Objectives are identified to support implementation.

Estimated annual costs are provided to achieve each Action. These are based upon the selection of annual funding brackets for each Action through the consultation process. These funding brackets were:

- <$5,000
- $5,000–$25,000
- $25,000–$50,000
- $50,000–$100,000
- >$100,000

Costs are defined as 'minimum' as it is understood that many Actions may require funding that far exceeds the $100,000 value included in the upper cost bracket.

Each cost is identified as requiring 'new' funds, use 'existing' funds, or a 'mix' of new and existing funds.

While specific constraints are noted under each Action, it is acknowledged that limited technical capacity and insufficient or short-term funding remain overarching constraints affecting implementation across all Objectives within the Kosrae BSAP.

Implementation and Monitoring

Monitoring the implementation of the Kosrae BSAP is an essential part of ensuring ongoing activity and progress towards its Goals and Objectives. This must be balanced with resource capacity to undertake full-scale monitoring across the entirety of the suite of State BSAPs and NBSAP.

It is the intention that an annual progress review will be undertaken, involving the collection and collation of information and data regarding the progress of the Implementation Actions within the Kosrae BSAP. It is anticipated that this will require the convening of a working group that will also be responsible for ensuring implementation of the Kosrae BSAP overall.

Annual progress reviews will record the status of each Implementation Action, in line with CBD reporting standards (i.e. Achieved / On track to achieve / Progress made but at an insufficient rate / No significant progress / Not applicable / Unknown), share data relating to the specific indicators for each Implementation Action and its timeline, provide brief progress notes, and record key challenges or reasons for delays. This information will be recorded in a dedicated database that will link to the National Monitoring Framework that is under development.

The management of this process, and the storage of all information and data, will be the responsibility of the Kosrae Island Resource Management Authority.

A full review and revision of the BSAP will be undertaken after five years, in 2030. This will follow a similar process of consultations and validation that have been utilised in the current revision. 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 BSAP and will ensure that all Objectives and Actions remain relevant and reflect the challenges and unmet needs of Kosrae's biodiversity at that time.

Objective 1

To develop, review, and enforce policies and regulations for sustainable harvesting of natural resources

Progress to date

Implementation of Objective 1 has centered on activities that are already embedded within routine practice. Annual training for enforcement officers and annual forums for policymakers continues to be held each year, providing a consistent platform for coordination, information sharing, and discussion of policies and regulations relating to the sustainable use and management of natural resources. These activities are ongoing and form a regular part of implementation under this objective.

Progress across other actions reflects continued use of existing administrative and regulatory arrangements. Relevant systems are already in place, including mechanisms related to enforcement, permitting, and fees, although some remain general in nature or are based on legislation that has not been updated for some time. Overall, progress to date reflects continued application of existing frameworks, with future effort directed toward refinement and consolidation.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Conduct one (1) annual training to enforcement officers and one (1) forum among policymakers on policies and regulations regarding sustainable use and management of natural resources to support the continued deputization of conservation enforcement officers (inclusive of all resource managers)	• Annual training held • Annual forum held • Number of conservation enforcement officers deputized per year	$25,000–$50,000 (new)	• Outmigration
Undertake a process of legislative review in relation to the harvesting of biodiversity and natural resources with a view to ensuring their conservation and protection through the strengthening of laws and regulations	• Legislative review report completed and shared with decision-makers during the BSAP lifecycle • Number of laws/regulations amended or updated as a result of the report	>$100,000 (new)	• In-state legal expertise • Political will
Develop a fee structure for the exportation of significant species such as mud crabs, lobster, and other species considered threatened	• Fee schedule formally adopted through regulations during BSAP lifecycle • Annual revenue collected at ports/airport	$5,000–$25,000 (new)	• Capacity / manpower
Update the Kosrae Protected Areas Network	• Map and list of the Kosrae Protected Area Network sites maintained annually	$25,000–$50,000 (new)	• Community engagement for site validation
Integrate the national Protected Areas Network 2018 interim policy into the Kosrae Protected Areas Network Act	• National PAN 2018 interim policy is integrated by end 2028	$5,000–$25,000 (new)	• Political prioritization

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Clarify and document procedures for Kosrae State engagement with the national Endangered Species Act, including roles in species listing and management	• Written procedure developed and endorsed during the BSAP lifecycle • Relevant staff briefed and trained	$5,000–$25,000 (new)	• Lack of clarity regarding Endangered Species Act • Coordination between State and National Government

Objective 2

To create and implement education and awareness programs in the community that address biodiversity conservation and climate change

Progress to date

Implementation of Objective 2 has focused on education and awareness activities delivered through a mix of coordination, informal learning, and existing communication channels. Annual cross-site learning exchanges have been undertaken, as well as the Youth2Youth summer program, and a program of public-school visits. Combined, these exchanges have supported knowledge sharing between sites and programs, although their continuation remains funding dependent.

Public awareness efforts are supported through existing institutional channels, though agencies such as KIRMA, DREA, and KCSO are limited to mainly using social media platforms to share information. Additional education-related activities have included job-shadowing opportunities for high school students, although these are not currently delivered with an environmental focus. The Historical Preservation Office continues to collect and document traditional knowledge. Overall, progress reflects continued use of existing mechanisms and programmes to support education and awareness, with future effort directed toward strengthening resourcing, expanding environmental focus, and improving consistency of delivery.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to conduct quarterly meetings between environmental agencies to enable ongoing education and awareness programs about local biodiversity conservation and climate adaptation to schools, communities, and the general public	• Number of quarterly meetings held and documented • Awareness materials produced and disseminated annually • Number of people reached annually	$5,000–$25,000 (new)	• Prioritization • Coordination
Continue to support the summer internship program for pre-juniors and pre-senior students in high school to gain experience working in the environmental sector	• Number of students enrolled per year	$5,000–$25,000 (new)	• Placement opportunities
Integrate traditional knowledge regarding biodiversity conservation and climate adaptation into existing and future programs and initiatives, including educational curricula	• Number of surveys conducted and archived per year • Number of programs integrating traditional knowledge annually	$5,000–$25,000 (mixed)	• Reluctance of individuals to share knowledge
Develop and host an annual International Environment Day event in collaboration with the Department of Environment, Climate Change & Emergency Management	• Annual event held • Number of attendees per event	$5,000–$25,000 (new)	• Coordination • Political will

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop an annual exchange program linked to existing Locally Managed Marine Areas programs	• Number of annual exchanges between Locally Managed Marine Areas held • Number of participants in exchanges • Documentation of learning shared with communities	$5,000–$25,000 (new)	• Coordination
Develop and host a State Environment Conference every two (2) years to precede the Joint Environment and Disaster Platform by approximately 3 months	• State Environment Conference held • Number of attendees per event • State talking points developed for the Joint Environment and Disaster Platform • Conference report published	>$100,000 (new)	• Political support

Objective 3

To improve, manage and preserve areas of biological significance

Progress to date

Progress under this objective reflects ongoing efforts to link priority Areas of Biological Significance with the Protected Areas Network. Existing protected areas remain in place and identified priority sites are considered for inclusion as opportunities arise. Overall, progress to date reflects continued application of existing frameworks for site identification and protection, with future effort directed toward strengthening prioritisation and formal inclusion within the Protected Areas Network; there are currently four marine and two terrestrial protected areas, with an additional two marine and three terrestrial sites identified as potential protected areas.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Maintain and update the list of Areas of Biological Significance (ABS), including identification of new sites, and prioritise selected ABS for inclusion in the Protected Areas Network	• Number of new ABS entries identified per year • Revised ABS list produced and endorsed during the BSAP lifecycle • Number of priority ABS legally designated as part of the Protected Areas Network • Increase in total protected area coverage	$25,000–$50,000 (mix)	• Resource owners consent for assessment • Technical support for site management plan development • Resistance towards over-protecting the island
Enforce environmental impact statement requirements for all development projects in areas of biological significance	• Number of environmental impact assessments undertaken and percentage of development projects undertaking environmental impact assessments per year • Number of permits issued per year • 100% of development projects undergo EIS • Resource manager identified and deputized	$5,000–$25,000	• Awareness • Community involvement
Updated Rapid Ecological Assessment to be undertaken of the whole island	• Assessment undertaken by end 2028	>$100,000	• Technical capacity
Ensure legislative endorsement of 2020 Kosrae Land Use Plan	• Land Use Plan endorsed by end 2026	$5,000–$25,000	• Political will

Objective 4

To minimize waste contributing to the pollution of our environment

Progress to date

Progress under Objective 4 has seen the continued implementation of laws, systems, and institutional arrangements to minimize waste and pollution. A littering law remains in place, with enforcement support from the Kosrae Conservation Enforcement Taskforce (KCET). KIRMA's education unit conducts awareness activities while clean-up events take place regularly, often associated with notable days such as World Environment Day. A state-wide solid waste collection system continues to operate through an inter-municipal arrangement managed by the Department of Transportation, with weekly collection in each municipality and household fees paid to municipal governments. Recycling activities continue, including the collection of cans and plastics, and a clean-up day focusing on end-of-life vehicle collection is planned to take place once per community by the end of 2025.

Regulatory measures addressing waste and pollution remain in effect. Styrofoam has been banned from entering FSM since 2019. Development projects valued over $5,000 are required to obtain permits from KIRMA, including provisions for managing project-related waste. Additional pollution controls are in place across other sectors. Livestock regulations prohibit pig pens near streams, with farmers having converted to dry litter systems with support from the Ride-to-Reef project. Sewage and septic systems remain in place but face constraints, with oxidation ponds in Tofol and sewage systems in Lelu no longer functioning effectively. Households rely on septic tanks, with transport services provided by the Department of Transportation.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Enhance the enforcement of the littering law and support and secure funding for a group focusing on maintaining awareness of the littering law and pollution regulation	• Level of annual funding secured per year • Number of training activities undertaken per year • Number of people trained per year • Number of anti-littering signs put up per year	$25,000–$50,000 (new)	• Stable funding • Personnel changes
Strengthen monitoring and enforcement of the littering law and pollution regulation	• Number of successful prosecutions under the littering law per year	$25,000–$50,000 (new)	• Political will
Identify a new landfill site	• New landfill site identified during the BSAP lifecycle	$25,000–$50,000 (new)	• Community willingness • Political will
Update the Kosrae State Solid Waste Management Plan	• Updated plan produced by end 2028 • Data on waste vs recycling per year • Number of participating households per year	>$100,000 (mix)	• No used oil storage facility • Appropriate uniforms • Individual ability to pay fees
Conduct a survey to identify the level of non-compliance with existing livestock regulations and laws	• Survey conducted by end 2027	$5,000–$25,000 (new)	• Traditional culture

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Strengthen the enforcement of existing regulations restricting the development of livestock farms on or along aquatic areas, and develop an enabling law for livestock management	• Number of farms utilizing dry-litter piggery system per year • Number of farms with septic tanks per year • Number of farmers changing practices per year • Number of complaints regarding free-roaming livestock	$25,000–$50,000 (new)	• Labor to create dry litter • Materials for new farm systems and practices
Upgrade and comply with sewage discharge systems standards to meet EPA standards in all new and existing developments	• Percentage of water treated per year • Number of households with sewage septic systems per year • Number of households in compliance with sewage system standards per year • Percentage coverage of Lelu sewage system during the BSAP lifecycle	>$100,000	• Maintenance of oxidation ponds • Technical capacity
Enhance the existing system of hazardous waste management to ensure proper documentation, tracking, and end-of-life management, including the prevention of unsafe discharge of hazardous chemicals on land and in aquatic areas, and the development of a storage facility for waste oil and hazardous chemicals	• Hazardous waste management plan developed by end 2028 • Number of hazardous chemical permits issued per year • Establishment of hazardous waste storage facility during the BSAP lifecycle	>$100,000 (existing)	• Funding for persistent organic pollutant training • Spill reporting • Equipment • Disaster assessment procedures • Awareness
Evaluate gaps between national and state laws regarding the import of Styrofoam and plastic bags and collaborate with national government to enhance enforcement of relevant Kosrae State law	• Evaluation report published by end 2026 • Number of citations or violations issued per year	$25,000–$50,000 (new)	• Enforcement • Awareness • Capacity of trained individuals • Equipment to identify specific materials
Implement legislation to ensure those undertaking projects or developments are responsible for the cost of disposing of the associated trash and waste generated	• Quantity of construction waste generated per year • Number of permits issued for projects and development per year	<$5,000 (existing)	• Non-compliance

Objective 5

To implement programs and practices for the security of our genetic, historic, and traditional resources and knowledge

Progress to date

Progress under Objective 5 shows a mix of completed actions, ongoing activities, and initiatives still under development. Regulations for the research and use of genetic resources were achieved through the Kosrae Access and Benefit-Sharing (ABS) Act in 2015, which includes provisions related to traditional knowledge. Regulations addressing Prior Informed Consent and Mutually Agreed Terms were developed in 2016–2017. Since that time, two plant species with cosmetic potential have been identified, although further progress on patenting has not yet occurred and would require external technical support.

Progress has been made toward establishing a center to promote and foster traditional knowledge sharing. The Kosrae Cultural Center, consisting of a collection of buildings, is currently at the design stage with completion anticipated to take place in less than five years, indicating that while progress has occurred, implementation is advancing at a slower pace than originally planned.

Awareness programs to support the continued survival of traditional knowledge and traditional resource-use practices are ongoing. These include activities linked to Cultural Day, the State Fair, and Senior Citizens Day, as well as efforts to document social and cultural events for the preservation of traditional knowledge. Additional work is being undertaken with PREL to provide learning experiences for youth, contributing to intergenerational knowledge sharing.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to implement the Access and Benefits Sharing Act to manage and protect genetic resources and traditional knowledge	• Number of Mutually Agreed Terms developed per year • Number of patents applied for per year	$100,000 (new)	• Lack of national legislation • Coordination • Enforcement
Develop Mutually Agreed Term for traditional knowledge research permits	• Mutually Agreed Terms template is developed • Number of Mutually Agreed Terms developed per year	$5,000–$25,000 (new)	• Identification of suitable designer/design • Funding
Develop awareness programs to ensure the continued survival of traditional knowledge and traditional methods of resource use	• Number of calendar events held per year • Number of participants per event	$25,000–$50,000 (new)	• Coordination

Objective 6

To develop programs for restoring biodiversity and species habitat

Progress to date

Progress under Objective 6 shows a mix of achieved actions and ongoing implementation across restoration and community-based activities. A key milestone has been the recruitment of a Protected Areas Network (PAN) Coordinator, with state legislation approving funding to support the role.

Implementation has focused on expanding rehabilitation programmes across terrestrial and marine environments, including mangrove, coral, coconut, trochus, and clam initiatives. Protected areas such as Walung MPA and Kupluc Mangrove Reserve now have management plans in place and are progressing toward registration in the PAN. Community-based structures are in place through Resource Management Committees and Local Management Authorities, although stewardship planning and management plan updates are progressing at a slower pace. Regular clean-up activities and events such as Environment Day, Ocean's Day, and Micronesia Clean-up Day are ongoing, with high levels of community participation. Research capacity has also been supported through new programmes, training, and the establishment of a specimen room, although additional budget is needed to expand these facilities.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Ensure the State provides funding for the Protected Areas Network Coordinator role	• Post fully-funded by state during the BSAP lifecycle • Coordinator role is filled	$50,000 – $100,000 (new)	• Organizational structure to be adjusted
Ensure enforcement and monitoring of protected area management plans	• Number of management plans monitored per year • Management plan monitoring data reported each year	$25,000–$50,000 (new)	• Technical capacity
Register Walung and Kupluc in the Protected Areas Network by end 2026	• Walung and Kupluc registered as protected areas by end 2026	$50,000 – $100,000 (new)	• Coordination • Community engagement
Ensure all PA management plans are maintained and updated	• Number of management plans updated per year • Number of management plans deemed 'out of date' per year	$5,000 – $25,000 (mix)	• Technical capacity • Community engagement
Continue to implement regular underwater and on-land community clean-ups	• Number of calendar events held per year • Number of participants per event	$25,000 – $50,000 (mix)	• Time to plan and implement • Coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to support on-island research facilities and expand existing specimen collection	• Number of research studies supported/hosted per year • Number of specimens in collection over time	$50,000 – $100,000 (mix)	• Political will
Install tide gauge	• Tide gauge installed by end September 2026	>$100,000 (new)	• Funding

References

Anthoff, D., Nicholls, R.J., & Tol, R.S.J. (2010). The economic impact of substantial sea-level rise. *Mitigation and Adaptation Strategies for Global Change*, 15, 321–335.

Australian Bureau of Meteorology and CSIRO. (2011). Climate Change in the Pacific: Scientific Assessment and New Research. Volume 1: Regional Overview. Volume 2: Country Reports.

CEPF: Critical Ecosystem Partnership Fund. (2007). Ecosystem Profile. Micronesia-Polynesia Biodiversity Hotspot. CEPF.

Donnegan, J.A., Butler, S.L., Kuegler, O., & Hiserote, B.A. (2011). Federated States of Micronesia's forest resources, 2006. Resource Bulletin PNW-RB-262. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Fletcher C.H., & Richmond, B.M. (2010). Climate Change in the Federated States of Micronesia Food and Water Security, Climate Risk Management, and Adaptive Strategies. Honolulu, HI: University of Hawai'i Sea Grant College Program.

Froese, R., & Pauly, D. (Editors). (2018). FishBase. World Wide Web electronic publication. Retrieved from: www.fishbase.org, version (Accessed: July 2018).

FSM Department of Finance and Administration. (2018). *Country Program Federated States of Micronesia. Green Climate Fund.* Palikir, Pohnpei: FSM Department of Finance and Administration.

FSM Division of Statistics. (2023). https://stats.gov.fm (Accessed: December 2025).

FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management. (2014). Household Income and Expenditure Survey 2013/14 Main Analysis Report. Palikir, Pohnpei: FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management.

FSM: Federated States of Micronesia. (2004). Federated States of Micronesia's Strategic Development Plan (2004–2023). Retrieved from: http://prdrse4all.spc.int/content/fsm-strategic-development-plan-2004-2023 (Accessed: May 2018).

Houk, P., Golbuu, Y., Gorong, B., Gorong, T., & Fillmed, C. (2013). Watershed discharge patterns, secondary consumer abundances, and seagrass habitat condition in Yap, Micronesia. *Marine Pollution Bulletin*, 71, 209–215.

IUCN. (2025). Retrieved from: http://www.iucnredlist.org (Accessed: December 2025).

Kingsford, R.t., Watson, J.E.M., Lundquist, C.J., Venter, O., Hughes, L., Johnston, E.L., Atherton, J., Gawel, M., Keith, D.A., Mackey, B.G., Morley, C., Possingham, H.P., Raynor, B., Recher, H.F., & Wilson, K.A. (2009). Major Conservation Policy Issues for Biodiversity in Oceania. *Conservation Biology*, 23, 834–840.

Micronesia Challenge. (2024). Micronesia Challenge 2030 Sustainable Finance Plan. Micronesia Challenge.

NOAA NCEI: National Oceanic and Atmospheric Administration National Centers for Environmental Information. (2025). Data retrieved from: https://www.ncei.noaa.gov/access/us-climate-normals/ (Accessed: December 2025).

U.S. Department of State. (2017). Bureau of Economic and Business Affairs 2013 Investment Climate Statements. Retrieved from: https://2009-2017.state.gov/e/eb/rls/othr/ics/2013/204694.htm (Accessed: December 2025).