

The Federated States of Micronesia
National Biodiversity Strategy and Action Plan
2026–2030

Foreword



The President
Palikir, Pohnpei
Federated States of Micronesia

FOREWORD



The Federated States of Micronesia is a nation built upon its abundant natural resources and rich biodiversity. These resources sustain our livelihoods, shape our cultures, and underpin our wellbeing. As part of one of the world's biodiversity hotspots, we share both a responsibility and a privilege to conserve and manage these resources for present and future generations.

The Federated States of Micronesia National Biodiversity Strategy and Action Plan (NBSAP) 2026–2030 provides a clear framework to guide this effort. It builds on the achievements and lessons of previous NBSAPs, while setting out renewed priorities and practical actions for the next five years. This ambitious plan reflects the dynamic nature of our environment and establishes targets that are both realistic and essential to our sustainable development. At its core remains our enduring commitment to conserve and protect our biodiversity, while enabling its sustainable management and utilization for the benefit of all FSM citizens.

This NBSAP also responds to evolving global commitments under the Convention on Biological Diversity, including the Kunming-Montreal Global Biodiversity Framework. It aligns our national targets with global goals, while recognising the unique context, needs, and capacities of the Federated States of Micronesia.

As we continue to pursue sustainable development and strengthen our resilience to climate change, the protection and management of our natural ecosystems will remain central to our national priorities.

The development of this NBSAP has been a collaborative national effort. It has brought together representatives from National, State, and Municipal Governments, non-governmental organisations, community leaders, and communities across all four States. Their commitment and contributions have ensured that this plan reflects both national priorities and realities on the ground. I extend my sincere appreciation to all those who contributed their time, knowledge, and expertise to this process.

Successful implementation of this NBSAP will require continued coordination and partnership across all levels of government, as well as the active engagement of communities, organisations, and development partners. Through this collective effort, we can ensure that our natural heritage is protected and continues to support our nation's resilience and prosperity.

I hereby endorse the National Biodiversity Strategy and Action Plan 2026–2030 for the Federated States of Micronesia.


Wesley W. Simina
President

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Executive Summary

The Federated States of Micronesia (FSM) is a nation of exceptional and globally significant biodiversity. This biodiversity underpins the country's traditional cultures and practices, supports food security and livelihoods, and is fundamental to the long-term health, resilience, and prosperity of the nation. As an island nation, with many low-lying islands and a large proportion of the population living in coastal and near-shore environments, the FSM is among the countries most exposed to the impacts of climate change. Healthy, well-managed ecosystems provide the strongest and most cost-effective means of responding to these challenges, enhancing resilience to climate impacts while continuing to support economic and social development.

The biodiversity of the FSM faces increasing pressure from a range of interlinked threats, including habitat degradation and conversion, over-exploitation of natural resources, pollution and waste, invasive species, infrastructure development, and the accelerating impacts of climate change. Climate change is no longer a future risk but a present and escalating reality for the FSM, magnifying existing pressures on ecosystems and communities. Addressing biodiversity loss and climate vulnerability together is therefore both an environmental and a national development priority.

This National Biodiversity Strategy and Action Plan (NBSAP) 2026–2030 provides a strategic framework and practical roadmap for conserving, protecting, and sustainably using the biodiversity of the FSM in the face of these challenges. The vision of this NBSAP is that the FSM will have more extensive, diverse, and higher-quality marine, freshwater, and terrestrial ecosystems that meet human needs and aspirations fairly, preserve and utilize traditional knowledge and practices, and sustain the ecological functions necessary for all life.

The NBSAP 2026–2030 has been developed through an inclusive and consultative process involving national and state government agencies, non-governmental and community-based organizations, traditional leaders, scientists, and development partners from across all four states. It builds on the substantial progress achieved under previous NBSAPs and reflects lessons learned from implementation over time, while responding to emerging national, regional, and global priorities.

The structure of the NBSAP retains eleven thematic areas that have proven effective for organizing biodiversity action in the FSM, covering ecosystem and species management, genetic resources, agrobiodiversity, sustainable industry, biosecurity, waste management, institutional capacity, resource owner engagement, biodiversity mainstreaming, and financial sustainability. Within each theme, the NBSAP identifies clear objectives and actions to be implemented during the 2026–2030 period.

This NBSAP is aligned with the Kunming–Montreal Global Biodiversity Framework and contributes directly to the FSM's international commitments under the Convention on Biological Diversity. It also supports national development priorities, including those articulated in the FSM Strategic Development Plan 2024–2043, by recognizing biodiversity and ecosystem health as foundational to economic self-reliance, climate resilience, food security, and sustainable livelihoods.

The implementation of the NBSAP 2026–2030 will require sustained investment over the five-year period. The indicative annual cost of implementation of all actions is estimated to be in excess of \$16 million. This estimate includes actions that are already supported by existing financing, and will be further refined through annual planning and budgeting processes.

Environmental management and biodiversity conservation in the FSM are primarily implemented at the state and community levels, within a decentralized governance system and in the context of customary land and marine tenure. This NBSAP therefore places strong emphasis on coordination between national and state governments, meaningful engagement with traditional leaders and resource owners, and practical implementation mechanisms that reflect the realities of governance and capacity across the FSM. This NBSAP is also directly linked to each of the State Biodiversity Strategy and Action Plans.

To ensure the NBSAP remains relevant, adaptive, and results-focused, it includes provisions for monitoring and review of progress. An implementation and reporting framework will support tracking of actions, identification of emerging priorities, and ongoing learning over the life of the Plan. Through this approach, the NBSAP 2026–2030 is intended to remain a living document that guides effective biodiversity conservation and sustainable development in the FSM.

Part 1: Introduction to the FSM

The Federated States of Micronesia (FSM) is an independent sovereign nation located in the North Pacific approximately 2,485 miles/4,000 km southwest of Hawaii and 1,864 miles/3,000 km north of eastern Australia, and lying just above the equator. The FSM comprises four states from west to east; Yap, Chuuk, Pohnpei and Kosrae. Formerly part of the United Nations Trust Territory of the Pacific Islands under US administration, which also included the Marshall Islands, the Northern Mariana Islands and Palau, the FSM ratified its own constitution in 1979. In 1986 the FSM signed a Compact of Free Association with the United States, and full independence was recognized in 1991 with the termination of the United Nations trusteeship. The Compact of Free Association with the United States makes provision for, among other things, economic support for the FSM. The terms of the Compact were renegotiated in 2003 and again in 2023.

Geography and geology

The FSM comprises four of the five island groups that make up the Caroline Islands archipelago. Extending across 1,680 miles/2,700 km east to west, and made up of 607 islands, the FSM has a total land area of approximately 271 sq. miles/702 km² with more than 3,730 miles/6,000 km of coastline (CIA, 2018). The FSM is a true ocean nation, with 1,525 sq. miles/3,950 km² of lagoon (Namakin, 2008) and an Exclusive Economic Zone that encompasses almost 1,158,300 sq. miles/3,000,000 km² of the Pacific Ocean.

The islands themselves represent a range of geological types: low coral islands, raised coral islands, low-lying atolls and volcanic 'high' islands (FSM, 2013). Volcanic outcrops are present on the high islands of Chuuk, Kosrae and Pohnpei, and island elevations range from sea level to a high point of 782 m at Nanlaud, Pohnpei (CIA, 2018). Each state is centered on one or more of these high islands, and all but Kosrae State contain numerous outlying atolls (FSM, 2013).

Population

The population of the FSM is culturally diverse and geographically dispersed.

The 2023 Population and Housing Census records a total population for the FSM of 75,817 (FSM Division of Statistics, 2023). This demonstrates a 26.3% decline from the population of 102,843 recorded in the 2010 Census of Population and Housing (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d.). State populations for 2023 are recorded as: Yap, 10,739; Chuuk, 33,885; Pohnpei, 26,102, and Kosrae, 5,092. These suggest state-level declines in population of between 5.6% and 30% since 2010. It should be noted that there is currently no official estimate for the size of the diaspora population. Much of this decline is attributable to outmigration, particularly as an impact of the coronavirus disease 2019 (COVID-19) pandemic.

Economy

The FSM's economy is characterized by a mix of subsistence activities, government employment, and a developing private sector. It remains heavily reliant on external assistance, particularly through the Compact of Free Association with the United States (FSM, 2022; FSM, 2025). Nearly all households across the country engage in some form of subsistence activities (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d.). Based upon the 2013/14 Household Income and Expenditure survey, the average household income across the FSM is approximately \$13,000 (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, 2014).

The national budget of the FSM has been in surplus since 2008 as consolidated government revenues have grown faster than expenditures. Government revenues peaked at \$201.2 million in 2018, with the most recent data demonstrating revenues a little over \$135 million for the fiscal year 2021, while expenditure amounted to approximately \$120 million for the same year (FSM Department of Finance and Administration, 2022). Fishing licence fees continue to be a major contributor to the National Government's domestic revenue, amounting to \$69 million in the fiscal year 2021, a figure largely in line with previous years and projections for the future. In terms of growth, while real GDP growth was -1.2% in the fiscal year 2021, this was forecast to be 4.0% by 2025 (though confirmatory figures are not available) (FSM Department of Finance and Administration, 2022). The drop in GDP growth was largely a result of the COVID-19 pandemic, though in the fiscal year 2021, fisheries delivered 4.2% GDP growth, the only sector besides the wholesale and retail trade to deliver positive GDP growth.

It must be recognized that presently the FSM economy remains heavily reliant on external financial inputs. In 2024 the renewed Compact of Free Association with the United States of America came into effect, with an allocation of approximately \$3.3 billion of grant assistance across the subsequent 20 years (Congressional Research Service, 2024). External grants remain a major source of revenue, with \$69 million in grants received in the fiscal year 2021.

Naturally, the FSM is assiduously pursuing sustainable economic independence. Under the terms of the revised Compact, annual payments are made into a Compact Trust Fund with the purpose of supporting future economic independence by providing an annual source of revenue to the National Government. At the end of fiscal year 2021 the net value of the fund was calculated to be \$999.8 million (FSM Department of Finance and Administration, 2022).

Key economic sectors such as fisheries and tourism are directly dependent on the health of biodiversity. The SDP 2024–2043 identifies sustainable development of these resources as critical for achieving greater economic self-reliance (FSM, 2024a).

Governance in the FSM

The FSM is a constitutional democracy with a National Government, based in Palikir, Pohnpei, composed of executive, legislative and judicial branches. Governance of the FSM operates at national, state, municipal and traditional levels, with most power delegated to the four states by the national constitution. Each of the four states within the FSM has its own constitution, elected legislature and governor. Under the FSM constitution, each state has the power to function as a semi-autonomous government, able to enact its own legislation to address issues relating to natural resources, and each state has its own set of environmental laws and regulations. State governments hold 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. There is currently no role for traditional chiefs at the national level, though the FSM Constitution allows for the establishment of a Council of Chiefs. The role of traditional chiefs varies not only between states but also within states, between high islands and the low-lying outer islands. These differences are reflected by the varying degrees to which traditional governance is included in the different state constitutions. 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, while Kosrae is the only state not to contain a tradition-specific article in its constitution.

The federal system of decentralized governance gives each state primary responsibility for managing its land and near-shore marine resources, making state-level Biodiversity Strategy and Action Plans (BSAPs) essential components of the national conservation framework. Traditional governance is critical in relation to environmental matters, largely owing to the nature of land rights and ownership that govern the usage of natural resources.

Traditional Culture and Land Ownership

The traditional cultures of the FSM are unique and play vital roles in all aspects of life across the country. Whilst English is the official language of government and secondary and tertiary levels of education, each state has its own languages, traditional cultures and systems.

Land ownership in the FSM is limited to citizens of the FSM only, with land lease terms varying by state (U.S. Department of State, 2017). The majority of land and inshore marine areas are privately or collectively owned (The Nature Conservancy, 2003), with some variation between States. In Yap, the majority of land and near-shore marine areas are privately owned, and utilization of these areas is under traditional control. Similarly, in Chuuk most land and near-shore marine areas are in private hands, with ownership being predominantly inherited or gifted. In Pohnpei and Kosrae, the land is under a mix of private and State ownership, and the majority of near-shore marine areas are under State control and held as public trusts (FSM, 2010).

Traditional culture and customary governance systems remain fundamental to life and resource management in the FSM. Land and marine tenure systems vary by state, often involving complex systems of private, clan, or community ownership. The success of any conservation initiative is contingent upon the meaningful engagement of local communities and the integration of traditional knowledge and leadership, a principle that is central to this NBSAP.

The unique systems of land tenure that exist across the FSM are accompanied by varying traditional management practices, and these unique cultural differences therefore require unique approaches to biodiversity conservation that are both place and context specific. Indeed, the central role of traditional cultures across the FSM places communities at the center of biodiversity conservation.

The FSM Climate

The FSM has a tropical climate characterized by high rainfall and humidity and relatively uniform temperatures throughout the year. The average annual temperature between 1991 and 2020 was 81.5°F in Yap, 81.1°F in Pohnpei, 80.8°F in Kosrae, and 82.2°F in Chuuk (NOAA NCEI, 2025). There is little variation in temperature throughout the year, with no more than a 3°F difference between the average warmest and coolest months (Australian Bureau of Meteorology and CSIRO, 2011).

The high islands of Chuuk, Pohnpei and Kosrae are generally hot and humid, with particularly high rainfall between May and November. Rainfall in the FSM is generally plentiful, with a wet season from May to October and a dry season from November until April. The West Pacific Monsoon (WPM) affects rainfall in the FSM, particularly in Yap State (Australian Bureau of Meteorology and CSIRO, 2011). Between 1991 and 2020 Kosrae received the highest average annual rainfall of the four States, at around 196 inches. Pohnpei received around 184 inches, while Chuuk received around 142 inches and Yap around 123 inches (NOAA NCEI, 2025).

The FSM 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). Based upon records taken in Yap and Pohnpei, El Niño is also associated with reduced rainfall during the dry season, with Pohnpei experiencing increased rainfall during the wet season in El Niño years (Australian Bureau of Meteorology and CSIRO, 2011). As freshwater availability is directly linked to rainfall, reductions in precipitation can lead to droughts in a very short space of time. 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.

A Changing Climate

Recent climate information and projections are based upon data for Pohnpei and Chuuk collected by the Pohnpei Weather Service Office of the United States National Oceanic and Atmospheric Administration. These data demonstrate increased average air temperatures in both locations, with a trend of +0.17°C and +0.14°C in mean annual temperature between 1952 and 2020 in Pohnpei and Chuuk, respectively. In Pohnpei, May–October temperatures are rising faster than during November–April period (McGree et al, 2022). In both locations, the number of hot days and warm nights has increased alongside a decrease in the number of cool days and nights (McGree et al, 2022). Sea surface temperature data collected from satellite observations and averaged across the FSM Exclusive Economic Zone demonstrates a 0.25°C increase per decade between 1981 and 2021 (McGree et al, 2022). Based upon a growing body of data and evidence, projections of future climate variations can be made in the context of different levels of greenhouse gas emissions. Under a high emissions scenario, air temperature increases greater than 2.5°C by 2090 in the FSM are projected with high confidence, 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, except in Pohnpei where the rainfall has been seen to decrease during the May to October period. 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). In terms of extreme weather events, there has been little change in the total number or tropical cyclones, or the number of severe tropical cyclones, in the Northwest Pacific over the past 41 seasons (McGree et al, 2022). A decrease in droughts has been projected, with mild droughts estimated to occur eight to nine times every 20 years by 2030, and severe droughts occurring twice every 20 years by 2030. It is also projected that the number of typhoons will decline (Australian Bureau of Meteorology and CSIRO, 2011). It should be considered, however, that periods of drought followed by increasingly intense rainfall 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).

Climate change is not a future threat but a present and escalating reality for the FSM. It is an existential threat that magnifies all other pressures on biodiversity and requires an urgent, integrated response (FSM, 2022a). The FSM is experiencing some of the highest rates of sea-level rise in the world, with satellite measurements demonstrating a rise of between 3mm and 4.5mm since 1993 on average (McGree et al, 2022). This causes coastal erosion, saltwater intrusion into freshwater supplies, and inundation of low-lying atolls (Nunn et al., 2025). Warming ocean temperatures are causing more frequent and severe coral bleaching events, which threaten near-shore coastal fisheries, while altered weather patterns threaten food and water security.

More than 80% of communities in the FSM are vulnerable to sea-level rise and flooding, given that most villages and settlements are situated in either coastal areas or in areas around rivers and streams. 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 three 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).

Part 2: Biodiversity in the FSM¹

Biodiversity in the FSM is rich and abundant with high levels of endemism and is a recognized part of the globally important Polynesia-Micronesia biodiversity hotspot (CEPF, 2007). Biodiversity hotspots are not only biologically rich but also threatened, usually containing at least 1,500 endemic plant species and having lost at least 70% of their original surface area (CEPF, 2018). In the FSM, species richness declines from east to west across the FSM, with increasing distance from landmasses. As would be expected, endemism rises in the same direction (The Nature Conservancy, 2003).

There are two terrestrial and one marine ecoregion identified in the FSM. These represent exceptional examples of specific habitats that contain the most distinctive biodiversity for that habitat type. The terrestrial ecoregions comprise the Yap Tropical Dry Forests ecoregion and the Carolines Tropical Moist Forests ecoregion, which includes the Remetau Islands of Yap as well as the whole of Chuuk, Pohnpei and Kosrae states (OneEarth, 2025). Much of the Yap Islands State ecoregion is open savanna with secondary tropical dry forest. It contains two endemic bird species (with Yap cicadabird potentially being elevated from a subspecies to a separate endemic species), while also being home to a number of species with restricted ranges (OneEarth, 2025). The Carolines Tropical Moist Forest ecoregion contains a unique mix of tropical moist broadleaf forest types. Pohnpei and Kosrae support the only remaining montane cloud forest in Micronesia, which are high in floral endemism (OneEarth, 2025). In terms of marine biodiversity, the FSM is part of the East Caroline Islands Marine Ecoregion and contains some of the largest coral atoll complexes in the world (Spalding, 2007).

An ecoregional approach to biodiversity conservation has been adopted in the FSM, with ecoregional planning initiated as part of the original NBSAP development process. Ecoregional planning is discussed in more detail below.

Ecosystems in the FSM

Although a small country by landmass, the FSM contains a diverse array of marine and terrestrial ecosystems. There are six distinct marine biomes, which comprise mangrove forest, estuaries, seagrass beds, lagoons, coral reefs, and open ocean, and twelve terrestrial biomes, which comprise atoll forest, littoral beach strand, mangrove forest, swamp forest, freshwater marsh, riparian forest, freshwater rivers and streams, grassland, secondary (agro)forest, primary forest, rain forest, and crest (dwarf or montane cloud) forest. The biodiversity within these biomes is characterized by a high rate of endemism and a profusion of species, and they deliver an array of essential ecosystem services.

The marine environment is the defining feature of the FSM. The most prominent marine ecosystem in the FSM is its system of coral reefs. Covering an area of approximately 1,660 sq. miles/4,300 km² (Spalding et al, 2001), all types of reef, fringe, barrier, patch and atoll, are represented across the four states. The coral reefs are among the most diverse in the world and provide a number of essential ecosystem services. Not only are they a source of huge biodiversity for the waters of the FSM, providing spawning and nursery grounds for many economically important species, the reefs provide an essential source of food and income across the islands. The reefs protect the islands' shorelines and are a focus for tourism yet are under increasing threat from climate change-induced bleaching and ocean acidification.

Many of the reef systems are found within lagoons, of which there are 1,525 sq. miles/3,950 km² in Yap, Chuuk and Pohnpei combined, with the largest single lagoon at 823 sq. miles/2,132 km² in Chuuk (Namakin, 2008). As well as myriad reefs, these lagoons also host essential seagrass beds, which provide a number of ecosystem services. Alongside mangrove forests and reef habitats, seagrass beds help to stabilize the wider environment, providing support for other biological communities. They stabilize sediments and act as a nursery habitat for many marine fish and invertebrates, some of economic importance, and so support the health of local fisheries (Green & Short, 2003).

A rapid ecological assessment of seagrass beds in the waters around Pohnpei and Ahnd Atoll mapped approximately 17 sq. miles/44 km² of seagrass meadows and identified three species of seagrass associated with Pohnpei and two associated with Ahnd (CSP, 2006). Historical losses to seagrass beds in the FSM have, for example, resulted from the construction of a runway in Kosrae in the late 1960s, as well as dredging of seagrass beds for coastal road construction in Kosrae and Pohnpei. This highlights the potential damage coastal development, alongside boat traffic, effluent and land run-off, can cause (Green & Short, 2003).

On the border of the marine and terrestrial environments are the FSM's mangrove forests, of which there are approximately 94 km² across the islands. Pohnpei contains the greatest area of mangrove with approximately 22 sq. miles/57 km², followed by Kosrae with approximately 5.4 sq. miles/14 km², Chuuk with approximately 4.6 sq. miles/12 km² and Yap with almost 4.2 sq. miles/11 km² (Donnegan, 2011). The mangrove forests of the FSM deliver a number of vital ecosystem services, providing critical coastal protection

¹ Where recent, authoritative data were available through established national, regional, or global sources, these have been incorporated. Data sets lacking recent updates (e.g., fisheries CPUE, state-level habitat extents) retain values from the previous NBSAP (2018) to avoid introducing unsupported estimates.

and nursery habitats for many fish species, and their potential for carbon sequestration is a key component of nature-based climate solutions (Buffington et al., 2021).

In Kosrae, an estimated 10% of mangroves were harvested in the 10-year period to 2006 (Hauff, 2006), and it is estimated that approximately 9% of mangroves have been lost in Yap in the years between 2006 and 2014. Potential causes for this loss are considered to be typhoon action or impact from an oil spill (Cannon et al, 2014). More generally, the mangrove forests are thought to be impacted by a range of effects, including excess sea water depth at low tide, typhoons, fungi, harvesting, girdling to open channels and high-tide wave action (Cannon et al, 2014). Channel opening is often driven by dredging for coral aggregate, which can fetch approximately US\$26 per cubic yard (Crooks et al, 2016). Potential future threats also include aquaculture pond construction and coastal development for housing, commercial, tourism or infrastructure purposes (Crooks et al, 2016).

The terrestrial landscape of the FSM is dominated by forests, which comprise various types, including upland forest, palm forest, swamp forest and agroforest. All forest types are represented in all four states, with the exception of palm forests, which are absent from Kosrae and Yap, and swamp forest, which is absent from Chuuk. Tropical montane cloud forests are found on Pohnpei and Kosrae, with those on Kosrae being some of the lowest in the world, beginning at an elevation of only approximately 300 m (Pouteau, 2018). Agroforest occupies significant areas of land in all four states, with 22.8 sq. miles/59 km² in Pohnpei, 16.6 sq. miles/43 km² in Chuuk, 10.4 sq. miles/27 km² in Yap and 5.8 sq. miles/15 km² in Kosrae (Donnegan et al, 2011).

All of the states contain non-forested land, including savanna and grassland, cropland and wetlands. Yap contains more non-forest vegetation than any of the other states, with approximately 6.4 sq. miles/16.5 km² of savanna or other scrub or grassland (Donnegan et al, 2011). Cropland accounts for only approximately 0.8 sq. miles/2 km² of land in Chuuk, 0.05 sq. miles/0.12 km² in Pohnpei, 0.02 sq. miles/0.06 km² in Yap and 0.01 sq. miles/0.02 km² in Kosrae. Areas classified as 'urban cultivated' account for larger, though still small, areas ranging from 0.5 sq. miles/1.2 km² in Yap to 0.8 sq. miles/2.1 km² in Chuuk (Donnegan et al, 2011).

Freshwater forested wetlands are most commonly found on Kosrae, though present on many of the high islands. Usually located between uplands and mangroves, along the lower reaches of streams and rivers, it is considered that these wetlands are likely to play a role in sediment trapping, along with floodwater retention, as well as being a habitat for wildlife (Allen, 2005).

Freshwater ecosystems in the FSM, including rivers, streams, and wetlands, are vital for providing drinking water and supporting unique species. These systems are vulnerable to pollution from land-based activities and degradation of surrounding forest watersheds.

Together, these ecosystems protect the islands and the population of the FSM against a number of natural phenomena and disasters such as storm surges, king tides, typhoons, and other natural disasters, they contribute to erosion mitigation, buffer wind and waves during storms, store and process essential nutrients, provide natural waste management, help to control pollution and support the array of biodiversity resident in the FSM. The FSM's ecosystems have also been a key component to the country's cultures for more than 2,000 years, shaping island lifestyles, and creating the strong cultural identities and attachments to the environment that persist today.

Marine Ecosystems

Coral reefs, the most biodiverse ocean habitats, are an ecological hallmark of the FSM, with the wider Micronesia region estimated to contain 4% of the world's coral reefs (The Nature Conservancy, 2016). These reefs support an abundance of biodiversity, upon which the population of the FSM relies. 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).

1,221 species of fish have been recorded in the waters of the FSM. Of these, 1,070 are associated with the extensive reef system (Froese & Pauly, 2018). Only six species, including the Chronixis surgeonfish (*Acanthurus chronixis*) and the Caroline anchovy (*Stolephorus multibranchus*), are considered to be endemic to the FSM, and twenty-eight species are considered threatened.

Recent biological surveys of reefs across the FSM were undertaken by Houk et al (2015) to assess the percentage of reefs across the FSM 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 Yap, 50% of outer reefs, 20% of channel reefs and 75% of inner reefs meet the threshold. In Chuuk 17% of outer reefs, 17% of patch reefs and 43% of inner reefs meet the threshold. In Pohnpei, 14% of inner and 30% of outer reefs can be considered 'effectively conserved', while in Kosrae 20% of outer reefs meet the threshold to be considered as such. The data from these surveys also demonstrated that fishing pressure was a primary determinant of reef condition.

Research on mesophotic coral reefs, which occur at depths of between approximately 30 and 150 m, in the waters around Pohnpei has been undertaken in recent years. This further supports the incredible biodiversity of the reefs in FSM, with 11 species of fish new to science being identified (Rowley et al, 2019). The same research has also demonstrated the devastating impact that bleaching events can have on reef systems, with bleaching in 2016 and 2017 seen to extend beyond 30 m depth in some cases (Rowley et al, 2019).

There are four turtle species native to the FSM: the green turtle (*Chelonia mydas*), which is classified as being least concern (having previously being considered endangered); the Leatherback (*Dermochelys coriacea*) and Olive Ridley (*Lepidochelys olivacea*), which are considered vulnerable, and the Hawksbill turtle (*Eretmochelys imbricata*), which is critically endangered (IUCN, 2025). In addition, 26 cetacean species are listed by the IUCN as being found in the waters of the FSM including the sperm whale, which is considered to be vulnerable (IUCN, 2025).

The IUCN lists 144 marine invertebrate species for the waters around the FSM, including one critically endangered species (*Tridacna gigas*) and eight endangered species (IUCN, 2025). This included two species of endangered sea cucumber. More than 70 species of sea cucumbers have been recorded across the wider Micronesia region, performing an essential nutrient cycling function (Bossarelle, 2017). At least 42 species are present in the waters of Chuuk (Kerr et al, 2014), with 28 species recorded in Pohnpei (Bossarelle, 2017). A 2017 survey of sea cucumbers in Pohnpei Island and Ahnd Atoll suggest that stocks are low, below regional reference densities, and dominated by a small number of species (Bossarelle, 2017). This is considered to be due to prior overharvesting.

Terrestrial Ecosystems

The majority of the terrestrial FSM is forested. Land cover estimates based upon satellite imagery of approximately 253 sq. miles/655 km² of the four states taken in 2005 and 2006 suggest that forests cover nearly 90% of the FSM (Donnegan et al, 2011). The largest expanse of forest, around 127 sq. miles/330 km², is found within Pohnpei, while Yap contains the smallest amount of forest of all four states with almost 27 sq. miles/70 km².

Considering the high degree of forest cover in the FSM, it is not surprising that plant diversity is extremely rich. More than 1,239 species of fern and flowering plant have been described in the FSM. Of these, 782 species are considered native, with more than 457 species introduced. Estimates of the number of plant species in the FSM remain based upon geographical checklists created in the 1970s and 1980s (Fosberg et al, 1979, 1982, & 1987), although the need for more recent data has been partly addressed through the 2010 checklist of vascular plants in Pohnpei State. This identified 935 native and non-native species and infraspecies, comprising 345 indigenous species, 52 endemic species, 360 cultivated species and 178 naturalized species. Seventeen of the 178 naturalized species are considered to be extremely aggressive and invasive (Rhodes et al, 2018).

The FSM's terrestrial ecosystems, particularly the upland and cloud forests of the high islands, are home to a high concentration of endemic species. Estimations of plant endemism across the entire Micronesia region suggest that the FSM contains 110 endemic plant species (Costion & Lorence, 2012). This is indicative of a highly rich biodiversity with a percentage endemism of 15.7 (species per km²), higher than any other island biodiversity hotspot (Costion & Lorence, 2012). The table below illustrates the richness of plant endemism across the FSM.

Yap:	
9 endemic species Including <i>Psychotria arbuscular</i> , a shrub from the coffee family	8% endemism
Chuuk:	
16 endemic species Including <i>Garcinia carolinensis</i> (Ltb.) Kosterm and the herby vine <i>Hoya trukensis</i>	13% endemism
Pohnpei:	
47 endemic species Including <i>Peperomia breviramula</i> and the tree-shrub <i>Croton ripensis</i> , which are both considered to be rare with ranges that are not well understood	14% endemism
Kosrae:	
18 endemic species Including the uncommon <i>Pandanus kusaicolu</i> and <i>Medinella diversifolia</i> , which has a restricted range	16% endemism

Table 1: Plant Endemism by State in the FSM (Costion & Lorence, 2012)

Three hundred and fourteen fungal species have been recorded in the FSM, with 78 of these being newly identified species added to the national inventory in recent years (Park et al, 2021). The described species include eight bioluminescent species, and six edible species with significant local medicinal uses (Balick, 2011).

The FSM is home to 128 native species of bird, including 21 extant endemic species and 16 globally threatened species. One of these, the Pohnpei Starling, is considered to be critically endangered with a declining population estimated at being between only 1 and 49 individuals (BirdLife International, 2025). Five endemic species are considered to be endangered: the Pohnpei cicadabird (*Edolisoma insperatum*); the Yap cicadabird (*Edolisoma nesiotis*); the teardrop white-eye (*Rukia ruki*), the Chuuk monarch (*Metabolus rugensis*), and the

Caroline Islands ground dove (*Pampusana kubaryi*) (IUCN, 2025). In addition, two species, the Kosrae crake and the Kosrae starling, are considered to be extinct (IUCN, 2025).

There are sixteen Important Bird Areas (IBAs) across the FSM, totaling 57,360 sq. miles/148,561 km² of land and ocean, and two endemic bird areas (BirdLife International, 2018). The 61.5% of IBAs have not been assessed in terms of their condition, with 30.8% deemed to be in favourable condition and 7.7% in very unfavourable condition.

The IUCN identifies seven species of terrestrial mammals in the FSM (IUCN, 2025). Three species of flying fox are known to be endemic to the FSM, all three of which are considered to be endangered (IUCN, 2025). Also included in the list of mammals are the Polynesian rat and the Philippine Deer, both of which are introduced species, and the latter of which has a declining population (IUCN, 2025).

Until relatively recently, biological surveys for reptiles in the FSM have been rare. Current data suggest that there are 35 species of reptile either resident in the FSM or that are visitors, comprising one crocodile species, four sea turtle species, ten gecko, thirteen skink, one anole, one monitor lizard, two sea snake and three blind snake species (Buden & Taboroši, 2016). Of these, endemic species include the Ant Atoll Blind Snake, the Ulithi Atoll Blind Snake, the Pohnpei Skink, the Mortlock Islands Scaly-tailed Gecko, and possibly the Giant Micronesian Gecko (Buden & Taboroši, 2016). There are also a small number of species considered to be unestablished exotics.

Information regarding terrestrial invertebrate fauna is scattered and incomplete, and there is much still to learn about the invertebrate fauna of the FSM. Of three critically endangered snail species, the Pohnpei tree snail (*Partula emersoni*), the Kosrae Partula snail (*Partula rufa*), and the Pohnpei ground Partula snail (*Partula gaumensis*), the latter has been categorized as extinct since the 2018 NBSAP (IUCN, 2025). The recent reporting of nine new species of grass moth in Kosrae is an indication that substantial invertebrate diversity remains to be documented across the FSM (Ko et al, 2025).

Freshwater Ecosystems

There are records of 64 species of freshwater-dwelling fish in the FSM, including four endemic species and two introductions (Froese & Pauly, 2018). The freshwater goby (*Lentipes caroline*) was identified as a new species in only 2013, based upon specimens collected in high gradient streams on Pohnpei (Lynch, 2013).

The Value of Biodiversity in the FSM

The value of biodiversity to the FSM cannot be overstated. It is an intrinsic part of the country's many traditional cultures and practices, and is the bedrock of FSM's survival, prosperity, and identity. Healthy biodiversity is essential to the essential ecosystem services that sustain lives, forms the foundation of the economy, and represents the most critical defense against the impacts of climate change.

The FSM's ecosystems provide a suite of services that are indispensable to human well-being. Forested watersheds capture and filter freshwater, coral reefs and mangroves protect coastlines from storms and support coastal biodiversity, and healthy soils support agriculture. These "natural infrastructure" services are far more cost-effective and resilient than engineered alternatives, making their protection a national priority.

Some sense of ecosystem service value can be gleaned through a survey conducted in 2016 on the dependence of FSM communities on ecosystem services. This demonstrated that at three sites (Malem in Kosrae, Pakin in Pohnpei and Oneisomw in Chuuk), 75% of household benefits come directly from marine (i.e. coral reefs, seagrasses) and terrestrial (i.e. mangroves, upland forest) ecosystems (Hagedoorn et al., 2019). This same survey found that marine ecosystem provisioning services, including the catching of reef fish, pelagic fish and crustaceans, contributed 58.7% of household incomes; 11.2% as direct income and 47.5% subsistence. This equates to a value of approximately \$500 a month per household (Hagedoorn et al., 2019). Across the wider Micronesian region, provisioning services account for 53% of the value of household income and benefits in watershed areas, and 49% on low-lying islands and atolls (Hagedoorn et al., 2019).

The Financial Value of Biodiversity

Whilst the instrumental value of the provision of myriad services from the nation's varied ecosystems is recognized, attaching a dollar value to them remains a significant challenge. Estimating an economic value for ecosystems and ecosystem services can enable prioritization of conservation targets and assist in communicating their relative importance. However, whilst it is apparent that the economy of the FSM rests on the nation's biodiversity, attempts to place an economic value on the ecosystems of the islands continue to be extremely limited.

Biodiversity is the basis of fisheries and agriculture, and provides the resources for daily subsistence, ensuring food and nutrition security and livelihoods for the nation's communities. An examination of the value of fishing and agricultural activities both at a national and a household level can provide some, albeit limited, insight into the value of biodiversity in the FSM.

First and foremost, subsistence activities reliant on biodiversity are vital to the economy as a whole and to individual household incomes. The vast majority of households are engaged in some form of subsistence activity. The 2010 Census of Population and Housing demonstrates that 94.6% of households are engaged in agricultural activity for household or family purposes, with 81.8% engaged in livestock raising activities and 71% of households engaged in fishing activities. Approximately 10% of households engage in these activities for commercial purposes (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d.). While an average of 47% of household income across the four states is from wages and salaries, receipts from subsistence activities provide an average of 8% of household income in Pohnpei, 9% in Kosrae, 26% in Chuuk and 29% in Yap (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, 2007).

Analyses based upon the Household Income and Expenditure Survey 2013/2014 data suggest that coastal subsistence fisheries make up 67% of all coastal fisheries production, at 3,555 metric tons. This translates to an estimated dollar value of US\$8.8 million (Gillet, 2016).

Fishing license fees, primarily for tuna fishing, are a significant contributor to the FSM's domestic income stream. The Vessel Day Scheme generates approximately \$70 million annually in terms of government revenue (FSM Department of Finance and Administration, 2022). The total catch for the period 2020–2023 has been estimated at 235,332 metric tons, with 30% of this catch attributed to the FSM national fleet (NORMA, 2023). The catch is comprised of skipjack tuna (80%), yellowfin (17%) and bigeye (3%) (NORMA, 2023). Albacore is reported at less than 1% of the catch. All four species are considered to have healthy, sustainable populations, and none are considered to be overfished (NORMA, 2023).

Considering agrobiodiversity, this is recognized as essential for future food and nutrition security, and plants once considered as subsistence crops are re-emerging as marketable produce (Ames et al, 2009). The Annual Household Income and Expenditure Survey 2013/14 estimates the value of subsistence agriculture across the FSM as being approximately \$6.5 million (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, 2014). Beyond this, indicators of overall agricultural production are not yet in place, and there are no data to demonstrate the economic value of the nation's agrobiodiversity.

Whilst these figures offer only a glimpse of the benefits derived from the FSM's rich biodiversity, they are suggestive of the immense economic value that it holds.

Cultural Importance of Biodiversity

Naturally, the biodiversity of the FSM has huge intrinsic value, locally, regionally and globally. It holds immense cultural and spiritual significance, underpinning traditional practices and social structures. Biodiversity and traditional culture in the FSM cannot be considered in isolation from each other. Many native and endemic species are utilized in various aspects of daily living, including customary practices and traditional medicine, amongst many others. Historically, traditional knowledge, practices and modes of resource management have protected and conserved the biodiversity of the FSM. This sustainable management has undergone a huge shift as societies have changed over the past decades. The role of traditional knowledge is, however, increasingly recognized as playing an essential part in the conservation of biodiversity.

Gender and Biodiversity

The differing roles of women and men in society in the FSM in terms of livelihoods and the division of labor means that experiences of biodiversity, and awareness of changes in biodiversity over time, may be gendered. Men and women may cultivate different crops, with women often producing crops predominantly for consumption rather than sale. In addition, women may take the predominant role in food preparation within a household. These differing experiences provide unique insights into biodiversity, agrobiodiversity and perceptions of changes in biodiversity. To this end, consultations with women's groups in each of the four states were undertaken during the development of the revised NBSAP to support better understanding of this unique perspective.

Recognizing that women and men often interact with, manage, and are impacted by biodiversity in different ways, this NBSAP integrates gender considerations into its framework. The consultation process for this plan included dedicated women's focus groups and interviews to ensure their unique knowledge and perspectives were incorporated. This approach aligns with the FSM's National Gender Policy and state-level Gender Action Plans, which seek to empower women as key stakeholders and beneficiaries of sustainable resource management (Regmi, 2024).

Household, community, and livelihood roles differ between men and women in the FSM, and these differences extend to interactions with biodiversity. Women's roles frequently center on food procurement, preparation, storage, and household management, as well as the care and use of medicinal plants and small-scale food production. Men are more commonly involved in fishing, larger-scale

agricultural or commercial activities. As a result, women tend to engage with biodiversity at the household and community level on a daily basis, giving them particular insight into changes in the availability, quality, seasonality, and accessibility of species used for food and medicine. These perspectives provide an essential additional dimension to understanding changes to biodiversity across the country as they are experienced in everyday life.

Across the country, women consistently describe changes in the availability, size, and quality of food plants, reporting that crops which were previously abundant are now harder to find, more seasonal, or smaller in size. Women in Chuuk, Pohnpei and Yap have specifically noted a shift in harvest timing, a reduction in size, and poorer quality of breadfruit, taro and yams. In Kosrae there is greater focus on citrus crops, especially tangerines and limes, which are recognised as becoming increasingly scarce, more seasonal, and therefore, more expensive. There is also a notable increase in the reliance on imported foods, coupled with a reduction in farming at the household level.

Climate-related changes are widely perceived as influencing food production and access in the FSM. Altered rainfall patterns, hotter conditions, flooding, drying of land, and saltwater intrusion are all identified as impacting home gardens and taro patches. In Chuuk, Pohnpei and Yap these changes are associated by women with declining crop quality and the need to adjust planting practices. In Kosrae and Yap, the relocating of gardens is taking place, shifting away from low-lying or coastal areas, and using raised beds or alternative planting methods. Across states, women frame these changes as ongoing adaptations required to maintain household food supplies under changing environmental conditions, including pests.

Changes in marine resources used for food have also been reported, though experiences vary between states. In Chuuk and Pohnpei, declines in the availability, size, and quality of nearshore marine resources, including clams, sea cucumbers, and reef fish (particularly those accessed close to shore or through markets) have been seen. In Kosrae and Yap, perceptions are more mixed, with reports of both reduced availability and smaller sizes, and of a relative abundance of resources. Marine Protected Areas are commonly viewed positively, with women describing noticeable differences in fish abundance and size compared to non-protected areas. Taken together, there is a shared perception of increasing pressure on marine resources, alongside clear state- and location-specific variation linked to management and access.

Changes in relation to medicinal plants have been noted across the country, though the specifics may differ between states. For example, women in Chuuk and Pohnpei have noted that some medicinal plants are harder to find today than in the past, while in Kosrae this was coupled with concerns about changes in plant size and condition. Women in Yap have noticed all these changes and share similar concerns. Linked to this, women across the country have concerns about the erosion of traditional knowledge related to medicinal plants, particularly as younger generations become less involved in farming and resource-based practices.

With regard to invasive species, these generate strong and consistent concern among women across the country, with reports of increasing numbers of invasive plants, insects, and animals affecting crops, forests, and, in some cases, marine environments. In Chuuk, the spread of invasive species is associated with major disturbance events, while in Pohnpei and Kosrae ongoing problems with crop pests and invasive vines are seen. In Yap, the spread of the Little Fire Ant is of great concern as well as other pests and plant diseases. Across all states, women emphasised the need for improved control and eradication efforts, increased awareness, and stronger community involvement.

There is a high level of awareness of biodiversity issues among women in the FSM, with good exposure among women to awareness campaigns through schools, community events, NGOs, and government agencies. Many women also participate in activities such as community clean-ups, mangrove planting, and conservation events and long-term programs. However, awareness alone is not considered to be sufficient to address the changes being observed by women, with specific actions thought to be needed in each state. More needs to be done to ensure sustainability and resiliency given the identified changes, including increasing participation of all age groups.

Overall, there are many shared perceptions of biodiversity across the states of the FSM related to changes affecting food security, health, and daily wellbeing, alongside state-specific experiences shaped by local environments and resource management contexts. These perspectives highlight the value of women's roles and knowledge in understanding how biodiversity change is experienced at household and community levels across the FSM.

Biodiversity and Society

To fully reflect the perceptions and experiences of FSM society at large, an online survey was shared on social media to gather the views and opinions of the general public with regard to biodiversity and biodiversity conservation. This survey provided the opportunity for individuals to share their observations of changes to biodiversity, their understanding of the threats to biodiversity, and their views on conservation priorities.

Those who responded demonstrated the perception of the increasing pressure that biodiversity in the FSM is under. Observable ecosystem degradation and a growing presence of invasive species was noted, with the latter considered by some to be the most

significant recent change affecting biodiversity. Issues related to waste disposal and management were reported across all four states, alongside land clearing and degradation linked to infrastructure development and agriculture.

Climate change was consistently identified as the most pervasive underlying driver of biodiversity loss, interacting with unsustainable land-use practices, development pressures, overharvesting of natural resources, particularly mangroves, and inadequate waste management.

Ongoing conservation actions were noted to demonstrate tangible local benefits but were also commonly described as localized and fragmented. In this way the consultation identifies the importance of strengthening efforts to protect and conserve both terrestrial and marine ecosystems through integrated planning, effective protected areas, invasive species control, pollution reduction, climate-responsive action, and inclusive participation.

Biodiversity Status and Trends

As has previously been stated, losses to various ecosystems have been experienced across the FSM, and a significant number of native and endemic species are considered endangered.

Major changes in biodiversity are most clearly seen in the marine environment, where the main threats come from overfishing, coral bleaching due to rising sea temperatures, and the impact of crown of thorns starfish (Houk, 2018). Indeed, it has been suggested that up to 25% of hard coral species in Kosrae could be considered vulnerable to regional extinction, owing to low levels of occupancy (Richards, 2014).

An analysis of the Pohnpei near-shore fishery comparing data from 2006 and 2015 demonstrated a change in catch composition, a reduction in catch-per-unit-effort and a reduction in overall volume caught (Rhodes et al, 2018). During the same time period, the use of unsustainable fishing methods increased. These data suggest a reduction in the abundance of fish and in general and of specific species, which will likely have repercussions across reef ecosystems. Data from Kosrae comparing fish and coral assemblages between 1986 and 2015 demonstrate a shift in composition, with larger-bodied, predatory fish and sharks being replaced with smaller-bodied fish at lower trophic levels (McLean et al, 2016). These data also demonstrate that both fish and coral populations have become more highly differentiated with reduced species overlap, perhaps as a result of localized disturbance patterns.

It is clear that the pressures on biodiversity in the FSM are many and varied. From overfishing of the reefs to forest loss for the growth of cash crops, and from development activities such as dredging to the presence of invasive species, the pressures on the native flora and fauna of the FSM are apparent and increasing.

Threatened Species

The FSM is home to a number of species recognized as threatened by the International Union for Conservation of Nature (IUCN). As of September 2025, 334 species in the FSM are identified as threatened to varying degrees (IUCN, 2025), a rise in number since the publication of the previous NBSAP. Of these, 213 are considered endangered or critically endangered. This is a dramatically higher number than those considered such in 2018, though this may be owing, to some degree, to more comprehensive monitoring and assessment in the intervening years. Table 2 includes details of the 17 species considered by the IUCN to be critically endangered. The majority of the IUCN assessments for the FSM were made subsequent to the initial NBSAP, so it is not possible to identify any long-term change in status over time based on the IUCN Red List data. However, the list of critically endangered species included here demonstrates a substantial increase in the number of species categorised as such, rising from four in 2018 to 17 today. One species previously categorised as critically endangered, *Partula guamensis* (the Pohnpei ground Partula snail) is now considered extinct, demonstrating the ongoing pressures facing the nation's biodiversity.

Species	Common name	Known threats	Population trend
<i>Aplonis pelzelni</i>	Pohnpei Starling	Land use change, primarily forest to sakau cultivation. Hunting. Predation from rats.	Unknown
<i>Cinnamomum sessilifolium</i>	Madeu	Land use change, primarily expansion of agriculture and settlements	Unknown
<i>Drypetes yapensis</i>		Loss of native forest to agroforest and secondary vegetation and savanna.	Decreasing
<i>Eretmochelys imbricata</i>	Hawksbill Turtle	Habitat loss, subsistence, entanglement in marine debris.	Decreasing
<i>Lepidodactylus oligoporus</i>	Mortlock Islands Scaly-toed Gecko	Population-wide threat from habitat loss caused by storm surges.	Unknown

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<i>Manilkara hoshinoi</i>	Kohre	Harvest, and population-wide threat from severe storms.	Decreasing
<i>Mobula mobular</i>	Devil Ray	Bycatch.	Decreasing
<i>Mobula tarapacana</i>	Sicklefin Devil Ray	Bycatch	Decreasing
<i>Mobula thurstoni</i>	Bentfin Devil Ray	Bycatch	Decreasing
<i>Partula emersoni</i>	Pohnpei Tree Snail	Invasive <i>Platydemus manokwari</i> flatworm. Habitat loss due to deforestation for agriculture.	Unknown
<i>Partula rufa</i>	Kosrae tree Snail	Habitat loss through clearance and invasion by introduced plants.	Unknown
<i>Pseudobulweria beeki</i>	Beck's Petrel	Indirect threats resulting from vulnerability in other geographic regions.	Decreasing
<i>Psychotria kosraensis</i>	–	Habitat degradation and invasive non-native plants.	Unknown
<i>Syzygium trukense</i>	–	Habitat loss to agriculture and settlements, climate change, and invasive species.	Unknown
<i>Teinobasis aerides</i>	–	Unknown	Unknown
<i>Teinobasis ponapensis</i>	–	Deforestation, river deviation, and any type of habitat alteration.	Unknown
<i>Tridacna gigas</i>	Giant Clam	Overharvesting, habitat loss, and climate change.	Decreasing

Table 2: Critically Endangered Species of the FSM.

Source: The IUCN Red List of Threatened Species (IUCN, 2025).

Part 3: Biodiversity Conservation in the FSM

Threats to Biodiversity in the FSM

Despite progress, the primary threats to FSM's biodiversity persist and, in some cases, have intensified. These 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 addition to the ongoing pressures brought about by climate change, biodiversity in the FSM faces a number of other threats. An assessment of the proportions of selected amphibians, birds, mammals and plants affected by different threats by Kingsford et al (2009) suggested that 90% of assessed species in the FSM are affected by habitat loss, 38% by invasive species, 48% by overexploitation and 10% by pollution. Whilst the numbers of species assessed in this analysis were fairly low, this does illustrate the pressure that biodiversity in the FSM is under.

Overfishing/overhunting is recognized as the biggest threat to the Areas of Biodiversity Significance identified in the ecoregional approach to conservation adopted in the FSM (The Nature Conservancy, 2003). In the period 2006–2015, catch per unit effort for coastal fishing in Pohnpei decreased, while marketed reef fish volume declined approximately 20%, demonstrating the impact of unsustainable fishing practices (Rhodes et al, 2018).

Environmental degradation and conversion represent a significant threat to biodiversity, with any development activity having the potential to impact important ecosystems. The FSM Infrastructure Development Plan FY2016–FY2025, which outlines the infrastructure priorities for the national and state governments, identifies that all projects under the plan will comply with the outcome measure for Strategic Goal 1 of the Strategic Development Plan, i.e. that an environmental impact assessment will be carried out on all government and non-government development activities (FSM, n.d.).

Waste management is a continuing challenge, with solid waste disposal a municipal-level responsibility. However, not all municipalities have a refuse collection service (ADB, 2014), and disposal of waste causes local pollution problems. Disposal of scrap metal is a continuing problem, with abandoned vehicles a source of pollution from chemical leakage.

Small islands are particularly vulnerable to the effects of alien and invasive species, which are most commonly introduced via air transport and shipping. The Global Register of Introduced and Invasive Species, initiated by the IUCN and developed by the Invasive Species Specialist Group contains 593 entries for the FSM (Moverly et al, 2020). Verified records suggest that 527 invasives are plant species, 62 animal, one fungal, one bacterial, one chromista, and one virus (Moverly et al, 2020). The Threatened Island Biodiversity Database lists 103 islands across the FSM that are known to contain populations of IUCN-recognized threatened species whose populations are threatened by invasive species (Threatened Island Biodiversity Database Partners, 2025). These islands contain nine threatened species across 119 populations facing pressures from 23 invasive species across 179 populations. The 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. It is not clear whether the increase in the number of invasive species and populations that has been seen is due to improved or expanded surveillance or a real increase in species and population numbers.

Priority invasives 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*) (Pagad, 2015). Rat species, along with an introduced flatworm species, are also known to be the primary threat to a number of mollusk species endemic to Pohnpei. On Ahnd Atoll, Pohnpei, a number of species including the Caroline Islands ground dove are threatened by invasives such as cats and rats.

Successful programmes have taken place across the country, with the eradication of the Polynesian rat (*Rattus exulans*) from the small island of Dekehtik, and the black rat (*Rattus rattus*) from the islands of Nahnapw and Pein Mal, all located off Pohnpei, by 2007. More recently, pigs and rats have been eradicated from Loosiep Island, Ulithi Atoll, Yap, allowing the return of coconut crabs and the revitalization of agricultural activity (Island Conservation, 2024). In Pohnpei, the Invasive Species Taskforce of Pohnpei (iSTOP) has successfully eradicated the octopus tree (*Schefflera actinophylla*), the Honolulu rose (*Clerodendrum chinense*), feral pigeons, and the myrna bird (*Acridotheres tristis*). However, these programs are currently the exception, rather than the rule.

Climate Change and Biodiversity in the FSM

The intertwined crises of climate change and biodiversity loss are the most significant challenges facing the FSM. A changing climate directly threatens species and ecosystems, while the loss of those same ecosystems undermines resilience to climate impacts. The NBSAP continues to be central to the national climate adaptation strategy, promoting nature-based solutions that simultaneously protect biodiversity and reduce vulnerability (FSM, 2022a; SIPA, 2024).

Even though various projections have been made about future changes to climatic and environmental conditions in the FSM, the impacts of climate change are already being felt. The FSM has experienced some of the highest rates of sea-level rise around the world during the period of available satellite and tide gauge monitoring. Naturally such changes, and variations in atmospheric and ocean temperature and precipitation patterns, will impact biodiversity. As species that are able to migrate do so, and others that are unable to migrate disappear, entire ecosystems will change, and with those changes will come repercussions for those that depend upon the services they provide.

Considering the marine environment, it is likely that coastal fisheries will be negatively affected in a number of ways by climate change. Rising temperatures and increasing precipitation are predicted to increase stratification of the ocean water column and so reduce the supply of nutrient-rich water to the surface mixed layer across the western and central Pacific Ocean (Barrange et al, 2018). Rising sea levels will exacerbate the effects of storm surges on coastal fish habitats (Barrange et al, 2018). Sea level rise will also likely lead to the loss of mangrove forests owing to intolerance to extended immersion in sea water (Barrange et al, 2018). The survival of such forests will depend upon the ability of the forests to migrate, which will be affected by terrain and the speed of sea level rise.

A 'business as usual' model of CO₂ emissions projects ocean acidification in the western and central Pacific Ocean to a degree that reduces the available form of calcium carbonate used by corals to levels at which complex coral systems do not occur. Therefore, it can be assumed that serious degradation of coral reefs will occur by 2050 (Barrange et al, 2018). Ocean circulations are also likely to change under a high-emissions scenario, impacting nutrient flows (Barrange et al, 2018). Applying a climate–fish–fisheries approach to modeling the impact of climate change on fisheries, Lehodey et al (2017) suggest a reduction in yellowfin tuna stocks of up to 40% by 2100, based upon a high emissions scenario. Similarly, the FSM's waters are likely to become less favorable for skipjack tuna spawning (Lehodey, 2013).

In terms of the terrestrial environment, anecdotal reports from across the country suggest changing weather patterns impacting harvesting times, highlighting the risk to essential agricultural activities from a changing climate. While recent data do not demonstrate nationwide changes in rainfall, the conservation of biodiverse watershed forests is essential to protect from both increased and decreased rainfall scenarios, acting to prevent landslides under intense rainfall conditions and as a reservoir under drought conditions. In addition, biodiversity itself plays an essential role in building resilience to climate change in the FSM. Ensuring the FSMs biodiversity is healthy offers the best way forward for dealing with climate change, with robust ecosystems better able to withstand a changing climate and the resultant disturbances.

Conservation Approaches

The Micronesia Challenge

The Micronesia Challenge is central to conservation in the FSM. 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 (Micronesia Challenge, n.d.). 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.

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 km² (30%) of the marine environment and 96 km² (15%) of the terrestrial environment are 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).

Conservation Initiatives and Priorities

Since the development of the initial NBSAP in 2002, significant developments toward comprehensive biodiversity conservation throughout the FSM have been undertaken. Conservation efforts are a collaborative endeavor, supported by a network of key initiatives and partnerships. Core initiatives and organizations include:

- The Micronesia Conservation Trust (MCT), which facilitates sustained, long-term funding and technical support for community-led projects across the FSM (MCT, 2021).
- The Micronesia Challenge drives high-level political commitment for conservation and the sustainable management and use of biodiversity in the FSM and across the Micronesia region.
 - Current estimates indicate that 30% of the FSM's marine resources and 20% of its terrestrial resources are under effective management.
- The Protected Areas Network (PAN), provides the legal and operational framework for managing protected sites across the FSM, establishing a fundamental approach for conservation and sustainable management of natural resources (Franco et al., 2022).
 - The PAN directly supports the achievement of the Micronesia Challenge goals for effective management of marine and terrestrial resources.

A multitude of individual programs and initiatives have taken place (and continue to take place) across the FSM, demonstrating a strong commitment to the protection of natural resources and the achievement of a sustainable future.

Constraints to Biodiversity Conservation

The FSM's conservation efforts are hindered by several persistent challenges. A critical review of the previous implementation period of the Agenda for Sustainable Development reveals ongoing constraints in data and monitoring, with the 2025 Voluntary National Review noting that reliable data is available for only 42% of SDG indicators, underscoring this systemic challenge (FSM, 2025). There is also a chronic need for skilled human resources, sustainable financing mechanisms, and technical capacity, especially at the state and municipal levels where implementation primarily occurs (Hall et al., 2020; SIPA, 2024). Furthermore, the challenges of enforcing environmental regulations across a geographically dispersed nation with a decentralized government structure remain significant (Hall et al., 2020). These challenges are reflected in the Actions contained within this revised FSM NBSAP.

Part 4: Background to the Federated States of Micronesia Biodiversity Strategy and Action Plan

The FSM became a signatory to the Convention on Biological Diversity during the 1992 United Nations Conference on Environment and Development, with ratification in 1994 (Government of the FSM, n.d.). Under Article 6 of the Convention, each signatory country is required to develop and implement a National Biodiversity Strategy and Action Plan (NBSAP). The FSM published its first NBSAP in 2002. Revised in 2018, this document is the third iteration of the nation's NBSAP.

This NBSAP has been developed in the context of the Kunming-Montreal Global Biodiversity Framework (GBF). The GBF demonstrates an evolution from the previous Aichi Biodiversity Targets, providing a 2050 Vision and a 2030 Mission for the effective conservation and sustainable management of biodiversity. These are:

- 2050 Vision: A world of living in harmony with nature where “by 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”
- 2030 Mission: To take urgent action to halt and reverse biodiversity loss to put nature on a path to recovery for the benefit of people and planet by conserving and sustainably using biodiversity and by ensuring the fair and equitable sharing of benefits from the use of genetic resources, while providing the necessary means of implementation.

The GBF also comprises four 2050 Goals and 23 2030 Targets, which have been designed to provide a more comprehensive approach to biodiversity conservation and management, with a greater focus on the implementation (and the monitoring of that implementation) of NBSAPs. Signatories to the CBD are obliged to update their NBSAPs, bringing them into alignment with the GBF, i.e. NBSAPs should reflect in their national targets the GBF Goals and Targets.

The FSM's commitment to matters of national and global environmental concern go beyond the CBD. The FSM Strategic Development Plan (SDP) 2024–2043 provides the overarching national framework for development planning and budgeting over the next two decades, and environmental sustainability and climate resilience are embedded as a dedicated thematic area within it. Specific strategic outcomes focus on natural resource management and environmental quality. In this context, the NBSAP contributes directly to the achievement of the SDP's environmental sustainability and climate change thematic area, while also supporting broader SDP objectives related to food security, livelihoods, disaster resilience, and sustainable economic development.

In addition to the SDP, there are in excess of 200 pieces of national and state legislation that relate to the environment of the FSM, including the FSM Environmental Protection Act, which became Public Law in June 2012. Of particular note are the national and state-level Protected Areas Network laws that has been put in place, and the national Protected Areas Network Framework that has been designed to ensure a full range of the FSMs ecosystems and biodiversity is protected and conserved.

More widely, the FSM is signatory to a number of international treaties and conventions that relate to the nation's, and the world's, environment and biodiversity (Government of the FSM, n.d.). Details of these can be seen in Table 3.

Table
3.

Treaty/convention	
Convention on Biological Diversity	Ratification: 20 June 1994
United Nations Framework Convention on Climate Change	Ratification: 18 November 1993
Kyoto Protocol to the United Nations Framework Convention on Climate Change	Ratification: 21 June 1999
United Nations Convention on the Law of the Sea	Accession: 29 April 1991
Convention for the prohibition of fishing with long driftnets in the South Pacific	Ratification: 20 December 1990
Treaty on fisheries between the Governments of certain Pacific Island States and the Government of the United States of America	Ratification: 10 November 1987
United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa	Ratification: 25 March 1996
Montreal Protocol on Substances that Deplete the Ozone Layer	Ratification: 6 September 1995
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Accession: 6 September 1995
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 (Waigani Convention)	Ratification: 23 May 1997
International Plant Protection Convention	6 July 2007 (Contracting party only)
World Heritage Convention	Acceptance: 22 July 2002
Stockholm Convention on Persistent Organic Pollutants	Ratification: 22 May 2001
Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity	Signature: 11 January 2012
The Convention for the Protection of Natural Resources and Environment of the South Pacific Region (the Noumea Convention)	29 November 1988

International treaties and conventions to which the FSM is signatory.

Source: Government of the FSM, n.d.

Development Process for the Revised NBSAP

The NBSAP revision process consisted of extensive desk research, in-person consultations in all four states, and a subsequent validation process, as described below.

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

The themes and objectives as defined in the initial NBSAP were then taken out to consultation in each of the four states. During a two–three-day workshop in each state, multi-stakeholder groups were engaged to review the NBSAP for ongoing relevance, identifying what progress had been made, where additional efforts were needed under current Objectives and Implementation Actions, where new actions were required, and what costs might be associated with implementation of individual Actions. These groups comprised officials from National, State and Municipal governments, regional, state and community NGO representatives, technical experts, scientists, researchers and educators involved in environmental education.

In addition to these consultations, specific women’s focus groups were held in each state. These were conducted to ensure that the different interactions with and observations of biodiversity experienced by women in the FSM were understood and incorporated into the revised NBSAP.

Finally, a public survey was released to allow the biodiversity-related perceptions and observations of as wide a cross-section of society as possible.

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.

State Biodiversity Strategy and Action Plans

States in the FSM take responsibility for the management of land and near-shore natural resources, with the national government primarily responsible for those resources within the Exclusive Economic Zone. It is therefore appropriate that each state develops its own biodiversity strategy and action plan (BSAP). Following the initial NBSAP development process, therefore, each state developed an individual BSAP.

Under the process for revising the NBSAP, each of the state plans was also considered during the state consultations and subsequent validation workshop. For each state BSAP, Objectives and Actions were considered in terms of progress, relevance and the need for new actions, along with cost estimates. This information also fed into the NBSAP process. Similarly, following revision of the state BSAPs, they were subject to the same validation workshop as the NBSAP.

By following this process, it is intended that the NBSAP and individual state BSAPs are mutually supportive and reflective of each other.

Lessons Learned from the Prior NBSAP

The previous NBSAP built on the successes of the initial NBSAP, driving forward biodiversity conservation in the FSM. During the period of the previous NBSAP significant progress was made in many aspect of conservation and the sustainable management of biodiversity. Not least of these was the ongoing success of the Micronesia Challenge, with the agreement of new and expanded goals for 2030 goals, towards which the FSM has made significant progress as previously described. Other notable achievements include the operationalization of the Protected Areas Network, the completion of the Ridge to Reef project, and the establishment of other conservation initiatives such as Blue Prosperity Micronesia, amongst a wealth of other projects and programs. Combined, these activities have been the driving force behind the progress described within this NBSAP, as summarized under every Theme.

It is recognized that this updated NBSAP is overdue. While the ambition captured within this document is plentiful, capacity and resources remain a challenge that have prevented its update until now. However, as focus on conservation and natural resource management continues to grow across the FSM, it is hope that this NBSAP will prove a valuable tool for ongoing progress and increasing conservation successes.

Part 5: The Federated States of Micronesia Biodiversity Strategy and Action Plan

Vision

The FSM will have more extensive, diverse, and higher quality of marine, freshwater, and terrestrial ecosystems, which meet human needs and aspirations fairly, preserve and utilize traditional knowledge and practices, and fulfil the ecosystem functions necessary for all life on Earth.

Guiding Principles

A number of guiding principles underpin the FSM National Biodiversity Strategy and Action Plan 2026–2030:

- **Sovereign Rights** - The people of the FSM hold the sovereign rights over their biological diversity.
- **Community-based Approach** - The community is the basic management unit for biodiversity in the FSM – they have the right and responsibility to manage and sustainably develop their biodiversity resources for their benefit and that of future generations.
- **Traditional Heritage** - We will build upon and utilize the rich traditional knowledge and experience of our ancestors to devise and implement strategies for the sustainable stewardship of our rich natural resources.
- **Ecological Integrity** – We will strive to maintain and improve the diversity and quality of our ecosystems, conserving our biodiversity in-situ while enhancing our ecosystems’ capacity to adapt to change.

Climate change continues to be an underlying theme for all biodiversity related planning and action in the FSM. Likewise, gender and inclusion are critical considerations that support the entire NBSAP, recognized as being vital to fully understanding the importance and experience of biodiversity across the whole of FSM society.

Alignment with the Kunming-Montreal Global Biodiversity Framework

This document supports not only the national FSM strategic goals, but also the four 2050 Goals and 23 2030 Targets of the Kunming-Montreal Global Biodiversity Framework (GBF). The Themes from the prior NBSAP were deemed to still be relevant and so have been retained as the main structure of this revised NBSAP. All Strategy Goals and Objectives for each Theme were analysed for alignment with the GBF and adjusted to varying degrees and endorsed through the consultation process to the strongest alignment possible. These adjustments focused on strengthening or expanding existing Strategy Goals and Objectives to better reflect the content and intent of specific GBF targets. Where appropriate, new Objectives and/or Actions were also introduced. The FSM NBSAP has a medium-to-high level of overall alignment with the GBF.

Alignment is highlighted within this NBSAP in two ways:

1. Each Theme identifies which 2050 Goals and 2030 Targets it supports. The abbreviated Goals and Targets are included, rather than the full text.
2. Each Objective under each Theme identifies related GBF indicators.

Information Presented in this NBSAP

The FSM National Biodiversity Strategy and Action Plan is structured around 11 Themes:

- Theme 1. Ecosystem Management
- Theme 2. Species Management
- Theme 3. Genetic Resource Use
- Theme 4. Agrobiodiversity
- Theme 5. Ecological Sustainable Industry Development
- Theme 6. Biosecurity
- Theme 7. Waste Management
- Theme 8. Human Resources & Institutional Development
- Theme 9. Resource Owners
- Theme 10. Mainstreaming Biodiversity

- Theme 11. Financial Resources

Each Theme has a supporting Strategic Goal and comprises one or more Objectives. Together, the Strategic Goal and Objectives can be considered the national targets for the FSM. Each Objective in turn comprises a number of Implementation Actions (or simply 'Action'), i.e. the activities to be undertaken to achieve the Objective.

A number of actions within the NBSAP can be considered cross-cutting in nature, reflecting the interlinked nature of biodiversity conservation and sustainable management. This is an inherent feature of any framework organised around defined thematic categories. Activities such as research and monitoring, awareness and education, restoration, or capacity development naturally transcend thematic boundaries and appear within multiple Objectives. Rather than indicating duplication, these overlaps illustrate the integrated nature of biodiversity conservation in the FSM, where progress in one area depends on and reinforces advances in others. Recognizing these interconnections provides an opportunity to strengthen coordination, reduce fragmentation, and promote more coherent and efficient implementation across sectors and levels of government.

As previously described, information is provided about which of the GBF 2050 Goals and 2030 Targets that Theme aligns with each Theme. Similarly, each Theme is linked to any relevant Sustainability Goals, and where a Theme links directly to the goals of the Micronesia Challenge 2030, this is also highlighted.

Each Objective identifies a number of relevant GBF-defined indicators. These comprise mandatory headline indicators, which must be reported on in future National Reports to the CBD, and optional additional indicators, which may be useful but are not required for reporting. In addition, the FSM will monitor implementation through the Action-specific indicators included under each Objective, which are nationally determined and may be refined over time as data availability and capacity increase. Where Objectives only contain optional, or no, GBF-defined indicators, it must be remembered that reporting on progress will be still be required, and this should be based upon the Action-specific indicators.

Estimated minimum annual costs are provided to achieve each Objective. 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 NBSAP.

Implementation and Monitoring

Implementation

Many of the necessary tools for implementation have been developed over many years and form the foundation of much of the biodiversity conservation activity in the FSM. Establishment of the Micronesia Conservation Trust has also enabled a constant focus to be maintained on biodiversity conservation programs and activities. Together these will continue to be central to the implementation of this revised NBSAP.

Implementation of the NBSAP is also intrinsically linked to implementation of the individual state BSAPs. With responsibility for natural resources lying with the states, each state will be best able to prioritise the Themes, Objectives and Actions in the NBSAP alongside those of their state-level BSAP.

The 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 NBSAP.

The cost of implementation of this NBSAP

Estimated costs have been attributed to every action in this NBSAP. This enables an annual estimate for the implementation of the NBSAP as a whole to be calculated, as well as allowing for the prioritization of usage of available funds specific.

Based upon the current suite of actions, an estimated annual minimum of \$15,665,000 would be needed to fully implement the NBSAP. However, as previously described, any such estimate must be recognized as being highly conservative given the funding brackets utilized. Conversely, it should be considered that implementation of one Action may have a spillover effect onto one or more other actions. Therefore, this figure must be taken as a broad guide only, but one that allows for more effective future conservation planning.

Monitoring, Reporting and Reviewing

Monitoring the implementation of the NBSAP is an essential part of ensuring implementation and progress towards its Goals and Objectives. It is also required to enable the completion of future National Reports to the CBD. This must be balanced with the resource capacity available to undertake full-scale monitoring across the entirety of the NBSAP (and each of the accompanying State BSAPs).

At the time of writing, a national monitoring assessment related to the NBSAP is underway, and a national monitoring framework for the NBSAP will be developed in response to this assessment and the requirements of the GBF.

A full review and revision of the NBSAP 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 NBSAP, and will ensure that all Themes, Objectives and Implementation 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 of initiatives under the Convention for Biological Diversity.

Reporting and disseminating information regarding the NBSAP and its constituent programs will be coordinated by the national government.

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

Progress to date

Progress under this Theme has been varied at the Implementation Action level. Monitoring and assessment activities continuing in several areas, with marine and terrestrial monitoring activities ongoing across the states and linked to the Micronesia Challenge protocols. These activities contribute to the ongoing availability of baseline ecosystem information, although the extent to which results are consistently analysed, shared, or used to inform management decisions varies. Some progress has been recorded in relation to mapping and assessment tools, including the use of aerial imagery and remote sensing to support ecosystem analysis.

Some progress has been made in the strengthening of ecosystem management frameworks, with the Protected Areas Network system requiring the development and updating of management plans for all conservation areas within the Network. The identification and management of new protected areas is ongoing across the States under the Network, with management plans endeavoring to ensure cohesive conservation of multiple ecosystem types.

Limitations to progress have included the lack of consistent funding, technical capacity gaps, and coordination challenges across institutions and jurisdictions.

Related GBF 2050 Goals and 2030 Targets:

Goal A:	Protect and Restore
Goal B:	Prosper with Nature
Target 1:	Plan and Manage all Areas to Reduce Biodiversity Loss
Target 2:	Restore 30% of all Degraded Ecosystems
Target 3:	Conserve 30% of Land, Waters and Seas
Target 9:	Manage Wild Species Sustainably to Benefit People
Target 10:	Enhance Biodiversity and Sustainability in Agriculture, Aquaculture, Fisheries, and Forestry
Target 11:	Restore, Maintain and Enhance Nature's Contributions to People
Target 21:	Ensure that Knowledge is Available and Accessible to Guide Biodiversity Action

Related Sustainable Development Goals:

Goal 2:	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 6:	Ensure the availability and sustainable management of water and sanitation for all
Goal 8:	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 12:	Ensure sustainable consumption and production patterns
Goal 14:	Conserve and sustainably use the oceans, seas and marine resources for sustainable development
Goal 15:	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Micronesia Challenge:

- Effectively manage at least 50% of marine resources and 30% of terrestrial resources across Micronesia, which includes:
 - Effectively conserve at least 30% of the near-shore marine resources and 20% of the terrestrial resources across Micronesia by 2020
- Incorporate regional and jurisdictional fisheries management approaches, integrated with MPAs

Objective 1: Conservation Areas

To enhance the management of existing conservation areas and establish new areas to achieve a full representation of the FSM's ecosystems, while contributing to broader spatial planning processes that promote sustainable land and sea use across the country	
Related GBF indicators	Mandatory: • Headline indicator A.1: Red List of Ecosystems • Headline indicator A.2: Extent of natural ecosystems • Headline indicator 1.1: Percentage of land and sea area covered by biodiversity-inclusive spatial plans • Headline indicator 3.1: Coverage of protected areas and other effective area-based conservation measures Optional: • Global indicator (Target 1): Number of countries using terrestrial and marine spatial planning to identify areas of high biodiversity importance in national development planning • Component indicator: Protected Area Management Effectiveness (PAME) assessments completed • Component indicator: Protected area coverage of key biodiversity areas • Complementary indicator: IUCN Green List of Protected and Conserved Areas • Component indicator: Protected Area Connectedness Index (PARC-Connectedness) • Complementary indicator: Extent to which protected areas and other effective area-based conservation measures cover key biodiversity areas that are important for migratory species
Estimated minimum annual cost of achieving Objective	>\$900,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to undertake MPAME or equivalent tool assessments of all protected areas to support the expansion of the Protected Areas Network	• Number of MPAME assessments undertaken during the NBSAP lifecycle • Results of MPAMEs reported to national and regional networks during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Resource tenure systems • Lack of State PAN Coordinator in all states • Reticence of communities towards further protected area expansion
Support the States to continue to develop and implement management plans for the existing marine and terrestrial protected areas within the nation	• Number of updated protected area management plans produced each year	>\$100,000 (new)	• Technical capacity for updating plans

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to ensure the integration of traditional conservation methods and techniques into management plans where appropriate	Number of protected area management plans incorporating traditional knowledge or techniques developed each year	>\$100,000 (new)	Generational loss of traditional knowledge
Continue to work with the states to identify and designate new aquatic and terrestrial protected areas across the nation, including within the Exclusive Economic Zone, and develop and implement effective management plans to support agreed conservation goals	- Number of new protected areas identified per year - Number of protected areas identified within the Exclusive Economic Zone per year - Number of new protected area management plans developed each year	>\$100,000 (new)	- Political will - Capacity for subsequent implementation
Support the States to ensure management plans under the Protected Area Network incorporate community/resource(s) owner participation activities including enforcement	- Percentage of protected area management plans formally incorporating community/resource-owner participation and enforcement provisions - Number of community members/resource-owners actively participating in protected area co-management or enforcement committees per year	>\$100,000 (mix)	Capacity for community/resource(s) owner engagement
Ensure that the implementation of the Blue Prosperity Micronesia program integrates community and resource owner participation in the design, management and enforcement of individual management plans	Number of Blue Prosperity Micronesia program plans developed with documented community/resource owner(s) participation per year	>\$100,000 (mix)	Coordination between programmes/activities
Support the States to incorporate large managed areas to include more than one ecosystem, and consider integrating a ridge-to-reef approach that combines terrestrial and marine ecosystems	Number of new or existing conservation areas formally adopting a ridge-to-reef management approach that includes at least two connected ecosystem types during the NBSAP lifecycle	>\$100,000 (new)	- Technical capacity - Community
Support the States to develop and implement, management plans for the conservation of biodiversity in important natural and cultural heritage sites	- Evidence of support to States to support conservation in heritage sites - Development of Challenger Deep Management Plan	>\$100,000 (new)	- Technical capacity - Community awareness of importance of heritage sites

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Facilitate National and State land-use and marine planning initiatives to ensure biodiversity values are integrated into broader spatial planning frameworks, including areas outside protected zones	- Completed Sustainable Land Management National Action Plan (GEF7) during the NBSAP lifecycle - Number of National and State spatial plans that include explicit biodiversity considerations or mapped ecological corridors - Percentage of land and marine areas outside protected zones where biodiversity management measures are incorporated into spatial plans	>\$100,000 (new)	Coordination capacity

Objective 2: 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	
Related GBF indicators	Mandatory: Headline indicator A.1: Red List of Ecosystems Headline indicator A.2: Extent of natural ecosystems Headline indicator 21.1: Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework Optional: Global indicator (Target 1): Number of countries using terrestrial and marine spatial planning to identify areas of high biodiversity importance in national development planning Complementary indicator: Growth in species occurrence records accessible through the Global Biodiversity Information Facility Complementary indicator: Growth in marine species occurrence records accessible through the Ocean Biodiversity Information System
Estimated minimum annual cost of achieving Objective	>\$600,000

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Provide technical and financial support to states to undertake regular, comprehensive biological resource surveys, including Forestry Inventory Analysis (FIA) and coral reef monitoring (CRM), to track and assess changes in terrestrial, marine, and freshwater biodiversity over time, including the impacts of climate change.	• A Forestry Inventory Analysis is published during the NBSAP lifecycle • Coral reef monitoring surveys are published for all States during the NBSAP lifecycle • Total number of surveys undertaken each year • Extent of monitoring undertaken each year	>\$100,000 (new)	• Technical expertise and capacity • Equipment
Obtain aerial imagery at least once during the NBSAP cycle to update vegetation maps and assess land use practices, including agriculture, as well as the condition of aquatic environments, with national-level permitting and direct implementation by states	• Number of maps developed during the NBSAP lifecycle • Number of land surveys undertaken during the NBSAP lifecycle • Data-informed decisions made during the NBSAP lifecycle	>\$100,000 (new)	• Technical capacity • Capacity to coordinate
Further develop and maintain an appropriate information system (e.g. Geographical Information System) to store and share information on ecosystems and conservation areas	• Appropriate information system implemented during the NBSAP lifecycle	>\$100,000 (new)	• Technical capacity • Data integration
Facilitate coordination among natural resource management agencies and relevant institutions to identify and agree on priority research topics across aquatic and terrestrial ecosystems, aligned with and supporting the Micronesia Challenge Strategic Action Plan and the Forest Action Plan	• Number of priority research topics jointly agreed during the NBSAP lifecycle • Number of priority research topics implemented during the NBSAP lifecycle	>100,000 (new)	• Current lack of Access and Benefit Sharing legislation in all states
Develop and maintain a nationally coordinated clearing-house mechanism containing all National and State information and data on biodiversity (including agrobiodiversity) related information, research, and survey and monitoring reports, that is accessible by the public	• Clearing-house mechanism established • Number of research documents published each year • Number of survey reports published each year • Number of monitoring reports published year • Annual information access statistics	>100,000 (new)	• Research regulations are unclear • Maintenance capacity
Review and update the research permitting process to ensure inclusion of biodiversity and climate change-related research, in line with national access and benefit-sharing requirements, and requiring permits at both national and state levels.	• Updated research permit protocol implemented • Number of permits issued for biodiversity and climate change-related research each year	>\$100,000 (new)	• Political will • Lack of regulations • Capacity for enforcement

Objective 3: Sustainable Use of Ecosystems

To develop and implement effective management programs that ensure income-generating activities that use biodiversity resources sustainably	
Related GBF indicators	Mandatory: • Headline indicator 10.2: Progress towards sustainable forest management • Headline indicator 10.2: Progress towards sustainable forest management • Headline indicator B.1: Services provided by ecosystems
Estimated minimum annual cost of achieving Objective	>\$500,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to finalize, implement and enforce ecosystem management plans through legislation.	• Number of management plans developed with National Government support per year	>\$100,000 (new)	• Coordination capacity • Awareness regarding destructive practices
Continue to support and enhance ecosystem management plans for the sustainable use of the nation's biodiversity	• Number of existing and new plans in place per year	\$50,000–\$100,000 (new)	• Political will • Awareness • Coordination
Ensure all foreign investment activities that utilise and/or impact the nation's biodiversity are sustainable	• Percentage of foreign investment projects screened for biodiversity sustainability per year • Number of foreign investment projects denied or modified due to unsustainable biodiversity use per year	\$50,000–\$100,000 (new)	• Violation of jurisdictions
Undertake economic valuations of ecosystem services for terrestrial and aquatic area use	• Number of completed ecosystem service valuation studies during the NBSAP lifecycle • Extent of policy or management decisions informed by valuation results	>\$100,000 (new)	• Political will • Technical capacity • Access to training
Increase, improve, and maintain mooring buoys within designated marine areas in each state, as needed, to safely accommodate large vessels	• Number of functional mooring buoys installed and maintained within designated marine areas • Percentage reduction in reported anchor damage incidents to coral reefs or seagrass beds in managed sites	>\$100,000 (new)	• Maintenance funding • Technical capacity for installation and repair

Objective 4: Ecosystem Restoration

To ensure that by 2030 at least 30% of degraded terrestrial, freshwater and marine ecosystems are under effective restoration to enhance ecosystem functions, services, ecological integrity, and connectivity	
Related GBF indicators	Mandatory: • Headline indicator 2.2: Area under restoration • Headline indicator B.1: Services provided by ecosystems Optional: • Global indicator (Target 2): Number of countries with legal and technical measures for restoration and compensation of damage to biodiversity • Complementary indicator: Forest Landscape Integrity Index • Component indicator: Global Ecosystem Restoration Index • Component indicator: Maintenance and restoration of connectivity of natural ecosystems
Estimated minimum annual cost of achieving Objective	>\$550,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Coordinate with the States to assess degraded ecosystems to identify and map priority restoration sites	• Number of maps of priority restoration sites developed per year	>\$100,000 (new)	• Equipment • Technical expertise
Support the States to develop and implement restoration programs for degraded aquatic and terrestrial ecosystems, prioritizing endemic, endangered, and threatened species and habitats, based on baseline assessments and clear targets, methods, and monitoring frameworks	• Number of State-led ecosystem restoration programs implemented targeting habitats of endemic, endangered, or threatened species per year • Total area of degraded terrestrial and aquatic ecosystems under active restoration per year	>\$100,000 (new)	• Technical capacity for restoration and maintenance
Incorporate restoration goals into land/seascape planning tools	• Number of plans adapted to incorporated restoration goals per year	>\$100,000 (new)	• Technical expertise • Technical capacity
Support the States to complete community-led ecosystem restoration, especially in areas of cultural and ecological importance	• Number of community-led ecosystem restoration projects documented per year • Number of community members engaged in ecosystem restoration projects per year	>\$100,000 (new)	• Community engagement and participation

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of project sites recorded during the NBSAP lifecycle		
Support the States to align restoration programs with climate adaptation strategies, including ridge-to-reef and watershed-based approaches	- Number of ridge to reef projects incorporating climate adaptation strategies established per year - Number of watershed projects incorporating climate adaptation strategies established per year	>\$100,000 (new)	- Coordination across sectors and departments - Community engagement
Support the States to develop and implement native forest regeneration and rehabilitation programs	- Area (ha) of native forest regenerated or replanted annually - Survival rate of planted native species after 12 months	\$25,000–\$50,000 (new)	Consistency of funding

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

Progress to date

Progress under this Theme has been moderate overall, though uneven across states and actions. Implementation since 2018 has focused on strengthening species protection laws, maintaining monitoring programmes for key terrestrial and marine species, and integrating traditional management practices into state conservation systems.

Across the FSM, several laws and management measures remain in force for the protection of sharks, manta rays, turtles, and other culturally or ecologically important species. Pohnpei and Kosrae have continued to apply state-level legislation to regulate harvesting, including rotational systems for turtles and controls on destructive fishing practices. While a formal national registry of protected species has not yet been developed, lists of threatened and endemic species are maintained through state agencies and site-specific management plans.

Monitoring and research activities have continued, supported by numerous partnerships and including projects with the US Forestry Service, the National Oceanic and Atmospheric Administration, the Secretariat of the Pacific Regional Environmental Programme, and SPREP, and the Global Environment Facility (GEF). Coral-reef and forest-inventory monitoring occur regularly. Invasive-species management actions under the National Invasive Species Action Plan (2016–2021) and subsequent GEF-funded projects remain active (FSM Department of Resources and Development, 2015).

Efforts to promote sustainable use are reflected in community-based harvesting rules, non-timber forestry and aquaculture initiatives, and the revival of locally sourced products through research and tourism expos. Programmes such as Blue Prosperity Micronesia are strengthening marine spatial planning and reinforcing protection for vulnerable species.

While species conservation and sustainable-use efforts are ongoing, progress remains constrained by limited funding, coordination challenges, and incomplete data sharing between national and state agencies.

Related GBF 2050 Goals and 2030 Targets:

Goal A	Protect and Restore
Goal B:	Prosper with Nature
Target 4:	Halt Species Extinction, Protect Genetic Diversity, and Manage Human-Wildlife Conflicts
Target 5:	Ensure Sustainable, Safe and Legal Harvesting and Trade of Wild Species
Target 9:	Manage Wild Species Sustainably To Benefit People
Target 21:	Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action

Related Sustainable Development Goals:

Goal 1:	End poverty in all its forms everywhere
Goal 2:	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 6:	Ensure the availability and sustainable management of water and sanitation for all
Goal 8:	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Goal 12:	Ensure sustainable consumption and production patterns

Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Micronesia Challenge:

- Effectively manage at least 50% of marine resources and 30% of terrestrial resources across Micronesia, which includes:
 - Effectively conserve at least 30% of the near-shore marine resources and 20% of the terrestrial resources across Micronesia by 2020
- Increase the number of community members within each jurisdiction who are deriving livelihoods, including any type of income or revenue, from sustainably managed natural resources (as determined by MC Measures Working Group)
- Incorporate regional and jurisdictional fisheries management approaches, integrated with MPAs

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	
Related GBF indicators	Mandatory: • Headline indicator A.3: Red List Index • Headline indicator A.4: The proportion of populations within species with an effective population size > 500 • Headline indicator 5.1: Proportion of fish stocks within biologically sustainable levels Optional: • Component indicator: Green Status of Species Index • Complementary indicator: Percentage of threatened species that are improving in status • Complementary indicator: Species threat abatement and restoration metric • Complementary indicator: Red List Index (for internationally traded species and for migratory species)
Estimated minimum annual cost of achieving Objective	>\$750,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop guidelines and procedures for registering protected species in a national protected species registry	• State consultations undertaken within the NBSAP lifecycle • Guidelines for national protected species registry completed and approved within the NBSAP lifecycle • Number of species registered under the national protected species registry per year	\$50,000–\$100,000 (new)	• Currently no registry in place • Technical expertise
Establish, maintain and update a threatened species list	• Coordination role established within the NBSAP lifecycle • Threatened species list published and regularly updated once during the NBSAP lifecycle • Number of species added, removed or reclassified in the threatened species list per year	>\$100,000 (new)	• Coordination • Technical expertise
Regularly review existing lists of threatened species and develop and implement appropriate conservation programs	• Threatened species list reviewed yearly • Number of conservation programs developed or implemented based on review outcomes	>\$100,000 (new)	• Lack of baseline data

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Determine which species are suitable for recovery/reintroduction programs (including propagation) and investigate the potential and feasibility of developing captive breeding programs to prevent species extinctions	Number of species identified for recovery/reintroduction per year	\$25,000–\$50,000 (new)	- Coordination - Technical expertise
Support the States to establish botanical gardens as living seed banks to house collections of all native, endemic, and threatened species and varieties of flora, including agricultural species, focusing on those species not already included in existing seed banks	- Number of State botanical gardens established or upgraded during the NBSAP lifecycle - Number of native species and varieties, including crop species and varieties, conserved or propagated in State botanical gardens over time	>\$100,000 (new)	- Available space - Land management issues - Community support
Work with other countries to further develop and implement regional and international programs to protect migratory species (e.g. turtles)	- Number of active regional or international species protection partnerships or MOUs signed during the NBSAP lifecycle - Number of joint monitoring or conservation activities undertaken for migratory species during the NBSAP lifecycle	\$25,000–\$50,000 (new)	- Technical expertise - Coordination
Support the States to further develop and strengthen endangered species laws and regulations	- Revised endangered species legislation drafted or enacted during the NBSAP lifecycle - Number of enforcement actions or compliance measures undertaken under updated regulations per year	\$25,000–\$50,000 (new)	Legal expertise
Continue to develop and implement programs for the conservation and protection of native species and varieties from the destructive impact of alien and invasive species	- Number of control or eradication programs for invasive species implemented during the NBSAP lifecycle - Area (ha) or number of sites where native species have been restored or protected following invasive-species management per year - Number of alien and invasive management plans developed per year - Number of species eradicated or controlled per year	>\$100,000 (new)	Technical expertise

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to explore the feasibility of becoming a party to the Convention on International Trade of Endangered Species and the Convention on the Conservation of Migratory Species of Wild Animals	- Meeting minutes demonstrating ongoing discussion of Conventions - Documentation from relevant protected area planning and consultations	\$50,000–\$100,000	- Political will - Coordination capacity

Objective 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	
Related GBF indicators	Mandatory: Headline indicator 21.1: Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework Headline indicator A.3: Red List Index Headline indicator A.4: The proportion of populations within species with an effective population size > 500 Optional: Complementary indicator: Proportion of known species assessed through The IUCN Red List of Threatened Species™ Complementary indicator: Growth in species occurrence records accessible through the Global Biodiversity Information Facility Complementary indicator: Growth in marine species occurrence records accessible through the Ocean Biodiversity Information System (OBIS) Complementary indicator: Species Status Information Index Complementary indicator: Proportion of known species assessed through <i>The IUCN Red List of Threatened Species</i>™ Complementary indicator: Number of assessments on <i>The IUCN Red List of Threatened Species</i>™
Estimated minimum annual cost of achieving Objective	>\$500,000

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to undertake ongoing research programs to complete the identification and current status of flora and fauna	• Number of species surveys conducted per State per year • Number of research reports produced per year	\$50,000–\$100,000 (new)	• Limited technical expertise
Establish and implement resource-monitoring programs for species that are threatened, rare, endemic, commercially harvested and culturally significant, with an emphasis on developing protocols that can be adopted by communities	• Number of active species-specific resource monitoring programs that engage communities developed per year • Number of annual monitoring reports produced per year	>\$100,000 (new)	• Lack of consistency in monitoring and evaluation • Weak inter-agency collaboration
Develop monitoring programs to evaluate, document, and implement appropriate actions on threats to the biodiversity of the nation	• Number of priority threats documented with active responses implemented during the NBSAP lifecycle • Documentation produced per year	>\$100,000 (new)	• Technical expertise • Coordination • Equipment availability
Support and develop programs to monitor ocean temperature and acidification, and to evaluate the impact of coral bleaching, crown of thorns starfish, land-based pollution, and other threats to coral reefs	• Number of ocean monitoring stations operational and reporting during the NBSAP lifecycle • Frequency of ocean condition data submissions to regional partners • Number of national reports including ocean condition data produced during the NBSAP lifecycle	>\$100,000 (new)	• Coordination • Timely sharing of information
Develop research and monitoring programs to identify the presence and evaluate effects of invasive species and develop control and/or eradication programs where appropriate	• Number of programs developed and implemented during the NBSAP lifecycle • Number of program reports produced per year	>\$100,000 (new)	• Technical capacity

Objective 3: Sustainable Use and Management of Species

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

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Related GBF indicators	Mandatory: • Headline indicator 5.1: Proportion of fish stocks within biologically sustainable levels • Headline indicator 9.1: Benefits from the sustainable use of wild species • Headline indicator 10.2: Progress towards sustainable forest management Optional: • Component indicator: Red List Index for used species • Component indicator: Living Planet Index for used species • Complementary indicator: Red List Index (for internationally traded species and for migratory species) • Complementary indicator: Proportion of legal and illegal wildlife trade consisting of species threatened with extinction
Estimated minimum annual cost of achieving Objective	>\$650,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to re-evaluate and/or develop appropriate sustainable management plans, including sustainable harvesting levels and enforcement programs for all commercial and subsistence harvested marine (inshore and offshore), freshwater and terrestrial flora and fauna	• Number of species with updated management plans endorsed by State agencies during the NBSAP lifecycle • Proportion of commercially harvested species operating within agreed sustainable harvest quotas during the NBSAP lifecycle	\$25,000–\$50,000 (new)	• Political • Collaborative between National, State, and community stakeholders
Through legislation and enforcement reduce and control destructive and unsustainable harvesting of marine and terrestrial species	• Number of pieces of legislation and/or regulations developed during the NBSAP lifecycle • Number of reported illegal harvesting incidents investigated per year • Reduction in incidence of destructive harvesting practices in monitored areas over time	>\$100,000 (new)	• Awareness
Support the development of environmentally sustainable and economically viable aquaculture and forest product programs	• Number of sustainable aquaculture and forest product programs developed per year • Estimated income from sustainable use activities per year	>\$100,000 (new)	• Political will • Technical capacity
Support the States to identify and implement sustainable tourism programs linked to species that are important for the eco-tourism	• Number of new tourism ventures during the NBSAP lifecycle.	\$50,000–\$100,000 (new)	• Transport infrastructure

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Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
industry (e.g. game fishing, manta ray observations, mangrove forest tours)	Number of tourist arrivals for species-specific tourism per year.		
Support the development and export of natural resource-based products by the private sector at sustainable levels, ensuring that production aligns with environmental safeguards and long-term viability	- Number of new products and companies developed per year - Number of products being exported per year - Number of export units per year	>\$100,000 (new)	- Coordination between Government and private sector - Ability to create demand
Establish environmental and/or organic certification standards for natural resource-based “green products” to ensure sustainable practices and market credibility	Certification standards developed and implemented during the NBSAP lifecycle	>\$100,000 (new)	Requirement for USDA organic certification
Develop and enforce National regulations, and support the States to develop and enforce State regulations, governing seabed mining exploration and extraction to ensure that marine biodiversity and ecosystem functions are not adversely affected	Existence of a National and State seabed mining policy or regulatory frameworks adopted and implemented during the NBSAP lifecycle	>\$100,000 (new)	Political will

Theme 3. Genetic Resource Use

Strategy Goal: The FSM's genetic resources, associated digital sequence information, and traditional knowledge are protected and accessed through fair and transparent frameworks, in line with international access and benefit-sharing instruments, ensuring equitable benefit-sharing with knowledge holders and communities

Progress to date

Progress under this Theme has been limited overall, with some progress recorded in Pohnpei and Kosrae but little or no advancement reported from Chuuk and Yap. The most tangible developments relate to initial legislative and permitting measures, early benefit-sharing mechanisms, and preparatory work on access and benefit-sharing (ABS) frameworks.

In Pohnpei, legislation has been developed to protect certain freshwater and plant species, and an ABS project is in development. Draft state legislation has been prepared to support royalty rights over natural resources, including provisions for revenue-sharing on deep-sea mineral mining. Consultations have also informed a draft copyright law, and an ad-hoc bioprospecting committee functions in the absence of a formal legal framework. Local capacity-building has been supported through research internships and partnerships with external institutions, and both national and state research-permit databases are in operation. In Kosrae, progress includes an established ABS regulation (2015) under the Kosrae Island Resource Management Authority, a Royalty Act, and supporting references in the updated State Code Title 19 (2023). Enforcement and data-tracking remain weak, though provisions for penalties exist and local hiring is encouraged through MOUs.

Overall, while groundwork has been laid through draft laws, ABS initiatives and some capacity-building activities, comprehensive systems for enforcement, benefit-sharing, and coordinated permitting remain largely unrealized across most states. However, it is noted that a national ABS project is in development at the time of development of this NBSAP, which will comprehensively address the situation.

Related GBF 2050 Goals and 2030 Targets:

Goal C: Share Benefits Fairly

Target 13: Increase the Sharing of Benefits from Genetic Resources, Digital Sequence Information and Traditional Knowledge

Related Sustainable Development Goals:

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Objective 1: Equitable Sharing of Benefits of Genetic Resources

To develop and implement national and state legislation and measures to ensure fair and equitable sharing of benefits arising from the use of genetic resources, including digital sequence information and associated traditional knowledge, in accordance with international access and benefit-sharing instruments	
Related GBF indicators	Mandatory: • Headline indicator C.1: Indicator on monetary benefits received • Headline indicator C.2: Indicator on non-monetary benefits Optional: • Global indicator: Number of countries that have operational legislative, administrative or policy frameworks, which relate to Target 13 • Component indicator: Total number of internationally recognized certificates of compliance published in the ABS Clearing-House • Component indicator: Number of checkpoint communiqués published in the ABS Clearing-House • Component indicator: Number of permits or their equivalents for genetic resources (including those related to traditional knowledge) by type of permit • Component indicator: Total number of permits, or their equivalent, granted for access to genetic resources • Component indicator: Number of countries that require prior informed consent that have published legislative, administrative or policy measures on access and benefit-sharing in the ABS Clearing-House • Component indicator: Number of countries that require prior informed consent that have published information on access and benefit-sharing procedures in the ABS Clearing-House • Component indicator: Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits • Complementary indicator: Estimated percentage of monetary and non-monetary benefits directed towards conservation and sustainable use of biodiversity
Estimated minimum annual cost of achieving Objective	>\$855,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop National and State legislation on access to genetic resources, associated traditional knowledge, and digital sequence information, ensuring alignment with international ABS instruments	• National draft legislation developed and passed by the relevant congresses during the NBSAP lifecycle	>\$100,000 (new)	• Political will • Awareness • Community-level buy-in • Baseline knowledge and research timeline

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	State draft legislation or policy developed and passed during the NBSAP lifecycle		Technical expertise
Develop National and State bioprospecting enforcement programs and penalties	- Number of programs established during the NBSAP lifecycle - Number of penalties issued per year - Number of cases/incidents reported per year - Number of violations reported and acted upon per year - Amount of money collected for violations per year	>\$100,000 (new)	- Political will - Awareness
Define intellectual property rights and benefit-sharing obligations for traditional knowledge holders and natural resource owners	- Number of intellectual property rights and benefit-sharing obligations fully defined and integrated in the national system during the NBSAP lifecycle - Number of payment schemes established	>\$100,000 (new)	- Consensus reaching - Awareness - Copyright issues
Establish frameworks to secure royalty or other benefit-sharing rights for products derived from FSM genetic resources or traditional knowledge, ensuring State mechanisms align with traditional governance structures	- Number of National and State frameworks developed during the NBSAP lifecycle - State legislation or policy drafted during the NBSAP lifecycle - Number of payment schemes established	>\$100,000 (new)	- Complexities of traditional governance - Time - Access and benefits sharing expertise
Establish a national ABS coordination panel to review applications for access to genetic resources and traditional knowledge	- New office or department in place, with clear role established, during the NBSAP lifecycle - National ABS coordination panel, including representatives from all States, established during the NBSAP lifecycle	\$50,000–\$100,000 (mix)	- Political will - Current lack of relevant legislation - Technical expertise
By 2027, develop a national code of conduct for biodiversity and bioprospecting research that includes ethical engagement with communities and benefit-sharing expectations	- Code developed by 2027 - Number of applications per year, post-2027 - Number of applications approved, post-2027	\$5,000–\$25,000 (mix)	- Political will - Coordination between government offices
Implement transparent permitting systems at both National and State levels for bioprospecting and biodiversity-related research that requires: Prior informed consent (PIC) from both government and traditional knowledge holders	- National and State legislation developed and passed by relevant legislators during the NBSAP lifecycle - Number of permits issued per year	\$5,000–\$25,000 (mix)	- Political will - Awareness - Stakeholder coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
• Mutually agreed terms (MAT) for benefit-sharing • The hiring or training of local associates and knowledge holders, to ensure local capacity development and support	• Number of outcomes produced/published during the NBSAP lifecycle		
Identify an appropriate national coordinator/host for a national open-source database for biodiversity-, genetic resource-, and traditional knowledge-related research, data, and information	• Coordinator/host identified during the NBSAP lifecycle	<\$5,000 (existing)	• Technical capacity
Create a national open-source database for biodiversity-, genetic resource-, and traditional knowledge-related research, data, and information, including intangible cultural heritage (ICH), with safeguards for sensitive information	• Genetic resource inventory established during the NBSAP lifecycle • Centralized database developed and implemented during the NBSAP lifecycle (with quarterly updates once developed) • Database usage statistics per year	>\$100,000 (new)	• Current lack of platform • Data sensitivity • Data usability
Identify technical expertise to assess and support patent process	• Consultant/s identified and engaged during the NBSAP lifecycle • Number of patent processes assisted by the consultant during the NBSAP lifecycle	>\$100,000 (new)	• Availability of technical expertise
Develop ABS-related awareness activities	• Number of ABS-related awareness activities carried out during the NBSAP lifecycle	>\$100,000 (new)	• Travel cost • Public buy-in

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

Progress to date

Progress under this Theme has been uneven, though several projects and initiatives supporting the sustainable use of agrobiodiversity and food security across the FSM.

Activities have been delivered through the Green Climate Fund (GCF) Food Security Project, state agriculture and forestry programs, and related initiatives. Sustainable use measures are incorporated into the National and State Forest Action Plans, targeting at least two communities per two-year cycle. The GCF Food Security Project has provided food-processing training through the College of Micronesia-FSM, distributed seedlings, and supplied materials to women's groups to support small-scale income activities. Additional community-level projects have included replanting of crops affected by saltwater intrusion and promotion of food-processing and packaging skills. Across the states, research and demonstration projects have focused on resilient and traditional crops. Activities include aquaponic and hydroponic trials, terrestrial plant and fish research, and specimen storage. Traditional medicinal plants and building materials continue to be cultivated, and a ten-year moratorium is being prepared for a heavily logged area of Sokehs to allow rehabilitation. Awareness-raising on invasive species has been maintained through GEF-6 and iSTOP initiatives. The Pohnpei Botanical Garden remains in place but does not yet include sufficient threatened species specimens.

Across the FSM, these collective activities demonstrate continuing though variable progress toward conserving and sustainably using agrobiodiversity resources.

Related GBF 2050 Goals and 2030 Targets:

Goal A:	Protect and Restore
Goal B:	Prosper with Nature
Target 4:	Halt Species Extinction, Protect Genetic Diversity, and Manage Human-Wildlife Conflicts
Target 10:	Enhance Biodiversity and Sustainability in Agriculture, Aquaculture, Fisheries, and Forestry
Target 21:	Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action

Related Sustainable Development Goals:

Goal 1:	End poverty in all its forms everywhere
Goal 2:	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3:	Ensure healthy lives and promote well-being for all at all ages
Goal 12:	Ensure sustainable consumption and production patterns
Goal 15:	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

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	
Related GBF indicators	Mandatory: • Headline indicator 10.1: Proportion of agricultural area under productive and sustainable agriculture • Headline indicator 10.2: Progress towards sustainable forest management Optional: • Complementary indicator: Agrobiodiversity Index • Complementary indicator: Red List Index (wild relatives of domesticated animals)
Estimated minimum annual cost of achieving Objective	>\$500,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Promote, develop, and share methodologies for the sustainable use of agrobiodiversity and sustainable agricultural practices	• Recorded instances of the implementation of sustainable land use management and agricultural practices over time • The number of jurisdictions utilising the Forestry Action Plan during the NBSAP lifecycle • Total area of the country under sustainable agriculture	>\$100,000 (mix)	• Technical capacity • Awareness
Eliminate unsustainable agrobiodiversity use	• Develop the baseline of agricultural practices and areas under different management frameworks • Develop and implement a strategy to eliminate unsustainable agrobiodiversity use • Percentage reduction in reported unsustainable practices (e.g. monocropping of non-native species) over time	>\$100,000 (new)	• Awareness • Lack of current baseline
Encourage and support conservation and sustainable use of agrobiodiversity and deliver education and awareness raising about these	• Number of incentives developed to enhance and support sustainable agriculture production during the NBSAP lifecycle • Annual level of sustainable food production • Number of farmers implementing sustainable activities initiated and ongoing per year	>\$100,000 (new)	• Project delivery capacity • Buy-in to incentives and strategies

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of people participating in public awareness activities per year		
Support the States to identify, promote and enhance existing programs for the inventory, propagation and preservation of traditional species, varieties, cultivars and breeds	- Assessment report including number of traditional species identified and inventoried during the NBSAP lifecycle - Number of traditional species under active cultivation over time - Number of programs initiated by the National Government to support the States during the NBSAP lifecycle	>\$100,000 (new)	Land access for surveying and inventorying
Continue to support State and Municipal Governments, communities, educational institutions, and NGOs to integrate traditional and modern conservation management practices to further improve agrobiodiversity across the nation	- Level of project funding received per year - Number of new projects initiated per year	>\$100,000 (new)	Coordination

Objective 2: Promotion and Development

To compile existing research findings and develop programs and projects critical to the enhancement of agrobiodiversity	
Related GBF indicators	Optional: Component indicator: Average income of small-scale food producers, by sex and indigenous status Complementary indicator: Agrobiodiversity Index
Estimated minimum annual cost of achieving Objective	>\$500,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the development of new markets and expand on existing markets for local species and varieties that can be produced on a sustainable basis	Sales volume of sustainably produced local foods over time	>\$100,000 (new)	Consumer demand

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support local private sector enterprises that produce value-added local products, including through government meeting catering	• Number of sustainably produced local 'value-added' products available over time • Units sold of specific local value-added products per year • Number of catered government meetings including local value-added products per year	\$50,000–\$100,000 (new)	• Awareness • Lack of small business development support • Community will
Improve capacity of the National Government to support exportation and develop a national marketing strategy in collaboration with the Chamber of Commerce for the regional export of local niche products	• Number of units of identified products exported per year • Number of producers improving practices to meet international exportation requirements	\$50,000–\$100,000 (new)	• Export data availability • International export requirements and certification
Collaborate with and support the States, including Municipal Governments, in promoting existing research findings with farmers through training programs and public education	• Number of participants in training programs per year	>\$100,000 (new)	• Access to research • Lack of research inventory
Continue to support State awareness activities around invasive species that impact agroforestry	• Number of management practices identified to control invasive species during the NBSAP lifecycle • Number of awareness campaigns conducted per year • Number of farmers aware of specific invasive species over time	>\$100,000 (new)	• Outreach capacity • Available materials

Objective 3: New Research and Development

To conduct relevant research critical to the development of agrobiodiversity	
Related GBF indicators	Optional: • Complementary indicator: Growth in species occurrence records accessible through the Global Biodiversity Information Facility
Estimated minimum annual cost of achieving Objective	>\$200,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop, implement, and support research and training programs for all relevant agencies and institutions involved in agrobiodiversity	- Number of training programs developed and supported during the NBSAP lifecycle - Number of personnel trained per year	>\$100,000 (new)	Government commitment
Develop and support a monitoring program for all new introduced agricultural species	- Inventory of all introduced agricultural species developed during the NBSAP lifecycle - Number of monitoring reports, including key information such as species behaviour, pests, and location, produced per year	>\$100,000 (new)	Maintenance capacity

Objective 4: Food and Health Security

To enhance and strengthen food and health security through the use of sustainable agrobiodiversity practices	
Related GBF indicators	Optional: Complementary indicator: Agrobiodiversity Index
Estimated minimum annual cost of achieving Objective	>\$205,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop and support new and existing programs that promote the production of local nutritional food	- Number of new programs, including awareness activities, established per year - Proportion of households consuming locally produced nutritious foods over time	<\$5,000 (existing)	Household engagement
Support the States to encourage sustainable breeding programs for livestock (e.g. pigs and chickens)	- Number of pigs being produced per year - Number of imported chickens for eggs and/or meat production per year	>\$100,000 (mix)	Behavior change
Encourage use of locally produced livestock feed alternatives through farmer training on feed formulation, suitable local feed resources, and on-farm feed production	- Number of farmers trained on local livestock feed alternatives per year - Annual levels of livestock feed imports and local produced feed	\$50,000–\$100,000 (new)	- Farmer engagement - Consistent resource supply

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

Progress to date

Progress under this Theme has been limited, with most initiatives remaining in early or pilot stages. While there are examples of activity across several sectors, the development of industries that are both economically viable and environmentally sustainable has advanced only gradually since 2018. In Pohnpei, small-scale and community-based initiatives have sought to link livelihoods with conservation outcomes. Savings clubs have provided limited financial security for aquaculture and agriculture groups, while women's cooperatives and youth groups are involved in handicrafts, gardening, and recycling. Research and training through College of Micronesia-FSM and the College of Micronesia-Cooperative Research & Extension support local food production, but assessments of ecotourism and biodiversity valuation have not led to sustained implementation. Similar patterns appear elsewhere. In Kosrae, eco-tourism ventures operate in partnership with the private sector but face capacity constraints, while community farming projects continue with external support. In Yap, efforts such as agroforest enrichment, coconut and timber product use, and small-scale tourism activities provide local income but remain isolated examples rather than established industries. Renewable-energy and efficiency programs have been introduced nationally and at state level, including solar, wind, and hybrid systems, but comprehensive strategies, incentive frameworks, and technical awareness programs are still lacking.

Overall, activities under this Theme demonstrate interest and experimentation in sustainable enterprise, but few have yet evolved into functioning, long-term industries capable of balancing economic growth with environmental protection.

Related GBF 2050 Goals and 2030 Targets:

Goal B: Prosper with Nature

Target 9: Manage Wild Species Sustainably to Benefit People

Target 10: Enhance Biodiversity and Sustainability in Agriculture, Aquaculture, Fisheries, and Forestry

Target 18: Reduce Harmful Incentives by at Least \$500 Billion per Year, and Scale Up Positive Incentives for Biodiversity

Related Sustainable Development Goals:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 12: Ensure sustainable consumption and production patterns

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Micronesia Challenge:

- Increase the number of community members within each jurisdiction who are deriving livelihoods, including any type of income or revenue, from sustainably managed natural resources

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	
Related GBF indicators	Mandatory: • Headline indicator 9.1: Benefits from the sustainable use of wild species • Headline indicator 9.2: Percentage of the population in traditional occupations • Headline indicator 18.1: Positive incentives in place to promote biodiversity conservation and sustainable use Optional: • Component indicator: Value of sustainable production and consumption certified products
Estimated minimum annual cost of achieving Objective	>\$700,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Promote the development of ecologically sustainable and economically profitable enterprises utilizing and conserving the nation's biodiversity and utilizing economic incentives (e.g. tax breaks) to promote expansion of these activities while removing all incentives for non-compliant industries	• Number of enterprises certified as ecologically sustainable per year • Value of economic incentives provided during the NBSAP lifecycle	>\$100,000 (new)	• Political will • Coordination
Promote and support research and pilot programs that develop partnerships between the government and private sector to develop ecologically sustainable industries, including those that can drive economic development	• Number of research or pilot programs established during the NBSAP lifecycle • Number of partnerships formed within the FSM lifecycle	>\$100,000 (new)	• Political will • Coordination between government and private sector • Scaling-up of pilot programs
Further develop and support those industries currently meeting ecological sustainability goals (e.g. eco-tourism)	• Number of programs established during the NBSAP lifecycle • Annual revenue from sustainable enterprises	>\$100,000 (new)	• Political will • Awareness
Develop and implement mechanisms for the establishment of National "green" accounting programs, including incentives	• Mechanisms implemented within NBSAP lifecycle • Value of incentives issued per year	>\$100,000 (new)	• Political will • Technical expertise

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Establish incentive-based programs for “environmentally friendly” community development, including economic incentives and financial access for these activities	- Number of programs introduced within NBSAP lifecycle - Number of communities engaged in such programs per year	>\$100,000 (new)	Sustainable funding
Develop and implement environmental economic valuation procedures for assessing the full economic value of biodiversity to the nation	- Number of valuations undertaken during the NBSAP lifecycle - Evidence of policy influenced by valuation data during the NBSAP lifecycle	>\$100,000 (new)	- Technical capacity - Coordination
Integrate biodiversity valuation as an integral component of all land use and coastal use planning	Percentage of plan developed integrating biodiversity valuation	\$25,000–\$50,000 (new)	Lack of data
Support the States to explore and develop a program that introduces a user fee program for conservation areas to provide additional funding assistance for the management of these	- Number of sites implementing user fee mechanisms per year - Revenue generated through user fee mechanisms per year	\$25,000–\$50,000 (mix)	- Political will - Issue prioritisation

Objective 2: Income Generating Activities

To develop and promote long-term ecologically sustainable income generating activities for resource owners and the community	
Related GBF indicators	Mandatory: Headline indicator 9.1: Benefits from the sustainable use of wild species Headline indicator 9.2: Percentage of the population in traditional occupations Optional: Component indicator: Number of people using wild resources for energy, food or culture (including firewood collection, hunting and fishing, gathering, medicinal use, craft making, etc.) Component indicator: Value of sustainable production and consumption certified products Complementary indicator: Volume and value of sustainable agricultural, forestry and fishery products
Estimated minimum annual cost of achieving Objective	\$100,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to promote sustainable income generating activities at the community level, including financial incentives and capacity building, strengthening of networks and partnerships with the private sector and donor agencies, and ensuring appropriate feasibility and sustainability evaluations are undertaken	- Number of community-level income generating programs implemented during the NBSAP lifecycle - Number of households benefiting from sustainable income initiatives per year	\$50,000–\$100,000 (new)	- Community will - Coordination

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	
Related GBF indicators	Mandatory: Headline indicator 18.2: Value of subsidies and other incentives harmful to biodiversity that have been eliminated, phased out or reformed Optional: Complementary indicator: Amount of fossil-fuel subsidies per unit of gross domestic product (production and consumption)
Estimated minimum annual cost of achieving Objective	>\$675,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Promote and support environmentally sound development of natural/renewable energy sources at all levels	- Number of renewable energy projects initiated in the NBSAP lifecycle - Percentage of national energy mix derived from natural/renewable sources per year	>\$100,000 (new)	- High development cost - Access to appropriate sites
Continue the implementation of National strategies, and continue to support the implementation of State strategies, for energy safety and efficiency	Number of energy efficiency projects implemented under national and state strategies during the NBSAP lifecycle	>\$100,000 (new)	- Institutional coordination - Technical expertise

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Promote renewable energy resources and provide incentives for their use	• Development and implementation of incentives during the NBSAP lifecycle • Value of incentives provided per year	>\$100,000 (new)	• Reliance on donor funding • High installation and maintenance costs
Evaluate existing energy policies and providers, and make recommendations for improvements, including incentives	• Number of evaluations undertaken during the NBSAP lifecycle	>\$100,000 (new)	• Technical expertise
Promote technology and behaviors that contributes to energy conservation	• Energy consumption rates per year	>\$100,000 (new)	• Awareness • Acceptance
Carry out awareness programs about renewable energy sources	• Number of awareness programs conducted and communities reached per year • Level of public understanding (survey based)	>\$100,000 (new)	• Awareness • Outreach capacity
Support the States to develop management plans to ensure any use of the nation's forests, especially mangrove forests, for energy sources is sustainable	• Number of management plans developed during the NBSAP lifecycle • Estimates of forest resource consumption per year	\$25,000–\$50,000 (new)	• Resource ownership
Reduce reliance on native wood as fuel	• Proportion of households using alternative energy sources (gas, solar, biogas, invasive wooded species, etc.) per year	\$5,000–\$25,000 (new)	• Availability and access to alternative fuel sources • Awareness and preference

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

Progress to date

Overall progress under this Theme has been steady but incomplete, with continuing activities to strengthen border control, quarantine capacity, and invasive-species management across the FSM. Most actions remain underway through state and national agencies, supported by regional projects such as those funded by the Global Environment Facility and guided by the National Invasive Species Action Plan (NISAP). At the policy level, national strategies and state guidance exist, and memoranda of understanding between national and state governments provide a framework for cooperation on biosafety and biosecurity. Quarantine services are functioning at ports of entry, supported by new equipment, x-ray scanners, and improved protocols, but are not as comprehensive as they could be. National Quarantine Services staff conduct spot checks and awareness activities, and online and regional training programs have been introduced in partnership with the College of Micronesia-FSM and regional agencies. Control and eradication programs have advanced through targeted initiatives. In Pohnpei, eradication of the Honolulu rose, octopus tree, and chain of love has been completed under iSTOP (invasive Species Taskforce Of Pohnpei). Yap and Kosrae report upgraded airport screening machines, cross-training with Guam, and rapid-response plans updated for priority species such as the coconut rhinoceros beetle and brown tree snake. Annual regional biosecurity meetings and training continue, though funding and staffing remain limited.

Research and monitoring are guided by the State's strategic action plans and updated invasive-species lists. Collaboration with regional partners supports assessment, data sharing, and the development of biological control measures.

Related GBF 2050 Goals and 2030 Targets:

Goal A: Protect and Restore

Target 6: Reduce the Introduction of Invasive Alien Species by 50% and Minimize Their Impact

Target 17: Strengthen Biosafety and Distribute the Benefits of Biotechnology

Target 21: Ensure That Knowledge Is Available and Accessible To Guide Biodiversity Action

Related Sustainable Development Goals:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 12: Ensure sustainable consumption and production patterns

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Micronesia Challenge:

- Reduce invasive species and increase restoration of habitats

Objective 1: Policy and Legislation

To improve and strengthen appropriate national, state and municipal policies and legislation to ensure the effective management of biosecurity	
Related GBF indicators	Optional: Complementary indicator: Number of countries that have the necessary biosafety legal and administrative measures in place Complementary indicator: Number of countries that implement their biosafety measures Complementary indicator: Number of countries that establish and implement risk management measures
Estimated minimum annual cost of achieving Objective	>\$355,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop National policies and support States to develop policies and legally formalize invasives taskforces to enable access to funding to enable the management of all biosafety issues	- Number of biosafety policies adopted during the NBSAP lifecycle - Number of State invasives taskforces legally formalized during the NBSAP lifecycle	>\$100,000 (new)	- Technical expertise - Political will - Awareness - Outreach capacity
Further develop and implement National laws and screening processes, and support the States to further develop laws and screening processes, for alien species introductions and the introduction and management of genetically modified organisms to minimize their impacts on biodiversity	- Laws and screening processed in place within the NBSAP lifecycle - Number of interceptions of alien species and genetically modified organisms at ports per year	\$25,000–\$50,000 (new)	- Technology - Awareness
Further develop the National Government's power to enforce (including issues of transportation and staffing) all laws and legislation relating to alien introductions	- Number of enforcement actions undertaken per year - Number of enforcement personnel in post over time	>\$100,000 (new)	- Political will - Undetected species arrivals
Align national invasives framework to the Regional Invasive Species Council frameworks to better enable regional quarantine measures	- Alignment status during the NBSAP lifecycle - Number of joint regional or subregional coordination meetings or trainings attended annually by FSM stakeholders	\$50,000–\$100,000 (new)	- Interagency coordination capacity - Technical capacity
Ensure the FSM Quarantine Services is invoking its powers in coordination with the States to declare quarantine areas within the states in areas that are at high risk of invasives-related emergencies	Number of quarantine areas declared per year	<\$5,000 (new)	- Coordination - Resource owner engagement

Objective 2: Control and Eradication

To identify and develop appropriate programs to ensure effective control and eradication of species threatening biodiversity	
Related GBF indicators	No specific GBF indicators
Estimated minimum annual cost of achieving Objective	>\$700,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Strengthen facilities and provide informed and trained personnel for border control and quarantine services	- Number of trained personnel over time - Numbers of confiscations/interceptions per year	>\$100,000 (mix)	- Limited quarantine facilities - Collaboration with Port Authorities
Ensure adequate numbers of trained female quarantine personnel are in post to enable comprehensive checking of women entering the FSM's ports.	- Numbers of trained female quarantine personnel over time - Numbers of confiscations/interceptions per year	>\$100,000 (new)	- Awareness - Level of interest - Recruitment
Ensure budget exists for relevant personnel to attend appropriate training and educational conferences	- Number of personnel attending training courses per year - Annual budget allocation for training	>\$100,000 (new)	- Reliance on donor funding - Budget prioritization
Develop programs for the control and eradication (where feasible) of invasive species	- Number of eradication and control programs implemented during the NBSAP lifecycle - Hectares effectively cleared of invasives with the NBSAP lifecycle	>\$100,000 (new)	- Established nature of many invasives - Technical capacity - Coordination
Develop programs and legislation for the control of all endemic species being exported from the nation	Number of incidents of unreported export identified through spot checks per year	\$50,000–\$100,000 (new)	- Political will - Collaboration with Port Authorities - Technical capacity
Further develop and implement screening protocols for all international and domestic watercraft entering the nation's ports and/or traveling between ports within the nation	- Percentage of vessels screened per year - Number of interceptions of alien species per year	\$25,000–\$50,000 (new)	Consistency between States

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Implement regional and international programs to protect native marine biodiversity on the high seas and all coastal ports (e.g. PACPOL and IMO programs)	- Number of FSM port facilities implementing protocols consistent with IMO and PACPOL guidelines - Frequency of joint inspections or monitoring missions conducted under regional marine pollution prevention or biodiversity protection programs	>\$100,000 (new)	- Equipment - Logistical complexity
Continue to implement invasive species task force and update rapid response plans in each State and Regionally	- Number of plans updated during the NBSAP lifecycle - Number of rapid response actions undertaken	\$25,000–\$50,000 (mix)	- Funding availability for response operations - Technical capacity - Capacity for ongoing training

Objective 3: Research and Monitoring

To undertake a systematic and scientific research and monitoring program to allow management of biosecurity threats	
Related GBF indicators	Mandatory: Headline indicator 6.1: Rate of invasive alien species establishment Headline indicator 6.2: Number of invasive alien species impacts on ecosystems and species Optional: Global indicator: Number of countries with national monitoring programmes for invasive alien species Component indicator: Proportion of countries with functional biodiversity information systems Complementary indicator: Number of invasive alien species in national lists as per the Global Register of Introduced and Invasive Species. Complementary indicator: Growth in species occurrence records accessible through the Global Biodiversity Information Facility
Estimated minimum annual cost of achieving Objective	>\$175,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Review, evaluate, update and prioritize the lists of terrestrial and aquatic invasive species in the FSM	• Number of State invasives strategic action plans updated during the NBSAP lifecycle	\$5,000 –\$25,000 (new)	• Consistency between States • Reliance on donor funding • Interdepartmental collaboration
Strengthen National and State government agencies to be able to undertake appropriate scientific research and assessment of introduced species, including the provision of research facilities, and ensure data are coordinated and shared between States	• Development of research facilities during the NBSAP lifecycle • Development of coordinated data storage during the NBSAP lifecycle • Number of research reports developed per year • Number of trainings for relevant personnel	>\$100,000 (new)	• Lack of centralized data platform • Technical capacity • Equipment
Increase collaboration with regional and international agencies to assist in the identification, control and eradication of invasive species	• Number of joint initiatives undertaken within NBSAP lifecycle • Number of attendees at biosecurity training events	\$25,000–\$50,000 (mix)	• Coordination • Partner funding restrictions • Prioritisation

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

Progress to date

Progress under this Theme has been limited, with activities continuing in all states but with significant gaps in coordination, infrastructure, and enforcement. Waste management remains largely dependent on externally funded projects and state-level initiatives, with limited national oversight or sustained investment. Solid waste management efforts include projects for assessments, training, and revisions to waste and recycling legislation. In Pohnpei, waste collection, storage, and disposal systems are in place but under strain, with maintenance challenges related to donor-provided waste collection vehicles limiting coverage. Waste management in Kolonia is contracted to a private firm, while the Pohnpei Environmental Protection Agency administers the main dump site. Illegal dumping remains a problem, and enforcement of a plastic-bag bans has not yet occurred. In Chuuk, a partnership with a local recycling company processing aluminium cans for export to Malaysia, Taiwan, and China, is in place and the development of a new waste-management centre is being supported through World Bank funding. Kosrae maintains oxidation ponds and has ongoing efforts to enforce its Waste Management Plan, with noted challenges around municipal collaboration and funding, while in Yap, waste sites are exceeding capacity, legislation to restrict plastics is in place, and a new assessment of waste capacity is being planned under the Pacific Regional Oceanscapes Project (PROPER) project.

Management of petrochemical and hazardous waste remains weak. Some sorting occurs at landfill sites, but awareness and enforcement are minimal. Incineration of hospital waste occurs in several states, while collection and export of used batteries take place through ad hoc arrangements. Pollution-control and emergency-response activities have seen some training and planning progress, but implementation capacity remains low. Overall, waste management systems are fragmented, with progress concentrated in short-term or externally supported interventions.

Related GBF 2050 Goals and 2030 Targets:

Target 7:	Reduce Pollution to Levels That are Not Harmful to Biodiversity
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Related Sustainable Development Goals:

Goal 1:	End poverty in all its forms everywhere
Goal 2:	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3:	Ensure healthy lives and promote well-being for all at all ages
Goal 12:	Ensure sustainable consumption and production patterns
Goal 15:	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

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	
Related GBF indicators	Mandatory: • Headline indicator 7.1: Index of coastal eutrophication potential Optional: • Component indicator: Proportion of domestic and industrial wastewater flow safely treated • Complementary indicator: Municipal solid waste collected and managed • Complementary indicator: Floating plastic debris density (by micro and macro plastics) • Complementary indicator: Trends in the amount of litter, including microplastics, in the water column and on the seafloor • Complementary indicator: Red List Index (impact of pollution)
Estimated minimum annual cost of achieving Objective	>\$800,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to carry out assessments to identify priority waste management and sewage needs	• Number of state-level assessments completed during the NBSAP lifecycle • Number of priority needs identified and acted upon during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Coordination capacity
Support the States to receive technical assistance regarding the planning and development of necessary infrastructure (e.g. water systems, refuse dumps, recycling facilities, sewer systems and treatments plants) to ensure the health and welfare of all FSM inhabitants without negatively impacting biodiversity	• Amount of funding secured for waste and sewage infrastructure during the NBSAP lifecycle • Number of new or upgraded facilities established during the NBSAP lifecycle	>\$100,000 (new)	• Infrastructure costs • Reliance on external funding
Continue to support the States to develop, enhance, and implement waste collection (including house-to-house collection), storage and disposal programs, engaging the private sector, for residential and commercial premises	• Percentage of households with access to regular waste collection over time • Number of disposal sites managed to environmental standards per year	>\$100,000 (new)	• Vehicles and equipment • Awareness

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to support the States to develop, enhance, and implement programs, engaging the private sector, for reuse and recycling of wastes, both within and outside the country	• Number of State-level waste reduction, reuse, or recycling programs developed and operational during the NBSAP lifecycle • Volume or percentage of recyclable materials collected and exported or processed per year	>\$100,000 (new)	• Vehicles and equipment • Awareness
Support the States to empower and train enforcement agents to ensure waste-related regulations are properly enforced	• Number of enforcement officers trained and certified in waste management, pollution control, and environmental compliance procedures per year • Number of inspections, violations recorded, or penalties issued under national and State waste management regulations per year	>\$100,000 (new)	• Enforcement personell
Continue to support the States to develop and implement waste management programs that prevent contamination of freshwater (including ground water lens and coastal marine environment)	• Number of freshwater contamination incidents reported per year • Percentage of communities adopting pollution prevention measures during the NBSAP lifecycle	>\$100,000 (new)	• Societal behaviour
Support the States to develop, implement, and improve sewage treatment programs and relocate and extend marine sewage discharge locations, to limit negative impacts on the marine environment	• Number of sewage treatment plants operational during the NBSAP lifecycle • Number of marine sewage discharge sites relocated or upgraded during the NBSAP lifecycle	>\$100,000 (new)	• Infrastructure costs • Technical capacity
Develop and facilitate local capacity building for State and Municipal Governments and communities on correct waste management and disposal, including removal of hazardous waste products (e.g. machinery and toxic products) and recycling	• Number of trainings delivered per year • Number of waste (including hazardous waste) management plans developed per year	>\$100,000 (mix)	• Maintaining impact

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	
Related GBF indicators	Optional: Complementary indicator: Hazardous waste generation
Estimated minimum annual cost of achieving Objective	>\$300,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to develop, enhance, and implement petrochemical waste collection, storage and disposal programs for residential and commercial premises throughout the nation	- Programs implemented in each state during the NBSAP lifecycle - Number of private sector entities engaged in petrochemical waste collection, storage, and disposal programs during the NBSAP lifecycle - Percentage of households and businesses in each state covered during the NBSAP lifecycle	>\$100,000 (new)	- Waste handling capacity - Waste storage facilities
Develop and/or ensure the implementation, monitoring and enforcement or legislation for petrochemical pollution, including ship waste dumping in the Exclusive Economic Zone, and support the States to do the same in the waters under their jurisdictions	Number of enforcement actions taken annually	>\$100,000 (new)	- Maritime patrol and monitoring capacity - Enforcement capacity
Support the States in the development and implementation of programs for the safe collection and disposal of petrochemical wastes resulting from shipwrecks	- Number of shipwrecks decontaminated per year - Volume of petrochemical waste removed from wreck sites per year	>\$100,000 (new)	- Technical capacity - Logistics

Objective 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
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Related GBF indicators	Optional: Complementary indicator: Hazardous waste generation
Estimated minimum annual cost of achieving Objective	>\$300,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to develop, enhance, and implement hazardous chemical waste collection, storage and disposal programs for residential and commercial premises throughout the nation	- Hazardous waste collection schemes established in all states during the NBSAP lifecycle - Volume of hazardous waste collected and safely disposed of per year	>\$100,000 (new)	Storage and disposal costs
Enhance and enforce programs regarding the importation, handling, use and safe disposal of hazardous wastes (including lead batteries, pesticides, fertilizers, and chlorine) within national guidelines and regulations	Number of hazardous chemical shipments monitored per year	>\$100,000 (new)	Coordination capacity
Collaborate with State Governments to develop and implement monitoring legislation and enforcement programs to prevent unauthorized use and misuse of hazardous chemicals including incorrect storage and disposal	- National resolution passed requesting State-level legislation during the NBSAP lifecycle - Number of inspections conducted on hazardous chemical storage and use per State year - Number of enforcement actions taken for misuse or incorrect storage/disposal per State per year	\$50,000–\$100,000 (new)	- Length of legislative process - Legal expertise

Objective 4: Pollution Emergencies

Enhance the nation's capability to effectively respond to pollution emergencies to reduce negative impacts on the environment	
Related GBF indicators	Optional: Complementary indicator: Red List Index (impact of pollution) Complementary indicator: Hazardous waste generation

	• Complementary indicator: Trends in the amount of litter, including microplastics, in the water column and on the seafloor
Estimated minimum annual cost of achieving Objective	>\$255,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to increase preparedness and skills of the relevant government agencies and the private sector and acquire equipment required to rapidly respond to petrochemical spills and other hazardous chemical emergencies on land and water	• Number of staff trained in pollution emergency response during the NBSAP lifecycle • Amount of emergency response equipment procured and operational during the NBSAP lifecycle	>\$100,000 (new)	• Geographic challenges
Enhance and strengthen the links between National, State and Municipal governments with regard to coordination and response to petrochemical spills and other hazardous chemical emergencies	• Standard Operating Procedure in place to support inter-governmental collaboration • Number of joint response exercises conducted per year • Governor Disaster Committee-approved municipal disaster preparedness plans in place during the NBSAP lifecycle	\$25,000–\$50,000 (new)	• Awareness
Support the States in enacting and enforcing legally binding provisions requiring all polluters (governmental and private) to clean up and/or pay for damages occurred by polluting the environment	• Legally binding provisions in place in all States during the NBSAP lifecycle • Number of instances of enforcement of polluter-pays legislation per year • Number of polluters held financially accountable for damages per year	\$50,000–\$100,000 (new)	• Legal expertise • Enforcement capacity
Ensure relevant international agreements and protocols are endorsed by the National Government to enable provision of better support for the States in responding to pollution emergencies	• Number of international agreements/protocols ratified and implemented during the NBSAP lifecycle • Number of State responses supported through international frameworks during the NBSAP lifecycle	<\$5,000 (new)	• Time to achieve endorsement • Compliance capacity

Objective 5: Air and Noise Pollution

Provide an environmentally safe mechanism for the reduction of all activities that degrade the atmosphere and associated biodiversity	
Related GBF indicators	Optional: • Complementary indicator: Annual mean levels of fine particulate matter (e.g., PM2.5 and PM10) in cities • Complementary indicator: Air pollution emission accounts
Estimated minimum annual cost of achieving Objective	>\$200,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to develop and implement air and noise quality monitoring programs for residential and commercial premises throughout the nation	• Number of noise monitoring reports produced per State per year	\$50,000–\$100,000 (new)	• Prioritization • Awareness
Support the States to revise and further develop legislation and regulations to effectively reduce air and noise pollution within the nation	• Number of pollution inspections undertaken per State per year	\$50,000–\$100,000 (new)	• Awareness • Enforcement capacity

Theme 8. Human Resources and 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

Progress to date

Progress under this Theme has been somewhat uneven, with continued training and awareness activities across several sectors. At the national level, multilateral and bilateral training opportunities have been provided through partnerships with Japan, China, Australia, the United States, The Pacific Community (SPC) and the Secretariat of the Pacific Regional Environment Programme (SPREP). Training for government staff and technical officers has covered topics including waste management, ecosystem monitoring, quarantine and biosecurity, genetically modified organisms, and environmental impact assessment. Projects funded through the Global Environment Facility and the Green Climate Fund have supported community-based fisheries and agricultural training. In Pohnpei, the Environmental Impact Assessment process has been updated with community participation, and the FSM Department of Resources and Development and the College of Micronesia FSM have delivered ongoing technical training and learning exchanges. Regional and national coordination mechanisms, such as the Pacific Islands Forum and Micronesia Islands Forum, include recommendations on capacity development, though uptake has been slow. The Bill Raynor Micronesia Challenge (BRMC) scholarship and the Sophia-APIC-BRMC (Sophia University-Association for the Promotion of International Cooperation-BRMC) scholarship programs continue to support graduate studies in conservation and resource management. Institutional strengthening remains primarily state driven. State agencies and NGOs conduct annual site visits, integrate traditional and modern management practices, and deliver outreach and awareness through schools and media. Public campaigns and national expositions are among the activities that have broadened environmental awareness, although a unified national environmental-science curriculum has not yet been adopted.

Overall, human-resource and institutional development activities demonstrate consistent but fragmented progress, with most capacity building occurring through project-based and externally funded initiatives.

Related GBF 2050 Goals and 2030 Targets:

Goal D: Invest and Collaborate

Target 16: Enable Sustainable Consumption Choices to Reduce Waste and Overconsumption

Target 20 Strengthen Capacity-Building, Technology Transfer, and Scientific and Technical Cooperation for Biodiversity

Target 21 Ensure That Knowledge is Available and Accessible to Guide Biodiversity Action

Related Sustainable Development Goals:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 12: Ensure sustainable consumption and production patterns

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

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	
Related GBF indicators	Mandatory: Headline indicator 21.1: Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework Optional: Component indicator: Extent to which (a) global citizenship education and (b) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (i) national education policies; (ii) curricula; (iii) teacher education; and (iv) student assessments
Estimated minimum annual cost of achieving Objective	>\$590,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Seek and secure financial assistance to enable the development and implementation of capacity training programs for National, State and Municipal personnel across all relevant sectors to build local capacity	- Amount of funding secured per year - Number of trainings delivered per year - Number of certifications per year - Number of personnel with increased capacity due to completion of skills training during the NBSAP lifecycle	<\$5,000 (existing)	- Numbers of trainees able and willing to undertake training - Leadership priorities
Develop and implement capacity building training for local communities, resource owners and traditional leaders on the principals and benefits of Environmental Impact Assessment (EIA), so EIA activities can be applied to development projects at community levels	- Number of trainings delivered per year - Number of communities applying EIA activities during the NBSAP lifecycle	\$50,000–\$100,000 (new)	- Prioritization - Political will
Continue to serve as point of contact with CROP (Council of Regional Organisations of the Pacific) Agencies to support capacity to conduct EIAs in the States	- Number of State requests for support per year - Number of EIA processes updated during the NBSAP lifecycle	\$25,000–\$50,000 (existing)	- State-level priorities - Request protocol - Coordination
Require all visiting researchers and research agencies to hire local individuals to assist in all program activities when applicable	- Number of research programs hiring local counterparts annually - Number of local counterparts hired annually	<\$5,000 (existing)	- Coordination - Available local capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Establish multi-sectoral groups of local experts to coordinate and undertake biological surveys and monitoring programs, seeking outside assistance when necessary	Number of groups established during the NBSAP lifecycle	\$25,000–\$50,000 (new)	- Coordination - Local technical capacity
Seek capacity building training opportunities for National and State personnel on genetically modified organisms and their possible effects on the nation's biodiversity	- Number of trainings delivered during the NBSAP lifecycle - Number of personnel trained during the NBSAP lifecycle	<\$5,000 (mix)	Coordination capacity
Undertake capacity building training for quarantine personnel (National and State) on biosecurity	- Number of trainings delivered during the NBSAP lifecycle - Number of personnel achieving certification during the NBSAP lifecycle	>\$100,000 (mix)	- Prioritization - Personnel turnover
Ensure the National Government has capacity to seek and secure outside funding assistance	- Number of personnel trained per year - Level of funding secured per year	\$5,000–\$25,000 (new)	- Coordination - Technical capacity
Develop and coordinate local capacity building and strengthening programs on alternative ecologically friendly industries, and energy conservation and management	- Number of new initiatives established during the NBSAP lifecycle - Number of communities engaged during the NBSAP lifecycle	\$25,000–\$50,000 (mix)	Behaviour change
FSM national government to collaborate with the states to establish a curriculum on natural resource management and climate change for all schools (public and private, elementary, and high school level, college)	Curriculum developed and implemented in States during the NBSAP lifecycle	>\$100,000 (new)	- Wider curriculum reviews required to identify points of synthesis - Teacher capacity
Support existing scholarship programs, and explore potentials for new programs, to support graduate students in conservation, resource management and environmental science areas	- Number of scholarships awarded per year - Number of graduating scholars per year	\$50,000–\$100,000 (new)	Coordination

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

Related GBF indicators	Mandatory: Headline indicator 21.1: Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework
Estimated minimum annual cost of achieving Objective	>\$200,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop and implement 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	- Number of trainings delivered per year - Number of individuals trained by sector per year	>\$100,000 (new)	- Political will - Prioritization
Support local educational training programs to all citizens on community-based conservation management approaches, methodologies and the development of sustainable income generating activities	- Level of funding received by communities per year - Number of new projects initiated per year	>\$100,000 (new)	- Coordination - Citizen engagement

Objective 3: Public Awareness and Education

To promote, encourage and strengthen the awareness and understanding of the importance of protecting and sustainably managing biodiversity, including fostering sustainable consumption and reduced waste through informed decision-making by all stakeholders	
Related GBF indicators	Mandatory: Headline indicator 21.1: Indicator on biodiversity information for monitoring the Kunming-Montreal Global Biodiversity Framework Optional: Component indicator: Extent to which (a) global citizenship education and (b) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (i) national education policies; (ii) curricula; (iii) teacher education; and (iv) student assessments
Estimated minimum annual cost of achieving Objective	>\$200,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Collaborate with state governments to develop, promote and conduct public awareness and educational materials for the general public on the functions and benefits of conservation, sustainable food choices and reduced waste.	- Number of campaigns per year - Number of awareness materials produced of different types per year - Number of people reached per year	\$50,000–\$100,000 (new)	- Technical capacity - Equipment to develop materials - Transport to outer islands
Develop and implement initiatives to enhance and strengthen public and community knowledge of the understanding, awareness and commitment to sustainable agricultural and fisheries practices	- Number of management plans developed per year - Number of individuals attending awareness raising activities per year - Number of sustainable community projects per year	>\$100,000 (mix)	Sources of project finance

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

Progress to date

Progress under this Theme has been uneven, with important initiatives continuing at State and community levels to preserve traditional knowledge and strengthen the role of resource owners in biodiversity management. While much of this work remains fragmented, it reflects continued collaboration between traditional leadership structures, communities, and formal conservation programs. Traditional knowledge and practices are being documented and revitalized through State Historic Preservation Offices, community initiatives, and education programs. In Pohnpei and Yap, records of cultural sites, traditional practices, and local management systems are maintained by State and National institutions, while the College of Micronesia FSM holds additional archives. Kosrae and Chuuk have also undertaken efforts to revive traditional knowledge, including through school programs, cultural events, and projects mapping heritage sites and practices. Programs such as the Indigenous Learning Recovery Program in Pohnpei link traditional skills with modern conservation approaches. Community-based conservation and sustainable resource management have expanded through programs led by the Conservation Society of Pohnpei, the Protected Area Network, and Global Environment Facility-supported initiatives. These include the establishment of community resource management plans, agroforestry activities, and state-supported conservation areas. States are also working with national partners under frameworks such as Blue Prosperity Micronesia and the Environment Stewardship Consortium to enhance coordination.

Overall, while activities continue across all states, progress remains localized and project-based, with the need for stronger legal, institutional, and knowledge-sharing mechanisms to sustain and scale community-led conservation efforts.

Related GBF 2050 Goals and 2030 Targets:	
Goal C:	Prosper with Nature
Target 22:	Ensure Participation in Decision-Making and Access to Justice and Information Related to Biodiversity for all

Related Sustainable Development Goals:	
Goal 1:	End poverty in all its forms everywhere
Goal 2:	End hunger, achieve food security and improved nutrition and promote sustainable agriculture
Goal 3:	Ensure healthy lives and promote well-being for all at all ages
Goal 12:	Ensure sustainable consumption and production patterns
Goal 15:	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

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			
Related GBF indicators	Mandatory: Headline indicator C.2: Indicator on non-monetary benefits		
Estimated minimum annual cost of achieving Objective	>\$100,000		
Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to develop and implement programs that integrate traditional knowledge, practice and innovation with modern scientific technology and methodologies to promote conservation and sustainable use of biodiversity	Evidence of biodiversity conservation outcomes from integrated approaches during the NBSAP lifecycle	\$50,000–\$100,000 (new)	Limited local-language resources

Objective 2: Empowering Resource Owners

Empowering resource owners and communities to conserve and sustainably manage biodiversity under suitable customary and modern resource management practices			
Related GBF indicators	Mandatory: Headline indicator 18.1: Positive incentives in place to promote biodiversity conservation and sustainable Headline indicator 19.1: Level of knowledge of biodiversity among people		
Estimated minimum annual cost of achieving Objective	>\$400,000		
Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to develop and implement programs for resource owners, traditional leaders, communities and municipalities to be responsible for the conservation and sustainable use of biodiversity	Number of communities engaged in conservation activities per year	>\$100,000 (mix)	Political will

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the College of Micronesia (COM) – Cooperative Research Extension (CRE) to integrate activities and programs that promote the conservation and sustainable use of biodiversity into relevant government agency extension services	• Number of active extension service programs incorporating biodiversity conservation over time • Number of farmers/fishers reached through biodiversity-related extension services per year	>\$100,000 (new)	• Coordination • Training capacity
Establish and implement an incentive to encourage communities/municipalities to promote conservation and sustainable use of biodiversity e.g., public-private partnerships, easements	• Number of incentive schemes established and accessed by communities during the NBSAP lifecycle • Value of public-private partnerships supporting biodiversity ‘friendly’ initiatives over time	\$50,000–\$100,000 (mix)	• Community engagement • Coordination
Support the States to develop appropriate legislation at the State and Municipal levels that encourages the empowerment of resource owners and communities to monitor and enforce environmental regulations	• Numbers of pieces of legislation developed and implemented during the NBSAP life cycle	>\$100,000 (new)	• Support • Awareness • Coordination

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

Progress to date

Progress under this Theme has been partial and uneven, with most advances occurring through State-level planning frameworks and project-based collaboration rather than through coordinated national policy or legislation. Efforts to integrate biodiversity considerations across population, policy, and development sectors have begun but remain limited in scope and reach. Work to link population, natural resources, and sustainable development remains at an early stage. Population data are used by municipal governments for planning and funding allocations, but no coordinated program exists to connect population and resource data. Yap has made progress under this objective, developing indicators through its Strategic Development Plan (SDP), and incorporating sustainable development goals into planning processes. Some public awareness efforts on population and sustainability have taken place, but coverage is sporadic and primarily integrated into existing programs. Integration of biodiversity concepts into policy and planning has progressed modestly. The Protected Areas Network (PAN) Framework supports community-level sustainable development planning, and the FSM SDP is being used as a reference for incorporating conservation principles. However, awareness of State Biodiversity Strategies and Action Plans is not comprehensive, and few sectors have yet embedded biodiversity into operational policies. Collaboration across sectors and between levels of government continues. State coordination bodies such as the Pohnpei Resource Management Committee and the Kosrae Conservation and Enforcement Taskforce facilitate joint planning, though activities remain dependent on external funding. Legislative and Environmental Impact Assessment (EIA) frameworks are in place but inconsistently implemented. Enforcement capacity is improving through State mandates, while EIA processes are being updated with support from the Secretariat of the Pacific Regional Environment Programme and state Environmental Protection Agencies.

Overall, mainstreaming biodiversity remains in progress, but its full integration across sectors is still to be achieved.

Related GBF 2030 Targets:

Target 14: Integrate Biodiversity in Decision-Making at Every Level

Target 18: Reduce Harmful Incentives by at Least \$500 Billion per Year, and Scale Up Positive Incentives for Biodiversity

Related Sustainable Development Goals:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 12: Ensure sustainable consumption and production patterns

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Objective 1: Population

To enhance understanding of links between population and our islands' carrying capacities	
Related GBF indicators	No specific GBF indicators
Estimated minimum annual cost of achieving Objective	>\$225,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Coordinate with the States to collect and analyse data linking population, natural resources and biodiversity to sustainable development	- Development and implementation of database linking relevant data during the NBSAP lifecycle - Number of plans developed utilizing integrated data during the NBSAP lifecycle	>\$50,000–\$100,000 (new)	- Access to accurate household-level data - Technical capacity
Develop and monitor indicators of sustainable development	- National and State-level sustainable development indicators developed and adopted during the NBSAP lifecycle - Frequency of reporting on sustainable development indicators (e.g., annual, biennial)	\$5,000–\$25,000 (new)	- Data collection capacity - Coordination
Support the States to develop and implement localized public awareness programs on the links between population density, natural resources, biodiversity and prospects for sustainable development	- Number of State-level awareness programs developed and implemented during the NBSAP lifecycle - Percentage of municipalities within each state reached by localized awareness activities during the NBSAP lifecycle	>\$100,000 (new)	Coordination

Objective 2: Policy

To integrate concepts of conservation and sustainable use of biodiversity into all relevant sectoral policies, programs and plans	
Related GBF indicators	Optional: • Component indicator: Extent to which biodiversity values are integrated into national and local planning, development processes, poverty reduction strategies and accounts • Complementary indicator: Proportion of national development plans, sectoral strategies and planning processes that integrate biodiversity considerations
Estimated minimum annual cost of achieving Objective	>\$350,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Incorporate concepts of biodiversity conservation into all future National, State and Municipal social and economic policies and development strategies	• Number of new or revised policies at national, state, and municipal levels integrating biodiversity considerations during the NBSAP lifecycle • Percentage of sectoral development strategies referencing biodiversity during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Political will • Policy coordination
Provide advice and technical information pertaining to the development of policies that fall within the NBSAP framework	• Number of technical briefs, guidance notes, or advisory reports produced for policymakers • Frequency of inter-agency consultations or technical meetings held to inform policy development	\$25,000–\$50,000 (new)	• Technical capacity • Coordination
Conduct a cross-sectoral mid-term evaluation of the NBSAP to assess progress, effectiveness, and alignment with national and state priorities	• Mid-term evaluation of the NBSAP completed by end 2028 • Recommendations from the evaluation integrated into subsequent NBSAP implementation plans by 2030	>\$100,000 (new)	• Coordination • Prioritization
Establish a biodiversity conservation coordination mechanism to oversee implementation and monitoring of the NBSAP and	• Coordination mechanism formally established and operational during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Coordination • Political will

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
complementary plans, and strengthen communication and coordination between National and State Governments	Frequency of coordination meetings between National and State agencies per year		

Objective 3: Multisectoral Collaboration

To strengthen and develop multi-sectoral collaboration in promoting conservation, preservation, and sustainable use of biodiversity in the FSM			
Related GBF indicators	No specific GBF indicators		
Estimated minimum annual cost of achieving Objective	>\$525,000		

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Establish a biodiversity conservation coordination mechanism to strengthen the linkages between National, State and Municipal government agencies, NGOs, CBOs, and private sector, including strengthening links between foreign investment boards and the State chambers of commerce, and to provide information on the conservation and management of biodiversity	- Coordination mechanism formally established and operational during the NBSAP lifecycle - Frequency of coordination meetings between National and State agencies per year - Number of joint initiatives delivered during the NBSAP lifecycle	\$50,000–\$100,000 (new)	- Coordination - Political will
Continue to support the collaboration and assistance from regional and international agencies to assist the nation's stakeholders	- Number of active collaborations during the NBSAP lifecycle - Number of joint projects undertaken during the NBSAP lifecycle	\$25,000–\$50,000 (mix)	Potential duplication of activities
Strengthen coordination between National and State Governments to enhance linkages with regional and international environmental conventions that the FSM is a party to	- Number of convention commitments implemented during the NBSAP lifecycle - Number of reports submitted to convention secretariats during the NBSAP lifecycle	\$25,000–\$50,000 (new)	- Coordination - Political will
Continue to support the States to improve and strengthen partnerships between the private sector, NGOs, CBOs, and local communities in implementing biodiversity related programs	Number of biodiversity programs implemented through multi-sector partnerships during the NBSAP lifecycle	>\$100,000 (new)	- Coordination - Awareness

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Value of private sector contributions to conservation initiatives per year		
Improve understanding of capacity of experts (domestic, regional and international) to conduct biological research, resource evaluations and monitoring programs on the FSM biodiversity	- Inventory or database of national, regional, and international biodiversity experts developed and maintained during the NBSAP lifecycle - Number of assessments or capacity gap analyses completed on available expertise during the NBSAP lifecycle	\$25,000–\$50,000 (new)	- Coordination - Information availability
Ensure that all multi-sector teams and groups include representation from all sectors, e.g. health and transportation, and are not limited only to those groups perceived to have direct involvement in biodiversity conservation and management	Percentage of relevant teams with cross-sectoral representation during the NBSAP lifecycle	\$5,000–\$25,000 (mix)	- Coordination - Willingness to engage
Undertake an assessment of available funding and resources for the development of assessments and reports versus on-the-ground work, to ensure appropriate allocation	Funding allocation assessment undertaken during the NBSAP lifecycle	\$25,000–\$50,000 (new)	- Political will - Technical capacity
Support the States to improve dissemination of biodiversity information to outer island communities	- Number of outreach and awareness activities conducted in outer island communities per year - Percentage of outer island communities reached through biodiversity information campaigns during the NBSAP lifecycle	>\$100,000 (new)	Transport logistics

Objective 4: Legislation

To ensure that national, state, and municipal legislation is in place and effectively enforced to sustainably manage the FSM's biodiversity, including the identification and reform of incentives and subsidies that are harmful to biodiversity

Related GBF indicators	Mandatory: • Headline indicator 18.1: Positive incentives in place to promote biodiversity conservation and sustainable use. • Headline indicator 18.2: Value of subsidies and other incentives harmful to biodiversity that are redirected, repurposed or eliminated. Optional: • Component indicator: Extent to which biodiversity-related laws and regulations are in place and operational • Complementary indicator: Proportion of countries undertaking legal reform to remove subsidies harmful to biodiversity
Estimated minimum annual cost of achieving Objective	>\$550,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Review and strengthen existing National, State and Municipal Government environmental legislation and acts to incorporate relevant actions from the NBSAP and ensure integration of all themes across all relevant sectors within the nation	• Number of laws reviewed and updated during the NBSAP lifecycle • Degree of integration of biodiversity themes across sectors during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Political will • Expert legal capacity
Every two years review the FSM participation in international treaties relating to biodiversity to which the nation is a party on behalf of and for the benefit of the States	• Number of treaty reviews completed every two years	\$25,000–\$50,000 (mix)	• Political will
Continue to support and further develop National, State and Municipal capabilities for the enforcement of all biodiversity legislation	• Number of enforcement staff trained during the NBSAP lifecycle • Number of cases successfully prosecuted per year	\$50,000–\$100,000 (new)	• Coordination
Support the States to assess the islands' biological carrying capacities and develop ecological planning based on these	• Number of assessments completed during the NBSAP lifecycle • Number of development plans incorporating ecological planning	>\$100,000 (new)	• Political will • Technical capacity
Support the States to develop communication campaigns and learning materials that promote biodiversity-friendly consumption, reduced waste, and sustainable food choices across all states	• Number of communication campaigns/learning material packages developed during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Political will • Technical capacity
Identify and remove subsidies that are harmful to biodiversity	• Number of harmful subsidies identified during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Political will

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of harmful subsidies removed during the NBSAP lifecycle		

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	
Related GBF indicators	Optional: Component indicator: Extent to which biodiversity considerations are integrated into environmental impact assessment (EIA) and strategic environmental assessment (SEA) processes. Complementary indicator: Proportion of countries with legislation requiring biodiversity-inclusive environmental impact assessment (EIA) and strategic environmental assessment (SEA)
Estimated minimum annual cost of achieving Objective	>\$325,000

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to regularly review, develop, and strengthen Environmental Impact Assessment legislation at the State and Municipal Government levels to minimize the adverse impacts of the nation's development on the environment	- Number of pieces of strengthened EIA legislation in place during the NBSAP lifecycle - Number of EIAs conducted under strengthened legislation per year	\$50,000–\$100,000 (new)	- Political will - Technical capacity
Support the States to improve State and Municipal legislation that requires all developers (including all levels of government, non-government organizations and the private sector) to undertake Environmental Impact Assessments and to involve resource owners and stakeholders in all Environmental Impact Assessment procedures	Percentage of EIAs including formal consultations with resource owners and stakeholders per year	\$50,000–\$100,000 (new)	Political will
Support the States to ensure that biological surveys/assessments and economic evaluations are integral parts of all Environmental Impact Assessment procedures	- Percentage of EIAs including biological surveys and economic evaluations per year - Number of staff trained in biodiversity assessment and economic evaluation methods during the NBSAP lifecycle	\$50,000–\$100,000 (new)	- Technical expertise - Consistency between States

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support the States to expand the scope of Environmental Impact Assessments to include gender and societal impacts	• Inclusion of gender and societal aspects in Environmental Impact Assessments requirements in all states during the NBSAP lifecycle • Percentage of reviewed Environmental Impact Assessments showing integration of gender and societal dimensions per year	\$5,000–\$25,000 (new)	• Political will • Technical expertise

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

Progress to date

Progress under this Theme has been steady but uneven, with continued reliance on external programs and partners to sustain conservation funding and staffing. The States and National agencies have made progress in establishing financial coordination mechanisms, though implementation of longer-term domestic financing and incentive systems remains limited. At the State level, multiple staff positions supporting biodiversity and environmental management have been or continue to be funded through the Global Environment Facility (GEF), the Green Climate Fund (GCF), the Secretariat of the Pacific Regional Environment Programme (SPREP), the Micronesia Conservation Trust, and other programs. These include State and National Protected Areas Network (PAN) Coordinators and Natural Resource Coordinators. Some positions, such as Pohnpei's Environmental Legal Fellow and the Chuuk PAN Coordinator have transitioned into state-funded roles, reflecting incremental progress in institutional commitment. Incentives for NBSAP-related activities have been partially implemented through recycling schemes, import regulations, and community initiatives, though states continue to note gaps in staffing and financial resources. Nationally, sustainable financing frameworks are advancing through mechanisms such as the updated Micronesia Challenge Sustainable Finance Plan and the operationalization of the PAN. However, integration of these systems into national budgeting processes remains limited. International cooperation remains a key funding source, with ongoing assistance from GEF, GCF, SPREP, The Pacific Community (SPC), the Japan International Cooperation Agency, the European Union, the Waitt Institute, and others. The Office of Overseas Development Assistance maintains a national database of donor programs. The Micronesia Challenge Endowment Fund is established and operational, with states preparing proposals to access funds, and community-level trust funds providing localized financing models.

Related GBF 2050 Goals and 2030 Targets:

Goal D: Invest and Collaborate

Target 19: Mobilize \$200 Billion per Year for Biodiversity From all Sources, Including \$30 Billion Through International Finance

Target 20: Strengthen Capacity-Building, Technology Transfer, and Scientific and Technical Cooperation for Biodiversity

Related Sustainable Development Goals:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 12: Ensure sustainable consumption and production patterns

Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

Micronesia Challenge:

- Increase local investment by MC governments in sustainable finance mechanisms, such as green fees and endowments, to leverage additional external investment to achieve new conservation and community benefit targets

Objective 1: National Commitment

To provide long-term national financial and capacity support and incentives for undertaking conservation programs	
Objective-level GBF indicators	Mandatory: • Headline indicator D.1: International public funding, including official development assistance (ODA) for conservation and sustainable use of biodiversity and ecosystems • Headline indicator D.2: Domestic public funding on conservation and sustainable use of biodiversity and ecosystems • Headline indicator D.3: Private funding (domestic and international) on conservation and sustainable use of biodiversity and ecosystems • Headline indicator 18.1: Positive incentives in place to promote biodiversity conservation and sustainable use • Headline indicator 18.2: Value of subsidies and other incentives harmful to biodiversity that have been eliminated, phased out or reformed Optional: • Component indicator: Finance mobilized for capacity-building • Component indicator: Amount of funding provided through the Global Environment Facility and allocated to the biodiversity focal area • Complementary indicator: Amount and composition of biodiversity-related finance reported to the OECD Creditor Reporting System • Complementary indicator: Number of countries that have (a) assessed values of biodiversity in accordance with the Convention, (b) identified and reported funding needs, gaps and priorities, (c) developed national financial plans for biodiversity, and (d) been provided with the necessary funding and capacity-building to undertake the above activities
Estimated minimum cost of achieving Objective	>\$725,000

Implementation Actions	Action-specific indicators	Estimated cost (and type)	Constraints
Continue to acquire funding and support capacity needs to achieve the NBSAP objectives and action	• Number of staff engaged in program activities contributing to the NBSAP during the NBSAP lifecycle • Amount of funding dedicated to program activities contributing to the NBSAP over time •	>\$100,000 (new)	• Coordination • Monitoring data

Implementation Actions	Action-specific indicators	Estimated cost (and type)	Constraints
Examine options for mandate to require the States to implement NBSAP activities	• New mandates (multiple types possible) established during the NBSAP lifecycle • New and additional funding directed to the States for NBSAP-related activities per year	>\$100,000 (new)	• Political will • Coordination
Strengthen and support local NGOs, CBOs, and other organizations engaged in biodiversity protection and strengthen links to regional and international donors to secure sustainable conservation financing	• Number of NGOs and organizations supported during the NBSAP lifecycle • Value of funding achieved with National Government support during the NBSAP lifecycle	>\$100,000 (new)	• Political will • Available funding sources
Develop, and support the development of, short-term and long-term sustainable financial plans and mechanisms, to include cost recovery programs where appropriate, for undertaking resource management and conservation efforts	• Financial plans developed during the NBSAP lifecycle	>\$100,000 (new)	• Political will • Coordination
Provide technical and financial support for sustainable development initiatives, including the development of policies and plans, while ensuring that all activities incorporate environmental safeguards and effective mitigation measures	• New policies or plans developed during the NBSAP lifecycle	>\$100,000 (new)	• Political will • Technical capacity
Create monitoring, evaluation and learning mechanism at the national level to compile data and share and apply best practices on NBSAP implementation	• Monitoring, evaluation and learning mechanism established during the NBSAP lifecycle • Number of reports sharing data and best practices published during the NBSAP lifecycle	\$50,000–\$100,000 (new)	• Coordination • Technical capacity
Strengthen linkages to regional and international donor organizations, including private foundations and NGOs to provide financial assistance for sustainable biodiversity management and conservation	• Number of active donor relations over time	\$5,000–\$25,000 (mix)	• Coordination
Mobilize and leverage resources from the Global Biodiversity Framework Fund to support National, State, and community-led initiatives that advance biodiversity conservation and sustainable development in alignment with the GBF targets	• Maintaining updated CBD document commitments during the NBSAP lifecycle • Value of funding acquired through the GBF Fund over time	>\$100,000 (new)	• Technical capacity

Objective 2: Conservation Trust Fund

Continue to contribute to and utilize the Micronesia Challenge Endowment Fund for implementation of the NBSAP and relevant biodiversity work	
Objective-level GBF indicators	Mandatory: • Headline indicator D.1: International public funding, including official development assistance (ODA) for conservation and sustainable use of biodiversity and ecosystems • Headline indicator D.2: Domestic public funding on conservation and sustainable use of biodiversity and ecosystems • Headline indicator D.3: Private funding (domestic and international) on conservation and sustainable use of biodiversity and ecosystems Optional: • Complementary indicator: Number of countries that have (a) assessed values of biodiversity in accordance with the Convention, (b) identified and reported funding needs, gaps and priorities, (c) developed national financial plans for biodiversity, and (d) been provided with the necessary funding and capacity-building to undertake the above activities
Estimated minimum cost of achieving Objective	>\$205,000

Implementation Actions	Action-specific indicators	Estimated cost (and type)	Constraints
Continue to support and contribute to the Micronesia Challenge Endowment Fund	• Level of National Government contributions to the Endowment Fund per year	>\$100,000 (new)	• Political will
Continue to identify funding sources to contribute to the Micronesia Challenge Endowment Fund for the implementation of the NBSAP and relevant biodiversity related activities within the nation	• Value of new contributions secured for the Micronesia Challenge Endowment Fund per year	<\$5,000 (new)	• Complexity of donor requirements/procedures
Support the National PAN network funding mechanism by leveraging the Micronesia Challenge Endowment Fund to provide grants for official Protected Areas	• Number of Protected Areas funded during the NBSAP lifecycle • Value of Endowment Fund grants to Protected Areas per year	\$50,000–\$100,000 (new)	• PAN site capacity • PAN Coordinator capacity

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The Federated States of Micronesia
Pohnpei State Biodiversity Strategy and Action Plan
2026–2030

Foreword

The abundant natural environment of Pohnpei State is at the heart of the identity, wellbeing, and resilience of our people. Across our islands, the interconnected ecosystems and the biodiversity they support provide us with food, support our livelihoods, and are inherent to our culture. At the same time, they face increasing pressures from climate change, development, and a growing demand for resources, making it essential that we take a coordinated and forward-looking approach to their management.

The Pohnpei State Biodiversity Strategy and Action Plan (BSAP) 2026–2030 represents an important development in strengthening that approach. Building on the foundations of the previous plan, while remaining grounded in Pohnpei's specific context and needs, the revised Pohnpei BSAP reflects current priorities, emerging challenges, and the need for more effective and practical implementation. In addition, it is aligned with the Federated States of Micronesia's commitments under the Convention on Biological Diversity and the objectives within the FSM National Biodiversity Strategy and Action Plan.

This updated BSAP is the result of extensive consultation and collaboration across government agencies, municipal governments, communities, non-governmental organisations, and partners. I would like to acknowledge the time and effort that the stakeholders have invested throughout this process, and the commitment shown to ensuring that this plan reflects our shared priorities. I would also like to thank our partners in the FSM Department of Resources & Development for supporting us in this process.

A key focus of this plan is strengthening implementation; providing clear actions and realistic indicators for delivery that also recognise our capacity for implementation. The BSAP emphasises practical, achievable steps that can support conservation, sustainable resource management, and climate resilience across Pohnpei.

As we move forward, the success of this plan will depend on continued collaboration and sustained commitment. Government, communities, traditional leaders, civil society, and partners all have a role to play in safeguarding Pohnpei's biodiversity for current and future generations.

I encourage all stakeholders to take ownership of this plan and to work together in its implementation. By doing so, we can ensure that Pohnpei's natural heritage continues to support our people, our culture, and our future.

I hereby endorse the Pohnpei State Biodiversity Strategy and Action Plan 2026–2030.



Stevenson A. Joseph
Governor, State of Pohnpei

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Part 1: Introduction¹

The State of Pohnpei comprises the island of Pohnpei and nine outlying atolls scattered over more than 100,000 sq. miles of water. The island of Pohnpei, sometimes referred to as the "Garden Island of Micronesia", is the largest in the FSM and is the home of the nation's capital. It is, therefore, the center of most economic activities in the FSM. The State may be the most potentially threatened in terms of biodiversity conservation but trends and developments in recent years show great promise for the future.

Pohnpei has a population of 26,102, with a population density of 189 per sq. mile (FSM Division of Statistics, 2023). The State is divided into eleven municipalities: Madolenihm, U, Kitti, Sokehs, Nett, Mwoakilloa, Pingelap, Sapwuafik, Nukuoro, Kapingamarangi and Kolonia Town. The main island is ringed by 25 smaller, widely scattered coral atolls, which lie on the barrier reef.

The average annual wage (real, i.e. adjusted for inflation) for the fiscal year 2022 was \$6,987, somewhat higher than the national average of \$5,594 (FSM Division of Statistics, 2023). Much of the population remains dependent on the land and sea for food, with approximately 82% of households engaging in at least one subsistence activity (agriculture and forestry, handicraft and home production, livestock and aquaculture, or fishing, hunting and gathering), 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 traditional levels, with most power delegated to the four states by the national constitution. The State Government of Pohnpei is structurally similar to the FSM National Government with three separate branches of government: executive; legislative, and judicial. The Governor heads the Executive Branch with eight cabinet members heading the main government department and offices. There are also a number of semi-autonomous agencies in place, such as the Environmental Protection Agency, which are headed by Directors or Administrators under the guidance of Boards. The Department of Resource & Development and the Department of Environment, Climate Change and Emergency Management are both heavily involved in issues relating to biodiversity conservation. 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. Partnerships with traditional leaders and non-government agencies such as The Nature Conservancy and Conservation Society of Pohnpei have also been established to tackle conservation issues.

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 traditional culture of Pohnpei, which involves strong land and resource management components, is very much alive today and is still a strong influence on the lifestyles of Pohnpeians. The traditional system still exists within activities observed throughout the year. Despite Pohnpei being the melting pot of the FSM, where people of various races and from islands throughout the FSM reside, Pohnpeian culture remains practiced and respected by the island residents. Several languages are spoken in the FSM but three main languages are native to Pohnpei with three dialects.

Western influence is most evident in the capital city of Kolonia, where all aspects of western life exist. This influence is less striking in rural areas. Nevertheless, traditional conservation and land management practices are now being heavily challenged with the ever-increasing need for money, thus affecting the way people view and deal with land and natural resources.

The FSM experiences a tropical climate, with consistently warm weather driven by the north-east trade winds. The average annual temperature in Pohnpei between 1991 and 2020 was 81.1°F (NOAA NCEI, 2025). There is little variation throughout the year, with the high islands being generally hot and humid. Rainfall across the FSM is generally plentiful, with Pohnpei receiving an annual average of approximately 184 inches based upon 1991–2020 records. (NOAA NCEI, 2025).

The FSM 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 in 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 a decrease in Pohnpei during the May to October period. That being said, historical projections have suggested that annual rainfall may increase across the FSM, somewhere in the range of >5% and >15% by 2090 depending upon the model used and

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 Pohnpei BSAP (2018) to avoid introducing unsupported estimates.

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the specific location within the FSM (Australian Bureau of Meteorology and CSIRO, 2011). In terms of extreme weather events, there has been little change in the total number of tropical cyclones, or the number of severe tropical cyclones, in the Northwest Pacific over the past 41 seasons (McGree et al, 2022). A decrease in droughts has been projected, with mild droughts estimated to occur eight to nine times every 20 years by 2030, and severe droughts occurring twice every 20 years by 2030. It is also projected that the number of typhoons will decline (Australian Bureau of Meteorology and CSIRO, 2011). It should be considered, however, that periods of drought followed by increasingly intense rainfall 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, owing to reliance on near-shore coastal fisheries and the low-lying nature of many of its islands, 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, 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).

Pohnpei State Vital Statistics

Geography	
Location	2–8° N, 159–163° E
Number of islands	10 (1 high island + 9 atolls)
Land area	
Forest (including agroforest)	127.6 sq. miles (81, 659 acres)
Non-forest vegetation	7.3 sq. miles (4,654 acres)
Cropland	0.05 sq. miles (29 acres)
Urban (including urban cultivated)	2.2 sq. miles (1,412 acres)
Other (including water)	0.7 sq. miles (424 acres)
Ocean area	> 100,000 sq. miles
Climate	
Annual average temperature (1991–2020)	81.1°F
Annual average rainfall (1991–2020)	184 inches
Demographics	
Population (2021 estimate)	26,102
% of total FSM population	34%
Population density	189 per sq. mile
Economics	
Average annual income (wages)	\$6,987
% households involved in subsistence activity	82%
% contribution to national total household income	50.6%

Part 2: Biodiversity in Pohnpei²

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. 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).

The FSM also supports approximately 36.3 sq. miles of mangrove forest across the islands, approximately 21.8 sq. miles of which are in Pohnpei (Donnegan et al, 2011). Indeed, much of the FSM is covered with forests, and Pohnpei is no exception with an estimated 127.6 sq. miles of the islands forested (Donnegan et al, 2011). Upland forest covers 75.5 sq. miles of Pohnpei, with palm forest covering 7.1 sq. miles, swamp forest covering 0.4 sq. miles and agroforest covering 22.8 sq. miles (Donnegan et al, 2011). Cropland accounts for only approximately 29 acres of land in Pohnpei, and areas classified as 'urban cultivated' account for 0.7 sq. miles (Donnegan et al, 2011).

Pohnpei displays high levels of species endemism, being home to forty-seven endemic plant species (Costion & Lorence, 2012). In addition, seven endemic bird species are resident in Pohnpei; the Pohnpei Kingfisher (*Todiramphus reichenbachii*), which is considered to be vulnerable, the Pohnpei Lorikeet (*Trichoglossus rubiginosus*), which is near threatened, the Pohnpei Fantail (*Rhipidura kubaryi*), the Pohnpei Flycatcher (*Myiagra pluto*), the long-billed white-eye (*Rukia longirostra*, which is near threatened), the Pohnpei white-eye (*Zosterops ponapensis*), and the Pohnpei starling (*Aplonis pelzelni*), which is critically endangered (IUCN, 2025).

Of the many environmental threats facing innumerable places on Earth today, including the State of Pohnpei, 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, nurturing the biodiversity of Pohnpei 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 Pohnpei therefore outline below the Pohnpei 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 Pohnpei, and the entire FSM, exist. These threats, which have been identified at a national level and are relevant to Pohnpei 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 Pohnpei BSAP in 2004, significant developments toward comprehensive biodiversity conservation in Pohnpei 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 have been undertaken demonstrates the recognition of the importance of biodiversity conservation.

Perhaps the most significant conservation initiative to come about since the initial Pohnpei 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).

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 Pohnpei BSAP (2018) to avoid introducing unsupported estimates.

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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. Pohnpei currently has ten marine protected area sites and seven terrestrial (including mangrove) protected area sites in its Protected Areas Network.

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 km² (30%) of the marine environment and 96 km² (15%) of the terrestrial environment are under effective management (Micronesia Challenge, 2024). Pohnpei has placed 59% of its marine resources and 20% 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 Pohnpei Biodiversity Strategy and Action Plan

Development Process for the Revised Pohnpei BSAP

The Pohnpei 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 latest-possible data and information regarding the status of biodiversity within the FSM as a whole, and Pohnpei State, and the pressures it is under.

The Objectives and Actions as defined in the prior Pohnpei BSAP were taken out to consultation, and a multi-stakeholder group was engaged in a three-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 women's focus group was held to ensure that the different interactions with and observations of biodiversity experienced by women in Pohnpei 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 Pohnpei State Biodiversity Strategy and Action Plan

Vision

Pohnpei State will have more extensive, diverse, and higher quality marine, freshwater, and terrestrial ecosystems, providing sustainable resources and benefits to Pohnpei's residents.

Goal

The people of Pohnpei are actively protecting their natural and cultural resources and engaging in livelihoods based on traditional knowledge and modern-day sustainable development practices.

Information presented in this BSAP

The Pohnpei Biodiversity Strategy and Action Plan is structured around eight Objectives:

- Objective 1. Develop a 5-year vision for biodiversity in the State of Pohnpei
- Objective 2. Establish and implement a comprehensive Pohnpei State Conservation Area Plan, including the development of a Marine Protected Areas Network and more effective management/enforcement of existing and new marine laws
- Objective 3. Establish effective management of Pohnpei's Watershed Forest Reserve and at least two mangrove reserves, with supporting local and state policies and day-to-day maintenance by local communities
- Objective 4. Address the invasive species problem in Pohnpei State by strengthening biosecurity and controlling and/or eradicating priority invasive species
- Objective 5. Increase awareness on proper (organic and inorganic) waste disposal and recycling, pollution control, fuel and energy reduction/alternatives, including the adoption of at least one model of effective "best practices" management in each of the areas
- Objective 6. Revive, maintain and utilize relevant Traditional Knowledge, which supports biodiversity conservation and improves community leadership and participation in conservation and development plans and initiatives
- Objective 7. Increase conservation funding by mainstreaming biodiversity conservation in government budgets as well as by establishing local/state conservation finance mechanisms and links with MCT and other donor agencies
- Objective 8. Increase biodiversity conservation and enhance the conservation and organizational practices of Pohnpeian organizations working in priority marine, coastal and terrestrial areas, including the development of highly skilled resource managers

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 Pohnpei BSAP.

Implementation and Monitoring

Monitoring the implementation of the Pohnpei 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 the Pohnpei BSAP will undergo annual reviews (including a mid-term review), will all relevant stakeholders brought together for an in-person consultation to review and update the BSAP as needed. The reviews will be coordinated by the Director of Pohnpei State Department of Resources and Development.

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During the review, updates on the Implementation Actions will be provided by Pohnpei State Government agencies, NGOs, Local Governments, and communities and the status of each will be recorded 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). Specific information regarding the Action-specific Indicators will be provided by the same stakeholders. Brief progress notes will be recorded along with any challenges faced or delays experienced. Narratives will be developed and included in relation to any course-corrections made as a response to challenges and/or delays.

It is anticipated that monitoring data will be stored by Pohnpei State Department of Resources and Development, Division of Natural Resources Management, with the exception of specific fisheries-related data sets that are held by SPC (Pacific Community). Responsibility for updating monitoring data will lie primarily with Pohnpei State Department of Resources and Development, Division of Natural Resources.

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 Pohnpei's biodiversity at that time.

Objective 1. Develop a 5-year vision for biodiversity in the State of Pohnpei

Progress to date

Progress under Objective 1 in Pohnpei shows steady advancement in municipal resource management planning, alongside more limited progress in strengthening formal coordination mechanisms at the state level.

Several municipalities, including Madolenihmw, U, and Kirti, have developed resource management plans and participated in consultations linked to the Pohnpei Strategic Development Plan. Water management planning to address drought has been implemented across municipalities, with plans in place at schools and churches, individual municipal watersheds identified, and wells established or planned, including initiatives supported by external funding.

Progress in re-establishing the Pohnpei Resource Management Committee has been uneven. While efforts have been made to revive the committee and broaden participation across resource management agencies, its operation has remained informal and dependent on leadership support rather than being mandated by law. Coordination between the Resource Management Committee and the Executive Budget Review Committee has not progressed.

Overall, progress reflects strong municipal-level planning activity, contrasted with ongoing challenges in formalizing and sustaining state-level coordination and integration.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue working with municipalities to ensure a municipal resource management plan is developed for each	Number of annual management plans in place per year	\$5,000–\$25,000 (new)	Local priorities
Initiate re-establishment of the Pohnpei Resource Management Committee (PRMC) through executive order from the Governor, and ensure it has appropriate level of authority with the Lieutenant Governor Chairman by the end of 2026	- Executive order passed to required PRMC by end 2026 - Number of representatives engaged in the PRMC per year	<\$5,000 (new)	- Representative selection - Development of legal status via Governor
Ensure the re-established PRMC works closely with Executive Budget Review Committee (EBRC)	Number of meetings held per year	<\$5,000 (new)	Development of legal requirement via Governor

Objective 2. Establish and implement a comprehensive Pohnpei State Conservation Area Plan, including the development of a Marine Protected Areas Network and more effective management/enforcement of existing and new marine laws

Progress to date

Progress under Objective 2 has been mixed, with several actions achieved or ongoing, alongside a number of activities showing limited or no progress. A Protected Area Network Coordinator was initially recruited in 2022, though the position was later vacated; interim funding is currently being provided by the Micronesia Conservation Trust (MCT), with longer-term recruitment dependent on enabling state legislation. Awareness-raising activities through the Ahi Mour Ahi Pwukoa campaign have been implemented in eight communities across more than 20 villages, although this remains below the target. Annual coral reef monitoring continues to be facilitated by CSP under the Micronesia Challenge framework, contributing to marine biodiversity monitoring efforts. Municipal-wide protected area management plans have been developed for U and Madolenihmw in Kitti, while outer island municipalities have developed their own plans and, in some cases, associated legislation.

Socio-economic monitoring linked to protected areas is undertaken on request, with activities coordinated by MCT and focused primarily on protected area communities. Research and management actions related to climate change resilience have been implemented through specific projects, including aquaculture support, clam translocation from Kosrae, and mangrove and forest restoration in Sokehs, however, no research summaries are being produced, with reporting remaining project-based. Legislative actions have been completed to establish a ban on the Live Reef Fish Trade and to restrict commercial export of reef fish and marine products, although enforcement challenges remain for some species-specific bans and export limits.

Progress has been made toward research to confirm sustainable export levels for certain marine resources, with trochus management plans in place and surveys underway for sea cucumber and clams. Additional fisheries-related legislation has been enacted, including restrictions on monofilament gill nets, with further species-specific regulations under development. Other actions, including legislation on night-time spear fishing, and work to expand mariculture and aquaculture production, show no significant progress or lack available information to assess implementation. Coastal management planning has advanced through the development of the Pohnpei Coastal Conservation Action Plan, which is intended to lead to the preparation of multiple site-specific management plans.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Pohnpei State to pass Protected Areas Network Bill	Protected Areas Network Bill pass by end 2026	<\$5,000 (new)	Legislative approval
Protected Areas Network Coordinator role to be made a permanent, State-funded role within Pohnpei Department of Resources & Development, Division of Natural Resources	Post permanently funded by Pohnpei State by 2027	\$25,000–\$50,000 (new)	- Legislative approval - Political will
Continue to implement the Ahi Mour Ahi Pwukoa campaign in at least 50 villages in Pohnpei by 2030, ensuring it encompasses marine health, forest health and management, and waste	Number of new villages engaged per year	\$5,000–\$25,000 (new)	Political will at the municipal/community level
State and other research institutes to collaborate to expand monitoring program to new research sites (to encompass Pohnpei lagoon and outer islands) by 2030	- Record of data collection and surveys undertaken each year - Number of additional monitoring sites included per year	\$25,000–\$50,000 (existing)	- State administration change - Political priorities

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	• Number of research partners engaged during the BSAP lifecycle • Number of funding sources secured during the BSAP lifecycle		
Complete the Micronesia Protected Area Management Effectiveness (MPAME), or other similar tool, exercise in all existing protected area network sites, to expand and increase management effectiveness, by 2030	• Number of action plans developed under each management plan per year	\$5,000–\$25,000 (new)	• Technical capacity • Community engagement
Continue to use the SEMPASIFICA socio-economic monitoring programs to evaluate and monitor the impact of protected areas on adjacent communities under the new Community Resilience Measure of the Micronesia Challenge	• Number of communities implementing socio-economic measures per year	\$5,000–\$25,000 (new)	• Lack of capacity • Need for training of trainers
Continue to integrate climate change resilience into the Protected Areas Network design process	• Number of integrated plans produced	\$5,000–\$25,000 (new)	• Legislative approval • Researcher compliance
Identify where in the state research data should be deposited and identify key stakeholders by the end of 2027	• Data repository and key stakeholder identified by end 2027	\$5,000–\$25,000 (new)	• Technical infrastructure • Coordination of stakeholders
Review existing research permitting and compliance requirements to ensure mandatory data sharing and repatriation of research findings to state institutions including recommendations for strengthening the mechanism	• Completed Review •	\$5,000–\$25,000 (new)	• Technical capacity
Work towards establishment of export limits on reef fish and marine products	• Meeting minutes to discuss potential export limits • Draft legislation developed	\$50,000–\$100,000 (new)	• Political Will • Enforcement • Compliance • Awareness
Conduct research and assessment to confirm the sustainable export level of sea cucumber by the end of 2027 and clam by 2030	• Assessment on sea cucumber completed by end 2027 • Assessment on clam completed by 2030 •	\$50,000–\$100,000 (new)	• Data limitations • External technical expertise availability

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Establish and enforce a law prohibiting night spearfishing during the spawning season (January to May), including enforcement at local fish markets.	• Endorsed law to seasonally ban spearfishing night-fishing • Number of violations at markets	\$5,000–\$25,000 (new)	• Political will • Legislative approval • Enforcement • Awareness
Assess the impacts of dredging in Pohnpei and create a map of dredging sites across the island.	• Assessment report producing during the BSAP lifecycle	\$5,000–\$25,000 (new)	• Technical capacity
Continue to conduct annual coral monitoring under the Micronesia Challenge to help inform municipal and state sustainable fisheries management plans	• Monitoring data published annually • Number of municipal and state sustainable fisheries plans utilizing monitoring data per year	\$25,000–\$50,000 (mix)	• Data analysis capacity • Integration of data into management plans
Identify alternative (non-FSM) sources of aggregate by 2030	• Alternative material sources identified and utilized during the BSAP lifecycle	\$5,000–\$25,000 (new)	• Political will
Develop a management action plan encompassing all conservation targets by 2030	• Management action plan developed during the BSAP lifecycle	\$5,000–\$25,000 (new)	• Coordination
Increase the number of aquaculture enterprises by 30% by 2030	• Number of aquaculture businesses operating in Pohnpei per year • Annual percentage growth in number of aquaculture enterprises	>\$100,000 (new)	• Start-up capital • Skilled labour

Objective 3. Establish effective management of Pohnpei's Watershed Forest Reserve and at least two mangrove reserves, with supporting local and state policies and day-to-day maintenance by local communities

Progress to date

Progress to date shows partial and uneven implementation across watershed, monitoring, mapping, and enforcement activities. Watershed Forest Reserve boundary delineation has been completed in Kitti, but certification has not occurred due to limited capacity within the Department of Land, including the availability of a certified land surveyor and the loss of amended coordinates. Changes in land ownership since the 1980s required adjustments to boundary lines. In Nett, boundary delineation remains incomplete, with negotiations ongoing through the Nett Resource Management Committee and no dedicated funding available.

The Grow Low campaign assessment was not completed within the original BSAP timeframe and only began in 2025. Quarterly monitoring of sakau forest clearings has been undertaken by natural resource management staff and community conservation officers. Monitoring reports have been prepared and submitted to the Director of Resources and Development. The watershed law has been enforced to an extent, with Fish and Wildlife meeting with two communities. No new clearings have been observed, although some farmers continue harvesting sakau.

The Pohnpei vegetation map was completed in 2020, with partial LiDAR data collected in 2024. Some forest bird surveys were conducted through the Ridge to Reef project. US Forestry Service reforestation recommendations informed a restoration project in Kitti in 2022, with additional funding approved in August 2025 to continue monitoring and explore replication.

There is currently no dedicated GIS position or repository within R&D.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Achieve certification of the updated Kitti watershed demarcation map and undertake community engagement and awareness	• Certification achieved during the BSAP lifecycle • Number of community engagement undertaken per year	\$25,000–\$50,000 (new)	• Dedicated staff member needed
Demarcate the Nett Watershed Forest Reserve (WFR) and conduct community buy-in/behaviour change campaign	• Demarcation achieved during the BSAP lifecycle • Community buy-in campaign conducted during the BSAP lifecycle	>\$100,000 (new)	• Dedicated staff member needed
Assess the impact of the previous Grow Low campaign	• Number of farmers assessed per year • Assessment published during the BSAP lifecycle	>\$100,000 (new)	• Data availability • Farmer engagement
Revive the Grow Low campaign based on the outcome of the campaign assessment	• Grow Low campaign activities commenced during the BSAP lifecycle	>\$100,000 (new)	• Funding for materials • Material availability
Continue quarterly monitoring of sakau forest clearings and provide findings/results to state leaders, enforcement agencies, Municipal Governments and traditional leaders for action	• Number of site visits undertaken per quarter • Number of reports produced per year • Number of violations prosecuted per year	\$5,000–\$25,000 (existing)	• Monitoring resources

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Work with Pohnpei Fish and Wildlife to enforce the watershed law to prevent sakau growing in the Watershed Forest Reserve	Number of violations prosecuted per year	\$5,000–\$25,000 (mix)	- Enforcement capacity - Political will - Compliance
Continue and expand public awareness on the importance and long-term benefits of the Watershed Forest Reserve by using the Ahi Mour Ahi Pwukoa campaign	- Number of communities engaged per year - Number of community engagement undertaken per year	\$5,000–\$25,000 (new)	Technical capacity
Conduct awareness activities around the Pohnpei Soil Map and the Landslide Hazard Map, and use these in the Ahi Mour Ai Pwukoa campaign	- Number of awareness activities undertaken per year - Number of individuals reached per year	\$5,000–\$25,000 (new)	Complexity of communications
Work with partners to update the current Pohnpei vegetation map and produce physical copies	Completed map published and distributed by end 2027	\$5,000–\$25,000 (existing)	Partner engagement
Undertake forest bird surveys every 2 years	Number of surveys undertaken and reports published during the BSAP lifecycle	\$25,000–\$50,000 (new)	Technical capacity
Develop recommendations on the reforestation of important watershed areas based upon watershed legislation, particularly with native and locally meaningful species	- Number of hectares restored per year - Record of native and locally meaningful species utilised	\$5,000–\$25,000 (existing)	Community engagement and commitment
Continue to work with forestry experts to conduct monitoring on clearing sites, to determine natural reforestation and removal of invasive species	Number of sites monitored per year	\$5,000–\$25,000 (existing)	- Access - Availability of external expertise
Revisit and refresh land-use and zoning plan for the state of Pohnpei	- Sustainable Land Management (SLM) State Action Plan (SAP) (GEF7) - Land-use and zoning plan completed and adopted during the BSAP lifecycle	>\$100,000 (existing)	- Technical capacity - Planning duration
Establish a position at Pohnpei State to manage a GIS repository of key natural resources for protected area management	- GIS-related position created during the BSAP lifecycle - GIS repository developed and maintained during the BSAP lifecycle	\$25,000–\$50,000 (new)	Technical capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue mangrove assessments to help develop a comprehensive Pohnpei mangrove management plan, which will include identification of additional mangrove reserves	• Number of mangrove assessments per year • Number of newly identified mangrove reserves during the BSAP lifecycle	<\$5,000 (existing)	• External funding reliance
Update and strengthen regulations and permitting processes for earthmoving, agricultural, and development activities to better protect marine, freshwater, and drinking water resources.	• Number of updated regulations or permitting processes	\$5,000–\$25,000 (new)	• Coordination • Compliance • Enforcement
Review and strengthen the earth moving Checklist to incorporate requirements from all relevant government agencies, enabling a standardized tool for consistent use across entities	• Earth moving Checklist updated during the BSAP lifecycle	\$5,000–\$25,000 (new)	• Political Will • Coordination
Strengthen coordination and enforcement between government entities starting with EPA and the Department of Land, including through an updated MOU, to ensure effective implementation and monitoring of environmental regulations by the end of 2026	• Memorandum of Understanding signed during the BSAP lifecycle	<\$5,000 (existing)	• Political Will • Coordination

Objective 4. Address the invasive species problem in Pohnpei State by strengthening biosecurity and controlling and/or eradicating priority invasive species

Progress to date

Progress under Objective 4 has been consistent and substantial progress has been made in strengthening invasive species management through implementation of the Invasive Species Taskforce of Pohnpei (iSTOP) Strategic Action Plan (SAP). iSTOP was revised in 2018/2019 and a new SAP endorsed by the Governor in 2024, providing an updated framework for action. Quarantine officers at ports of entry have received national-level training and now manage quarantine operations, with support from Pohnpei State Agriculture. A state-wide survey to identify invasive species was completed in 2021, and invasive species education has been integrated into public awareness campaigns, and through outreach materials (though these need updating to reflect the current situation). An Emergency Response Plan for Invasives identified within the iSTOP SAP was completed in 2023. An Invasive Species Coordinator position has not been created yet, and staffing constraints remain.

Overall, Objective 4 reflects substantial progress in planning, response, education, and monitoring for invasive species management in Pohnpei, with remaining challenges centered on staffing, long-term institutionalization, and full integration of data systems.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Improve coordination with the National Government around strengthening quarantine measures and preventing the introduction of invasive species	- Number of meetings, and accompanying minutes, per year - Number of joint proposals written per year - Amount of additional funding secured per year	<\$5,000 (new)	- Political will - Time
Establish a state Invasive Species Act to institutionalize and fund the Invasive Species Taskforce of Pohnpei (iSTOP) by June 2028	Act endorsed and implemented by June 2028	\$5,000–\$25,000 (new)	Technical support
Update invasive and alien species education curriculum with the Invasive Species Taskforce of Pohnpei (iSTOP) by 2030	Updated educational materials, with new targets, in place by 2030	\$5,000–\$25,000 (new)	Technical support
Continue to implement the action items in the iSTOP Strategic Action Plan (SAP)	Annual progress report on SAP achievements	\$50,000 – \$100,000 (new)	- Technical capacity - Sustained funding
Develop response plans for any new invasive and alien species identified in Pohnpei State	Response plans developed as needed during the BSAP lifecycle	\$5,000 – \$25,000 (new)	- Detection - Available expertise
Continue to eradicate and/or control priority invasive species as identified in the Invasive Species Taskforce of Pohnpei (iSTOP) Strategic Action Plan (SAP) by 2030	- Number of field visits undertaken per year - Levels of priority invasive species recorded and monitored annually	\$25,000 – \$50,000 (new)	Sustained capacity
Improve the invasive and alien species database to include geospatial analysis using GIS by the end of 2027	Number of maps produced by end 2027	\$25,000 – \$50,000 (new)	Technical capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Conduct Pohnpei state-wide (including the outer islands) invasive species survey by 2030	• Survey completed during the BSAP lifecycle • Report published during the BSAP lifecycle	> \$100,000 (new)	• Transportation costs and logistics • Trained personnel

Objective 5. Increase awareness on proper (organic and inorganic) waste disposal and recycling, pollution control, fuel and energy reduction/alternatives, including the adoption of at least one model of effective "best practices" management in each of the areas

Progress to date

Progress under Objective 5 in Pohnpei has been uneven. Some policy measures related to plastic bags and Styrofoam have been implemented or are on track, and limited recycling initiatives exist for specific waste streams. A beverage container recycling program is in place, and some waste reduction actions, such as removal of abandoned vehicles and private clean-up efforts, have occurred.

However, most actions related to solid waste infrastructure, landfill development, hazardous and medical waste management, wastewater and septage systems, composting, and waste-to-energy show little or no progress. Many initiatives remain stalled due to funding, technical, equipment, or regulatory constraints.

Overall, progress under Objective 5 reflects isolated advances in specific waste policies and materials, alongside persistent gaps in comprehensive waste management systems across the state.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Design and implement new waste-focused Ahi Mour Ahi Pwukoa campaign	- Number of communities engaged per year - Number of social groups and participants (women's groups, youth groups etc.) engaged in activities per year	\$50,000–\$100,000 (new)	- Engagement - Willingness to change behaviour
Submit and enact the drafted legislation, in coordination with the Attorney General, to deputize authorized staff from EPA, Customs/Tax and Revenue, and R&D to issue citations for littering and other environmental violations	Enacted Bill deputizing expanded government agencies in place	<\$5,000 (existing)	Political will
Develop oil spill and chemical response plan.	Completed plan in place during the BSAP lifecycle	\$50,000–\$100,000 (new)	Technical Capacity
Amend the current recycling law, in coordination with the Attorney General, to expand coverage beyond aluminum cans to include additional recyclable materials (e.g., plastics, glass, and other priority waste streams)	Law amended during the BSAP lifecycle	\$5,000–\$25,000 (new)	Technical Capacity
Continue to implement collection of used batteries	- Expand offshore companies willing to purchase batteries and ship them away from Pohnpei - Inventory of collected batteries in place during the BSAP lifecycle	\$50,000–\$100,000 (new)	- Awareness - Lack of laws and regulations - Health and safety

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Assessment on status and disposal of collected batteries undertaken during BSAP lifecycle		
Review and update Pohnpei State Solid Waste Management regulations, including hazardous waste provisions, and the Solid Waste Action Plan; and implement targeted public awareness efforts to strengthen compliance with waste disposal requirements.	- Revised waste management regulations in place during the BSAP lifecycle - Revised Solid Waste Action Plan in place during the BSAP lifecycle - Number of public awareness activities undertaken per year - Number of individuals reached through awareness activities per year	>\$100,000 (new)	- Technical capacity - Public engagement in consultations - Awareness
Continue to sustain youth programs that raise awareness regarding waste management	- Number of youth projects undertaken per year - Number of youths participating in projects per year	\$5,000–\$25,000 (existing)	Youth engagement
Conduct microplastic assessments to inform public awareness on impacts to the marine environment, including evaluating whether commonly used bags are truly biodegradable	- Completed gap assessments published - Communication tools developed to share outcomes with communities	\$50,000–\$100,000 (new)	Technical capacity
Purse the establishment of one new sustainable local handicraft/industry within Pohnpei by 2030	- Number of new sustainable local enterprises begun during the BSAP lifecycle - Annual volume of new materials/products sold per year	>\$100,000 (new)	- Material availability - Equipment
Improve recycling, establish new taxes and/or fees on at least one non-bio-degradable import, and promote the importation of biodegradable products	- Quantity of recyclable materials being shipped out per year - Increase in the number of scheduled recycling ‘payment days’ over time - Amount of new/alternative funding secured to support recycling per year	>\$100,000 (new)	- Available funding sources - Awareness
Segregate all waste and recycling in all government buildings	Number of government building implementing waste segregation during the BSAP lifecycle	\$5,000–\$25,000 (new)	Leadership

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Reopen the bidding process to procure a qualified contractor to manage the landfill.	Contract awarded and implementation begun during the BSAP lifecycle	>\$100,000 (new)	Available funding source
Update the Solid Waste Action Plan to include actions for rehabilitation of the dump site, including the development of transfer centers, and increase the frequency of waste collection and transport to the dump site for each municipality	- Updated Solid Waste Action Plan during the BSAP lifecycle - Number of transfer centers established during the BSAP lifecycle - Data regarding frequency of collection of waste by municipality over time	\$25,000–\$50,000 (new)	- Land for centers - Vehicle maintenance - Fuel
Continue working to establish a centralized composting program in Pohnpei to decrease green waste in the landfill.	Program established during the BSAP lifecycle	\$50,000–\$100,000 (new)	- Land for the facility - Funding
Update the Solid Waste regulations to include medical waste and prevent health impacts from waste and pollution	Environmental health regulations reviewed and updated as necessary during the BSAP lifecycle	<\$5,000 (new)	- Engagement - Time burden
Endorse and pass a bill that addresses importation and removal of vehicles	- Bill endorsed by legislature during the BSAP lifecycle - Number of vehicles removed per year	>\$100,000 (new)	- Political will - Enforcement
Ensure updated recycling law promotes private businesses that can remove vehicles and heavy machinery for disposal	Number of vehicles removed per year	>\$100,000 (new)	Awareness
Promote dry litter piggery system and maintain equipment to ensure adequate availability of woodchipper machines.	- Number of dry litter piggeries in operation in each municipality per year - Number of households using dry litter piggery compost per year	>\$100,000 (new)	- Equipment - Equipment (woodchipper) maintenance
Convert 20% of pig pens and outhouses to sustainable and/or zero-waste systems	Number of pig pens and outhouse conversions per year	\$50,000–\$100,000 (new)	- Willingness to convert - Equipment (woodchipper) maintenance
Require all new government facilities and infrastructure designed and constructed to be "climate-proof" by the end of 2027	Percentage of all new government building meeting climate-proofing standards by end 2027	\$50,000–\$100,000 (new)	- Technical expertise - Prioritization

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	• Number of staff trained in climate resilient construction per year		• Donor/contractor standards
Implement action under Pohnpei State Sustainable Develop Plan to create a new climate change division in EPA and hire a climate change and mitigation officer	• Establishment of Climate Change Division at EPA during the BSAP lifecycle • Hiring of Climate Change and Mitigation Officer	>\$100,000 (new)	• Political Will • Funding • Prioritization

Objective 6. Revive, maintain and utilize relevant Traditional Knowledge, which supports biodiversity conservation and improves community leadership and participation in conservation and development plans and initiatives

Progress to date

Progress under this objective in Pohnpei has been mixed, with strong progress in cultural education, traditional knowledge promotion, and community awareness, alongside limited progress in formal documentation and some knowledge integration actions.

Pohnpei Studies, including traditional knowledge and practices, are taught in public elementary and high schools, and cultural weeks are held in schools. Traditional knowledge is shared through radio programming, online resources such as the Pohnpei Dictionary, and public events including Cultural Day, World Food Day, Mangrove Day, and farmer and cultural markets. Promotion of traditional food systems continues through farmer markets, agroforestry initiatives, food demonstrations, and traditional offerings linked to community and chiefly events. Community resource management activities are discussed through Traditional Leadership Council meetings, which now occur on a needs basis.

Some actions show limited or no progress. Information from the Pohnpei Ethnobotany Project has not been integrated into education or outreach due to concerns about data accuracy. Annual biodiversity-related conferences and cross-site visits remain limited. Community resource management plans are in place in several municipalities.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to strengthen cultural education, with a strong focus on traditional conservation and resource management practices, in primary and secondary schools as part of Ahi Mour Ahi Pwukoa campaign by 2030	- Number of new activities introduced to schools per year - Assessment of cultural education in schools by 2030	\$25,000 – \$50,000 (new)	- Timetable prioritization - Coordination
Collaborate with National Government to receive support to replicate and expand the Geoliteracy in Micronesia (GEM) project	- Number of new GEM project modules introduced during the BSAP lifecycle - Number of participants in formal and informal programs per year - Feedback from students or communities by program	> \$100,000 (new)	- Technical capacity - Community coordination - Locating/identifying knowledge holders
Continue to strengthen biodiversity messages in traditional knowledge radio programming and communications	- Number of new media products launched per year - Number of impressions on social media posts per quarter	\$25,000 – \$50,000 (new)	Creative capacity
Continue to promote pride in traditional conservation and resource management knowledge/skills, and strengthen integration of	- Number of events held per year - Number of event participants per year	\$50,000 – \$100,000 (mix)	Coordination of information dissemination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
biodiversity conservation into celebration days and cultural events as part of Ahi Mour Ahi Pwukoa campaign			
Promote the sustainable cultivation and consumption of diverse traditional food crops through a “Grow Local, Eat Local” campaign that encourages the production, availability, and consumption of locally grown foods	• Number of events promoting traditional agricultural products held per year • Number of key traditional agricultural products displayed at each event over time • Number of promotional activities held per year • Number of participants engaged in activities per year	\$25,000 – \$50,000 (new)	• Municipal Government prioritization • Municipal Government fundraising capacity • Behavior Change
Continue to share information with members of the Traditional Leadership Council (Mwoalen Wahuilele en Pohnpei)	• Number and frequency of meetings per year • Number of reports presented to the Council per year	<\$5,000 (new)	• Traditional protocols • Time requirement
Meet with each Municipality (including outer islands) to highlight biodiversity conservation initiatives to Municipal government leaders, Church leaders, Village Chiefs and Mayors annually	• Documentation of annual meetings	\$25,000–\$50,000 (new)	• Prioritization
Replicate the U Municipality resource management model in at least one additional municipality (including outer islands) each year, building on demonstrated success in integrated resource protection and sustainable livelihoods (e.g., aquaculture, agriculture, piggery)	• Number of meetings with other municipalities to share information about U’s planning • Number of integrated plans established	\$25,000–\$50,000 (new)	• Political will • Municipal Government prioritization • Awareness
Continue to support Municipalities and communities to establish resource management plans (fisheries, forestry, etc)	• Number of new plans in place per year	\$5,000–\$25,000 (new)	• Community engagement • Awareness • Capacity

Objective 7. Increase conservation funding by mainstreaming biodiversity conservation in government budgets as well as by establishing local/state conservation finance mechanisms and links with MCT and other donor agencies

Progress to date

Progress under Objective 7 in Pohnpei has been uneven, with some advancement in conservation financing mechanisms and mainstreaming of biodiversity considerations into government processes, alongside limited progress in establishing dedicated funding streams and enforcement mechanisms.

Work toward strengthening conservation financing is ongoing but remains insufficient. Efforts to build a conservation endowment fund continue, with multiple funding sources supporting specific projects. Disbursements under the Protected Areas Network should begin in the coming months. Mainstreaming biodiversity conservation into government projects has been achieved, and will continue. Environmental permitting and impact assessment processes are embedded in law and applied across sectors. However, actions to establish fisheries and dredging royalties as a conservation funding source, expand watershed management funds, and create new tax-based conservation financing mechanisms show limited or no progress, with challenges related to legal frameworks, implementation, and stakeholder acceptance.

Enforcement-related actions show limited advancement. While new environmental laws and permitting processes are in place, actions related to penalties for illegal resource exploitation and controls on environmentally harmful imports show little documented progress.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue working to reach the goal of a \$29 million conservation endowment fund	Oversight Committee established during the BSAP lifecycle	\$50,000 – \$100,000 (new)	- Municipal Government engagement - Finance mechanisms
Support the registration and ongoing compliance of Pohnpei State protected areas under the FSM National Protected Areas Network to facilitate the disbursement of PAN funds to the State	- Number of sites being funded per year - Amount of funding release per year - Fund distribution per municipality per year	> \$100,000 (existing)	Political will at National Government level
Encourage Pohnpei State Government departments to provide financial support to the Conservation Society of Pohnpei	Amount of support provided to the Conservation Society of Pohnpei per year	\$5,000 – \$25,000 (new)	Political will
Assess and, if appropriate, establish broader ecosystem service fee mechanisms, building on existing permit and royalty systems, to support conservation initiatives, while ensuring clear coordination to avoid overlap or conflict (e.g., coral extraction reporting and payment requirements to Pohnpei State).	- Number of fees enacted during BSAP lifecycle - Percentage of fees contributed to conservation initiatives per year	\$25,000 – \$50,000 (new)	- Political will - Enforcement capacity - Legal expertise
Continue to mainstream biodiversity conservation in government projects by 2030	Number of project applications per year	> \$100,000 (new)	Complexity of process

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of completed projects mainstreaming biodiversity per year		
Strengthen engagement with bilateral, private, and regional donors to expand conservation funding opportunities by 2030	- Number of project proposals per year - Amount of new and additional funding secured by year - Number of donors engaged per year	>\$100,000 (\$5 million; new)	- Local capacity - Legislative delays
Research and pilot at least one local user/resource fee to finance a conservation fund	Law to be passed and implemented during the BSAP lifecycle	\$5,000 – \$25,000 (new)	- Political and public resistance - Technical and administrative capacity
Update Earth Moving Permit and regulations to increase fees	- Updated permitting and regulations - Amount of funds collected through permits per year	\$25,000 – \$50,000 (new)	Stakeholder resistance

Objective 8. Increase biodiversity conservation and enhance the conservation and organizational practices of Pohnpeian organizations working in priority marine, coastal and terrestrial areas, including the development of highly skilled resource managers

Progress to date

Progress under this objective in Pohnpei has been uneven, with activity taking place across education, training, and staffing, while several coordination and institutional actions remain incomplete.

Environmental topics such as climate change, biodiversity, waste, and invasive species have been introduced through school-based activities and partner-led programs, including outreach and practical demonstrations. These activities are occurring, but they are not yet well integrated or consistently embedded within the formal school curriculum. An annual calendar of environmental events has been established, and awareness activities linked to these events include invasive species, water conservation, and climate change outreach, including activities in the outer islands.

Scholarship opportunities for students in resource management and environmental fields are available through multiple state, national, and donor-supported programs, and this action is progressing. Training for conservation and enforcement personnel is ongoing and covers areas such as resource monitoring, fisheries enforcement, protected area management, biosecurity, and species identification. Annual learning exchanges for Community Conservation Officers continue. At the same time, efforts to strengthen institutional coordination have been limited. Actions to formally clarify conservation roles between State and Municipal Governments have not progressed, enforcement staffing has increased but support needs are uncertain, and while municipal police have been deputized, Community Conservation Officers have not been formally deputized.

Overall, progress reflects active but fragmented efforts to build environmental awareness and capacity, alongside persistent gaps in coordination, structure, and long-term institutional support.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Work with FSM Department of Education to include climate change, biodiversity, and wider environmental issues within the current school curriculum, ensuring these are contextualized for Pohnpei State and the FSM's unique environment	- Number of schools implementing environmental activities per year - Number of trainings and talks held per year	\$50,000 – \$100,000 (new)	- Transportation costs and logistics - Technical capacity
Continue improving and expanding ongoing environmental education programs, including strengthening the Ahi Mour Ahi Pwukoa campaign to include 'rahnwet, lakapw, oh pal' by 2030	- Number of engagements in communities and schools per year - Number of media spots per year - Development of an overall communications strategy during the BSAP lifecycle	\$25,000 – \$50,000 (mix)	- Identification of champions - Community will - Coordination
Develop an annual calendar of environmental public events, with the responsibility for specific events linked to specific state agencies	- Calendars developed annually - Communication campaign in place during the BSAP lifecycle - Evidence of enhanced coordination within agencies during the BSAP lifecycle	\$25,000 – \$50,000 (existing)	Coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Provide at least two degree scholarships every year for Pohnpeian students (including those from outer islands) in resource management/environment undergraduate	Number of students receiving scholarships per year	\$50,000 – \$100,000 (existing)	Awareness among potential applicants
Continue to track and hire at least one Pohnpeian resource management/environment graduate every year	Number of Pohnpeian personnel hired per year	< \$5,000 (new)	- Awareness of opportunity among potential applicants - Requirement to apply
Continue to offer 2–4 in-country resource management/environment internships per year to Pohnpeian students at the College of Micronesia in FSM or studying abroad	Number of students and graduates undertaking internships per year	\$50,000 – \$100,000 (mix)	Awareness among potential applicants
Continue to conduct assessments on resource management agencies to determine areas of need/improvement and provide training	- Number of assessments conducted per year - Number of training sessions delivered per year based upon assessment findings	–	- Training capacity - Reliance on external technical support
Continue and utilize the existing Micronesians in Island Conservation program and similar programs to develop the resource management capacity of individuals and institutions	- Number of individuals supported through capacity building programmes per year - Evidence of capacity developments of individuals and organizations	–	Retention of individuals
Continue to provide at least one training course (e.g. monitoring skills, conservation enforcement) per year to all resource managers	Number of people undertaking training per year	\$5,000 – \$25,000 (new)	Coordination of course opportunities
Establish resource management personnel in outer island Municipal Governments	Number of personnel established during the BSAP lifecycle	\$50,000 – \$100,000 (new)	- Political will - Transportation costs and logistics
Continue to carry out training to government and NGO conservation area managers in conservation area planning methodology once per year	- Number of trainings delivered per year - Number of training participants per year	\$25,000 – \$50,000 (new)	- Transportation costs and logistics - Conservation area manager capacity - Reliance on external technical expertise

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Conduct one Community Action Planning (CAP) workshop or other management planning mechanism for conservation area managers per year	Evidence of annual Community Action Planning workshop	–	- Transportation costs and logistics - Conservation area manager capacity - Reliance on external technical expertise
Continue to support Community Conservation Officers (CCO) program	Number of engagements per year	\$5,000 – \$25,000 (mix)	Funding uncertainty
Establish and implement at least five memoranda of understanding (MOUs) between the State Government and Municipal Governments that clearly delineate management roles of the Municipal Governments on appropriate conservation laws, by 2030	Number of memoranda of understanding signed during the BSAP lifecycle	\$25,000 – \$50,000 (existing)	Political will
Increase capacity of the Division of Fish & Wildlife and provide appropriate resources for conservation enforcement	- Number and description of new resources procured per year - Number of trainings/workshops completed	\$25,000 – \$50,000 (existing)	- Funding sustainability - Appropriate recruitment
Continue to train, and deputize, at least one municipal police and Community Conservation Officers (CCOs) to collaborate with state police in each of the municipalities by the end of 2028	Confirmation of deputization by end 2028	\$5,000 – \$25,000 (mix)	Training capacity

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The Federated States of Micronesia
Chuuk State Biodiversity Strategy and Action Plan
2026–2030

Foreword



Chuuk Biodiversity Strategy and Action Plan

FOREWORD

Chuuk's rich biodiversity is vital to our well-being, culture, and resilience. From reefs to forests, healthy ecosystems directly support prosperity. Protecting resources via responsible management is crucial for current and future generations. Typhoon Sinlaku underscored their importance in building resilience against climate change. The revised Biodiversity Strategy and Action Plan (BSAP) provides a clear framework to guide these efforts.

This revised BSAP builds on previous plans, reflecting progress and ongoing challenges. It highlights strengthening community engagement, managing protected areas, and addressing Chuuk's current pressures, such as resource depletion, climate change, and the need to balance environmental and economic needs. Aligned with broader commitments, it aids efforts in Micronesia to conserve biodiversity and enhance resilience.

The development of this BSAP was made possible thanks to the valuable contributions of numerous individuals and organizations. Representatives from state and municipal governments, community leaders, non-governmental organizations, and technical partners all played a vital role in shaping this plan through consultations and validation processes. Their insights and dedication have ensured that this document accurately reflects local priorities and practical realities. I sincerely thank everyone who contributed their time, knowledge, and experience.

I also want to acknowledge the ongoing support of the FSM Department of Resources & Development, which has been vital in facilitating the development process. Continued collaboration between state and national institutions will be crucial for the effective implementation of this plan and for achieving its goals in the coming years.

The Chuuk BSAP 2026–2030 marks a significant advancement in enhancing our strategies for biodiversity conservation and sustainable management. Through ongoing commitment, collaboration, and shared responsibility, we can safeguard Chuuk's natural heritage and ensure its preservation for the benefit of all.

I hereby endorse the Chuuk State Biodiversity Strategy and Action Plan for 2026–2030.

Sincerely,

A handwritten signature in black ink, appearing to read "Alexander R. Narruhn".

ALEXANDER R. NARRUHN AIF®
Governor
Chuuk State

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The Chuuk 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 Chuuk 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 Chuuk 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 Chuuk BSAP possible:

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Chuuk Department of Administrative Services, Chuuk Department of Agriculture, Chuuk Department of Marine Resources, Chuuk Environmental Protection Agency, Chuuk Historic Preservation Office, Chuuk State Legislature, FSM Department of Resources & Development, FSM Quarantine, Nomwiso Municipal Government.

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

Part 1: Introduction¹

Chuuk State is located at 07° 30' N, 150° 50' E. It is made up of sixteen high volcanic islands, one inhabited coral atoll in Chuuk Lagoon and twenty-four inhabited outer islands. Chuuk State consists of forty municipalities across the five congressional districts of Northern Namoneas, Southern Namoneas, Faichuk, Mortlocks, and the Northwest Islands.

Chuuk is the most populous state in the Federated States of Micronesia with a population of 33,885, approximately 45% of the entire FSM population (FSM Division of Statistics, 2023). With a land area of 49 square miles the population density of Chuuk remains the highest in the FSM at 692 per square mile. 43.5% of households in Chuuk have immediate family members residing abroad (FSM Office of Statistics, Budget, Overseas Development Assistance and Compact Management, n.d).

Average annual wage (real, i.e. adjusted for inflation) for the fiscal year 2022 was \$4,761, below the national average of \$5,594 (FSM Division of Statistics, 2023). Approximately 66% of households are engaged in at least one subsistence activity (agriculture and forestry, handicrafts and home production, livestock and aquaculture, or fishing, hunting and gathering), which is below 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 traditional levels, with most power delegated to the four states by the national constitution. Chuuk State has a bicameral legislature, i.e. a Senate and a House of Representatives. There are ten members of the Senate, two representing each of the five regions, and 28 members of the House of Representatives, elected by their respective districts. There are thirteen districts, with the number of representatives for each based upon district size. 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 role in the governance of the FSM. In Chuuk State, each habitable island has a Traditional Leader known as “Soupun” and/or “Makal”, equivalent to Chief of an island, who make up the Chuuk State council of traditional leaders. This council is a stronghold of customs and traditions and are the decision makers of such matters. Traditional governance is extremely important in relation to environmental matters, largely owing to the nature of land rights and ownership that govern the usage of natural resources. 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). In Chuuk, most land and near-shore marine areas are privately owned, with ownership being predominantly inherited or gifted. Purchase of land in Chuuk has become a possibility more recently.

The FSM experiences a tropical climate, with consistently warm weather driven by the north-east trade winds. The average annual temperature in Chuuk between 1991 and 2020 was 82.2°F (NOAA NCEI, 2025). There is little variation throughout the year, with the high islands being generally hot and humid. Rainfall across the FSM is generally plentiful, with Chuuk receiving an annual average of approximately 142 inches based upon 1991–2020 records. (NOAA NCEI, 2025).

The FSM 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 in 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 Chuuk. 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, owing to reliance on near-shore coastal fisheries and the low-lying nature of many of its islands, 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, 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

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 Chuuk BSAP (2018) to avoid introducing unsupported estimates.

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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).

Given the low-lying nature of many of the islands in Chuuk, and indeed the whole of the FSM, they are at great risk of the impacts of climate change. Part of that risk is the effect that a changing climate may have on the biodiversity found in all of the states, not least the reefs upon which the population so heavily relies.

Chuuk State Vital Statistics

Geography	
Location	07° 30' N, 150° 50' E
Number of islands	16 high islands + 25 inhabited atolls
Land area	49.2 sq. miles (31,488 acres)
Forest (including agroforest)	28.3 sq. miles (18,134 acres)
Non-forest vegetation	2.3 sq. miles (1,455 acres)
Cropland	0.3 sq. miles (147 acres)
Urban (including urban cultivated)	2.0 sq. miles (1,301 acres)
Other (including water)	1.14 sq. miles (732 acres)
Lagoon area	823.2 sq. miles (526,829 acres)
Climate	
Annual average temperature (1991–2020)	82.2°F
Annual average rainfall (1991–2020)	142 inches
Demographics	
Population	33,885
% of total FSM population	45%
Population density	692 per square mile
Economics	
Average annual wage (real)	\$4,761
% households involved in subsistence activity	66%
% contribution to national total household income	27.5%

Part 2: Biodiversity in Chuuk²

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. Chuuk is particularly blessed in this regard, having the largest single lagoon in the FSM at approximately 820 sq. miles (Namakin, 2008). The reefs in Chuuk Lagoon, throughout Chuuk State and across the FSM support an abundance of biodiversity, which is heavily relied upon by the population. 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).

The FSM also supports approximately 36.3 sq. miles of mangrove forest across the islands, approximately 5.0 sq. miles of which are in Chuuk (Donnegan et al, 2011). Indeed, much of the FSM is covered with forests, and Chuuk is no exception. It is estimated that a little over 28 sq. miles of Chuuk is forested, equating to almost 60% of land (Donnegan et al, 2011). Of this, upland forest covers 6.5 sq. miles, palm forest covers 0.3 sq. miles and agroforest covers 16.6 sq. miles (Donnegan et al, 2011). Cropland accounts for only approximately 0.2 sq. miles of land in Chuuk. Areas classified as 'urban cultivated' account for 0.8 sq. miles in Chuuk (Donnegan et al, 2011).

Chuuk, as with the entire FSM, demonstrates high levels of species endemism, being home to sixteen endemic plant species and three endemic bird species, the latter comprising the Truk white-eye (*Rukia ruki*), the Truk monarch (*Metabolus rugensis*) and the oceanic fly catcher (*Myiagra oceanica*). Both the Truk white-eye and the Truk monarch are considered to be endangered (IUCN, 2025). In addition, Chuuk hosts two endemic fruit bat species as well as endemic fly, dragon fly and gecko species (IREI, DOA & CCS, n.d.).

Of the many environmental threats facing many places on Earth today, including the State of Chuuk, 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 Chuuk 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 Chuuk therefore outline below the Chuuk 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 Chuuk, and the entire FSM, exist. These threats, which have been identified at a national level and are relevant to Chuuk 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 addition, Chuuk faces a very real threat of oil spills from the many rapidly degrading World War II shipwrecks in the lagoon.

In light of these threats, since the introduction of the first Chuuk BSAP in 2004, significant developments toward comprehensive biodiversity conservation in Chuuk 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.

Perhaps the most significant conservation initiative to come about since the initial Chuuk 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*

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 Chuuk BSAP (2018) to avoid introducing unsupported estimates.

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. Chuuk currently has six protected area sites in its Protected Areas Network.

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 km² (30%) of the marine environment and 96 km² (15%) of the terrestrial environment are under effective management (Micronesia Challenge, 2024). Chuuk has placed 34% of its marine resources and 11% 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 Chuuk Biodiversity Strategy and Action Plan

Development Process for the Revised Chuuk BSAP

The Chuuk 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 latest-possible data and information regarding the status of biodiversity within the FSM as a whole, and Chuuk State, and the pressures it is under.

The Objectives and Actions as defined in the prior Chuuk BSAP were taken out to consultation, and a multi-stakeholder group was engaged in a three-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 include 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 Chuuk 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 Chuuk State Biodiversity Strategy and Action Plan

Vision

The people of Chuuk will live in a clean and beautiful environment where biodiversity is resourceful and preserved, and where traditional knowledge and practices plus other modern knowledge and practices are utilized for the sake of sustainable development.

Goal

The Chuuk State BSAP strives for successful actions to conserve, protect, preserve, and sustain Chuuk State biodiversity for the benefit of the people of Chuuk today and in the future.

Information presented in this BSAP

The Chuuk Biodiversity Strategy and Action Plan is structured around four Objectives:

- Objective 1: People Related
 - The establishment of various activities to engage the people of Chuuk in biodiversity-related education and activities, and the identification of marine and terrestrial areas to be protected.
- Objective 2: Assistance Related
 - Increasing government funding for conservation programs, identifying sources of technical assistance, improving sources of funding, and establishing a system of resource user's fee.
- Objective 3: Management Related
 - The demarcation and registration of areas of biodiversity significance, the creation of legislation to support traditional conservation practices and protect biodiversity, establishing marine and terrestrial protected areas, and updating an inventory of marine and terrestrial plants and animals present in Chuuk.
- Objective 4: Control Related
 - The establishment of strict control of alien species and ensuring specific requirements are met prior to initiating activities that may affect biodiversity.

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 Chuuk BSAP.

Implementation and Monitoring

Monitoring the implementation of the Chuuk 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 the Chuuk BSAP will undergo a mid-term review. This will be coordinated by the Chuuk State Environmental Working Group. It is anticipated that updates regarding the Action-specific Indicators will be provided by the relevant entities (stakeholder mapping will be undertaken to enable this), and that overall Implementing Action information will be channelled through the Environmental Protection Agency.

During the mid-term review, updates on the Implementation Actions will be provided and the status of each will be recorded 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). Brief progress notes will be generated and any challenges faced will be recorded. Additional data for assessing indicators will be provided by the Director of the Department of Resources and Development and the Chiefs of Divisions.

There is currently no system for the storage of the monitoring data that will be generated in relation to the Chuuk BSAP. It is, however, anticipated that monitoring data will be stored by the National Government, with data updates being provided by the Environmental Protection Agency with additional support from a consultant as needed.

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 Chuuk's biodiversity at that time.

Objective 1. People Related

The establishment of various activities to engage the people of Chuuk in biodiversity-related education and activities, and the identification of marine and terrestrial areas to be protected.

Progress to date

Progress under Objective 1 has been uneven, with efforts under the previous BSAP having focused primarily on community-based conservation, protected area development, and conservation awareness, with variable levels of implementation across actions.

Work under the Protected Area Network has continued, with six protected area sites identified and support provided to outer islands to develop and submit PAN proposals. A PAN-related committee was established around 2020–2021, supporting coordination around protected area planning. Community-based initiatives have been established in more than ten locations, though several of these initiatives require revitalization. Training, meetings, and learning exchanges have taken place at the site level, with approximately three sessions conducted per site, although the number and frequency vary between locations.

Awareness and education activities have included environmental clubs in schools supported by the Environmental Protection Agency, the Water for Life program linked to Social Studies curricula, and learning exchanges involving three non-governmental organizations under GEF-5 and CSA. Activities addressing coastal habitat and pollution have been undertaken through the PROPER project, alongside the development of a Coastal Management Plan that incorporates traditional closure practices. Traditional knowledge related to resource management has been maintained at the individual community level.

Overall, progress under Objective 1 reflects active engagement in protected area development, community initiatives, and awareness-building, alongside ongoing challenges in sustaining initiatives and ensuring consistent advancement across all actions.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support existing community-based environmental organizations and support the establishment of one new organization per year through capacity building activities? Prioritize invasive species as an area of focus	- Number of organizations supported per year, with supporting evidence - Number of people engaged in community-based environmental organizations per year - Number of training sessions undertaken per year - Number of people getting certified for successfully completing training sessions per year	>\$100,000 (new)	- Reporting compliance - Grant proposal writing capacity
Support and expand the seedling project to ensure sustainability of this activity and to promote agrobiodiversity across all lagoon and outer island communities	- Number of communities in the project per year - Number of species planted per year - Percentage of food that is locally grown food vs imported	\$50,000–\$100,000 (new)	- Transportation costs and logistics - Coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
			Recruiting adequate manpower
Identify and access available sources of sustainable finance for community-based environmental organizations with a view to amending existing policies and developing new policies	Amount of finance attained per year	\$50,000–\$100,000 (mix)	- Organizational proactivity - Capacity of communities and other groups
Continue consulting with existing community-based environmental organizations to identify priorities and align these with state and national plans	- Number of consultations with specified outcomes conducted per year - At least one documented instance of alignment between community priorities and state/national plans	>\$100,000 (new)	- Transportation costs and logistics - Funding availability and donor requirements
Continue consultations with traditional and/or outer island communities and groups to identify what activities and work are being undertaken and documented	Number of communities consulted with per year with consultation reports in place	>\$100,000 (new)	Transportation costs and logistics
National support from CNI and other relevant agencies to register and strengthen co-operatives at the state-level	- Support received within the BSAP lifecycle - Number of co-operatives registered per year	\$5,000–\$25,000 (new)	- Political will - Legislation
Work with the Department of Education to incorporate biodiversity conservation, climate change, and traditional knowledge into elementary and high school curricula, ensuring that they reflect the local context	- Curriculum modules developed and adopted within the BSAP lifecycle - Number of schools implementing modules per year	>\$100,000 (new)	- Prioritization - Policy development process
Continue to support and improve the current environmentally focused programs available to students to encourage the pursuit of environmentally focused careers	- Number of student programs conducted annually - Number of students pursuing environment-related higher education or careers	>\$100,000 (new)	- Requirement for national accreditation - Scholarship eligibility requires Bachelor's degree
Increase the number of elementary school and high school environmental clubs by at least one per year	- Number of clubs in place per year - Number of new clubs established per year - Number of students engaged per year	\$50,000–\$100,000 (new)	Prioritization within schools
Share best practices and education about basic environmental concepts with resource owners to support the appropriate control of resources and biodiversity conservation	- Number of community workshops held per year - Number of resource owners and community members reporting improved understanding following workshops	>\$100,000 (new)	Funding

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Improve coordination between departments to provide an integrated environmental campaign and other public awareness activities within one year	- Coordinated awareness campaign launched by end 2026 - Number of participating departments - Number of community members engaged with the public awareness campaign	>\$100,000 (new)	- Engagement - Access to media channels - Targeting of messages
Continue to engage private resource owners to support the designation of new protected area sites	Number of private resource owners engaged through consultations or outreach activities regarding the designation of new protected area sites per year	>\$100,000 (new)	- Transportation costs and logistics - Negotiations
Improve and enhance monitoring of all protected areas, building capacity of communities and officers for monitoring and enforcement	- Monitoring protocols developed and in use during the BSAP lifecycle - Number of monitoring visits conducted per year - Number of trained enforcement officers	>\$100,000 (new)	- Funding stability - Momentum - Technical capacity
Continue to strengthen and support traditional management practices for the conservation and sustainable use of biodiversity	Traditional practices documented in management plans	\$50,000–\$100,000 (new)	- Community engagement - Consent or intellectual property
Support the integration of traditional knowledge with new scientific information related to the conservation and sustainable use of biodiversity	- Number of initiatives (e.g. management plans) documenting the application of traditional knowledge and scientific information per year - Number of, and evidence of, engagements (e.g. stakeholder meetings) between traditional knowledge holders and technical practitioners per year	\$5,000–\$25,000 (new)	- Limitation on documenting traditional knowledge - Coordination

Objective 2. Assistance Related

Increasing government funding for conservation programs, identifying sources of technical assistance, improving sources of funding, and establishing a system of resource user's fee.

Progress to date

Progress under Objective 2 in Chuuk has been mixed, with efforts having focused on strengthening technical coordination mechanisms, securing financial resources, and improving access to funding and support mechanisms relevant to environmental management and conservation.

Coordination and technical support mechanisms have shown notable progress. A state-level technical group has been re-established, involving the Chuuk State Technical Advisory Committee and the State Environmental Protection Agency. The Environmental Protection Agency also participates in the State Budget Review Committee, helping ensure environmental considerations are included in funding discussions.

Progress has also been made in expanding access to financial resources. Multiple funding sources have been accessed or pursued, including Compact funding, Green Climate Fund, Global Environment Facility phases 5, 6 and 7, and other external programs. Exploration of water fund mechanisms and broader financing options has progressed, with activities supported through Compact funding, the Adaptation Fund, and other external grants. A GEF-7 project has been initiated to establish community engagement mechanisms linked to financial support, although progress remains insufficient at this stage. Work to strengthen and expand networks of experts has begun through the Blue Prosperity initiative, which has undertaken assessments of resources and systems. Efforts to establish a funding mechanism to support community engagement are underway but have not yet reached full implementation.

Overall, progress under Objective 2 demonstrates clear advances in coordination structures and access to funding, alongside ongoing challenges in fully operationalizing financing mechanisms, expert networks, and fee-based systems across Chuuk State.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to strengthen and expand the network of local experts available to support biodiversity conservation activities	- Number of technical training sessions lead by local experts per year - Number of locals getting certificate in related technical training - Directory for local experts	>\$100,000 (new)	- Prioritization - Human resources
Continue to expand access to appropriate sources of funding for conservation activities, including State Protected Area Network	- Number of successful funding proposals submitted per year - Total funds secured for conservation projects per year - Amount of funding channelled through PAN endowment	\$50,000–\$100,000 (new)	- Technical capacity - Dispersal of funds - Transparency - Human capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of designed protected areas receiving PAN funds per year		
Explore and develop options for green fees	- Updated green fee mechanism in place during the BSAP lifecycle - Annual revenue collected and allocated to conservation	\$25,000–\$50,000 (new)	Financial mechanism utilized
Identify and establish a funding mechanism (e.g. water funds) to secure freshwater supplies and support management of watershed	- Funding mechanism designed and endorsed within the BSAP lifecycle - Number of resource owners receiving financial support for watershed conservation per year - Feasibility study on water funds completed during the BSAP lifecycle - Water fund pilot project initiated during the BSAP lifecycle	>\$100,000 (existing)	- Manpower - Donor criteria
Secure funding for technical staffing/advisory support for BSAP implementation	Amount of funding secured per year	>\$100,000 (new)	Funding proposal writing capacity

Objective 3. Management Related

The demarcation and registration of areas of biodiversity significance, the creation of legislation to support traditional conservation practices and protect biodiversity, establishing marine and terrestrial protected areas, and updating an inventory of marine and terrestrial plants and animals present in Chuuk.

Progress to date

Progress under Objective 3 in Chuuk shows active engagement across a range of management-related actions, with implementation advancing unevenly. Efforts have focused on protected area registration, management planning, learning exchanges, species management measures, and changes to fishing practices.

Six protected areas have been registered, and improvements have been made to demarcation and the development of management plans. Management efforts have concentrated primarily on lagoon areas, with limited attention to areas outside the lagoon. Learning exchanges have taken place between protected areas, contributing to relationship-building and shared experience among sites. Several proposals related to management and protection have been developed but have not yet been finalized or implemented. These include proposals addressing spawning areas, turtle conservation, and parrotfish and grouper management, and grey ducks. Efforts have also been made to restrict the commercialization of mangroves, alongside planning and management measures to support this objective. Experience-sharing and learning missions have continued, and changes to fishing practices have been pursued, including efforts to replace dynamite fishing with net fishing.

Overall, progress under Objective 3 reflects concrete action across protected area management, species-focused measures, and fishing practices, while also indicating that several initiatives remain partial or focused on specific areas rather than implemented comprehensively across the state.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to strengthen the management of protected areas through community planning, demarcation and designation of at least one new protected area under the Chuuk Protected Areas Network law by the end of 2030	- Number of community-led management plans approved - Number of protected area sites designated under Chuuk State PAN law - Number of areas with boundary markers installed per year - Number of Protected Areas Network (PAN) sites registered under the National PAN Framework	>\$100,000 (new)	Transportation costs and logistics
Continue to establish marine and terrestrial protected areas, some of which being listed as areas of biological significance, ensuring they are appropriately designated	- Number of new sites established by BSAP lifecycle - Diversity of ecosystems included within the protected areas over time	>\$100,000 (new)	- Awareness - Comprehensive engagement

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Improve the design and connectivity of the protected area network in Chuuk State based on management experience, lessons learned, and ongoing implementation	- Connectivity maps produced during the BSAP lifecycle - Size (square miles) of the ecological corridors identified - Size (square miles) of the ecological corridor protected during the BSAP lifecycle	>\$100,000 (new)	- Community engagement - Technical capacity
Develop proposals to enhance the protection of endemic, endangered and rare species	- Assessment on endangered species list - Number of feasibility studies completed during the BSAP lifecycle - Number of pilot programs initiated during the BSAP lifecycle	\$50,000–\$100,000 (new)	Community and resource owner engagement and motivation
Expand current legislation to ensure the protection, and prevent the exploitation, of all endemic, endangered and rare species in Chuuk State by the end of 2030	- Assessment on law and regulations protecting endangered species - New/amended regulations or laws drafted during the BSAP lifecycle - Updated list of species legally protected developed during the BSAP lifecycle	>\$100,000 (new)	Political will
Improve mangrove management and protection	- Draft of a State Mangrove Management Plan - Law enacted during the BSAP lifecycle - Number of mangrove species legally protected during the BSAP lifecycle	\$25,000–\$50,000 (existing)	Political will
Propose amending the Chuuk Fisheries Management Act to include sustainable measures (e.g. size limit, seasonal bans, total allowable catch) regulations on fish and other marine resources by end 2030	- Revised Act adopted by end of the BSAP lifecycle - Compliance monitoring reports produced annually - Feasibility study for limits on exports completed during the BSAP lifecycle - Policy recommendations for fish exports submitted during the BSAP lifecycle	>\$100,000 (new)	- Political will - Community buy-in - Lack of alternatives
Improve turtle conservation through regulations, awareness and sustainable management practices.	Assessment of current regulations on turtle harvesting by end 2030	\$50,000–\$100,000 (new)	- Cultural exemptions - Lack of alternatives

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	- Number of turtle conservation awareness activities - Number of nesting sites designated by end 2028 - Enforcement effectiveness reporting per year		
Promote voluntary compliance towards biodiversity-related regulations	Documented recommendations or proposed program designs developed during the BSAP lifecycle	>\$100,000 (new)	Technical capacity
Establish and implement legislation enabling appropriate agencies and departments to work with communities to patrol areas under traditional land and marine based conservation practices	- Legislation enacted during the BSAP lifecycle - Number of joint patrols carried out per year	>\$100,000 (new)	- Establishment of enforcement units - Legislative support
Establish and implement legislation to regulate, monitor, and protect the use of our natural marine and terrestrial resources from over-exploitation by all people, local or otherwise	- Comprehensive resource management law enacted during the BSAP lifecycle - Enforcement cases reported per year	>\$100,000 (new)	- Monitoring capacity - Awareness - Legislative support
Continue to implement the Onei water conservation and security measures model across at least one community per year	- Number of new communities engaged per year - Number of communities implementing model per year	\$50,000–\$100,000 (new)	- Cultural constraints - Awareness - User rights
Develop memoranda of understanding with resource owners to ensure continued provision of seedlings to support farmers groups, gene banks, and nurseries to support agrobiodiversity	- Number of memoranda of understanding signed by the end of 2030 - Number of famers' groups, gene banks, and nurseries supported by the end of 2030	\$50,000–\$100,000 (new)	- Seedling availability - Community engagement - Geographic dispersal of communities
Continue to implement the Chuuk Invasive Species Taskforce strategic action plan	Number of eradication/control actions undertaken per year	>\$100,000 (new)	Technical capacity
Ensure the Environmental Protection Agency strategic action plan for waste management is updated, implemented, and funded	- Strategic Action Plan updated during the BSAP lifecycle - Amount of funding secured during the BSAP lifecycle - Documented evidence of the number of municipalities following the Strategic Action Plan per year	>\$100,000 (new)	- Technical capacity - Equipment

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to ensure ongoing monitoring of all biodiversity in Chuuk State and maintain marine and terrestrial biodiversity inventories	• Updated marine and terrestrial biodiversity inventory produced during the BSAP lifecycle • Monitoring reports published annually	>\$100,000 (new)	• Technical capacity • Research institute collaboration
Develop legislation to ensure sustainable funding to implement and enforce environmental laws and policies, including the Chuuk BSAP	• Legislation endorsed during the BSAP lifecycle	\$50,000–\$100,000 (new)	• Political will

Objective 4. Control Related

The establishment of strict control of alien species and ensuring specific requirements are met prior to initiating activities that may affect biodiversity.

Progress to date

Progress under Objective 4 in Chuuk has been uneven, with regulatory and approval processes largely in place, while actions related to quarantine capacity, invasive species prevention, and science-based decision-making remain constrained by limited resources and incomplete implementation.

Environmental approval systems are functioning, supported by the Chuuk State Technical Advisor Committee. Quarantine-related progress has been mixed. Existing laws requiring inspection of incoming vessels and aircraft are being enforced, though airport scanning equipment requires repair and there is no X-ray capability at the seaport. Expansion of quarantine activities to outer islands has not occurred, with no stationed quarantine officers and ongoing understaffing. Regional collaboration to prevent invasive species at points of departure is underway through Micronesia-wide cooperation and Global Environment Facility-supported initiatives to improve access to equipment.

Progress on sustainable use and science-based management has been limited. While the 2016 Coastal Management Act is in place, no significant progress has been made in establishing multi-agency approval requirements for commercialization of natural resources. Exploration of value-added products, including aquaculture and aquaponics, has begun but requires ongoing attention, while clams from Kosrae and Yap have been brought to Chuuk to help replenish local wild populations.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Establish legislation requiring approval from all appropriate agencies prior to the commercialization of any natural marine and/or terrestrial resources for exportation by 2030	- Legislation endorsed during the BSAP lifecycle - Number of commercialization permits issued and approved per year	\$50,000–\$100,000 (new)	Legal expertise
Continue to establish a process for the joint inspection of all potential dredging, earth moving and landfill activities by June 2030	- Joint inspection protocol adopted during the BSAP lifecycle - Number of joint inspections undertaken per year	\$25,000–\$50,000 (existing)	- Prioritization - Pressure on resources
Implement continuous training in coordination with consultants and the US Environmental Protection Agency to enable the effective undertaking of environmental impact assessments and the effective reviewing of environmental impact statements	- Number of staff trained per year - Number of environmental impact assessments undertaken and environmental impact statements reviewed per year	\$50,000–\$100,000 (new)	Staff turnover
All government departments and agencies to consider the biodiversity significance of an area in their planned activities (e.g. infrastructure) and balance with other aspects (e.g. economic development)	- Number of departments including biodiversity considerations in their annual plans - Number of cross-sector meetings on biodiversity per year	>\$100,000 (new)	Ongoing assessment costs and capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Ensure state legislation to monitor and control the introduction of alien species, and to monitor their impacts on the biodiversity of Chuuk State, is endorsed by the end of 2030	• Legislation endorsed by end 2030 • Number of monitoring assessments undertaken during the BSAP lifecycle	\$50,000–\$100,000 (new)	• Awareness • Legislative expertise • Political will
Expand quarantine activities by stationing quarantine officers in all registered port areas, and reinstate state agriculture agents in the outer islands	• Number of islands with state agriculture agents deployed per year • Number of inspections conducted per port per year	>\$100,000 (new)	• Funding • Technical capacity
Continue to work with other quarantine services to prevent invasive species at point of departure to Chuuk	• Number of cooperation agreements signed per year • Number of intercepted invasive species at departure points per year	\$50,000–\$100,000 (new)	• Technical expertise • Equipment
Establish policies and secure technical capacity to continue enforcing quarantine laws requiring all incoming vessels and aircrafts to be inspected for invasive species	• Percentage of vessels/aircraft inspected per year • Number of violations detected per year	\$50,000–\$100,000 (new)	• Equipment • Quarantine facilities • Animal containment facilities
Continue to explore and promote value-added products that support the sustainable use of Chuuk State's biodiversity	• Number of value-added biodiversity products developed per year • Revenue generated from such products per year	>\$100,000 (new)	• Technical capacity
Ensure all biodiversity and natural resource-related legislation remains relevant, and that any new information is used appropriately to support implementation of activities	• Legislative review conducted at least once during the BSAP lifecycle • Number of amendments proposed based upon scientific evidence during the BSAP lifecycle	\$50,000–\$100,000 (new)	• Legal expertise
Establish a research program to scientifically support future legislation to protect biodiversity against the release or spread of non-native species	• Establishment of research program during the BSAP lifecycle	>\$100,000 (new)	• Legal expertise
Establish mechanisms to control any aquaculture/mariculture activities to prevent negative impacts on surrounding ecosystems by the end of 2030	• Aquaculture/mariculture management plan developed • Aquaculture/mariculture regulations proposed by end 2030 • Number of farms inspected annually	\$50,000–\$100,000 (new)	• Technical capacity

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The Federated States of Micronesia
Kosrae State Biodiversity Strategy and Action Plan
2026–2030

Foreword



GOVERNMENT OF KOSRAE

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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

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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:

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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: Introduction¹

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.

Kosrae Biodiversity Strategy and Action Plan

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 Kosrae²

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 km² (30%) of the marine environment and 96 km² (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.

Kosrae Biodiversity Strategy and Action Plan

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

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The Federated States of Micronesia
Yap State Biodiversity Strategy and Action Plan
2026–2030



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Yap Biodiversity Strategy and Action Plan Foreword

The biodiversity of Yap is central to who we are as a people. It shapes our culture, supports our livelihoods, and sustains the systems that allow our communities to thrive. From our agroforests and mangroves to our reefs and lagoons, the relationship between people and the natural environment in Yap has long been guided by knowledge, stewardship, and respect. Maintaining this relationship is essential to ensuring the well-being and resilience of our State.

This updated Yap State Biodiversity Strategy and Action Plan (BSAP) provides a clear and structured framework to guide our efforts over the coming years. It builds on the foundations of previous plans, taking into account both the progress made and the challenges that remain. While strong systems of traditional resource management continue to influence how biodiversity is used and protected in Yap, we must also respond to various pressures, including climate change, changing land use, and increasing demands on natural resources. This plan reflects the need to strengthen and adapt our approach in response to these realities.

The Yap BSAP is aligned with national, regional, and international commitments, ensuring that our actions contribute to the broader goals of the Federated States of Micronesia while remaining grounded in the specific context of Yap. It recognizes that healthy ecosystems are fundamental to food security, water availability, and climate resilience, and that effective conservation must be closely linked with sustainable development and community wellbeing.

This revised plan is the result of a highly collaborative process that brings together State and municipal government representatives, traditional leaders, community members, and non-governmental organizations. Their contributions have ensured that the BSAP reflects both technical knowledge and the lived experience of those who depend most directly on Yap's natural resources. I extend my sincere appreciation to all who have contributed their time, insight, and commitment to this process.

The development of this plan has also been supported through ongoing collaboration with our partners within the FSM Department of Resources & Development. Continued coordination between State and National institutions will be critical to effective implementation over the coming years.

The Yap BSAP 2026–2030 represents an important step forward in strengthening how we manage and protect our biodiversity. Its success will depend on sustained commitment, shared responsibility, and continued cooperation across all levels of government and society. Through this collective effort, we can ensure that Yap's natural heritage is conserved and continues to support our people now and into the future.

I hereby endorse the Yap State Biodiversity Strategy and Action Plan 2026–2030.

Francis Itimai
Governor, State of Yap

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

The Yap 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 Yap BSAP possible:

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

Part 1: Introduction¹

Yap is the western-most state within the Federated States of Micronesia and is unique in the FSM in having metamorphic rock derived from tectonic activity and associated soils similar to continental areas, as well as old volcanic soils. The islands and atolls of eastern Yap are younger and made of limestone. Home to 10,739 people, the state-wide population density of Yap is 216 per sq. mile (FSM Division of Statistics, 2023).

Yap is culturally unique within the FSM for its stone money, stone pathways and traditional village meeting houses. Much of the land and even near shore areas have been modified through landscape architecture for food production purposes. The island once supported a very dense population that greatly influenced the landscape and cultural patterns. The traditional agricultural system of Yap is the most diverse in the FSM and incorporates ditching and landscape architecture to manage water flow through both shifting and site-stable systems. The species and variety-rich tree garden/taro patch agroforests of Yap represent a well-developed system of permaculture.

The average annual wage (real, i.e. adjusted for inflation) in Yap for the fiscal year 2022 was \$4,804, below the national average of \$5,594 (FSM Division of Statistics, 2023). Much of the population remains dependent on the land and sea for food, with approximately 95% of households engaging in at least one subsistence activity (agriculture and forestry, handicraft and home production, livestock and aquaculture, or fishing, hunting and gathering), 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 traditional levels, with most power delegated to the four states by the national constitution. The State Government of Yap contains the usual executive, legislative and judicial branches, and is the only state to constitutionally provide for a traditional leadership branch to State Government with its Councils of Chiefs. 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.

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). In Yap, the majority of land and near-shore marine areas are privately owned, and utilization of these areas is under traditional control. Resources have historically been subject to a complex system of allocation that saved Yap from the ‘tragedy of the commons’, where resources available to all are used up or destroyed. Today the traditional system is fading or being modified in response to the availability of new technologies and opportunities for commercial exploitation of natural resources and income from foreign investment seeking long-term leases. The traditional system nonetheless sets a cultural precedent for the management of people’s use of resources.

The FSM experiences a tropical climate, with consistently warm weather driven by the north-east trade winds. The average annual temperature in Yap between 1991 and 2020 was 81.5°F (NOAA NCEI, 2025). There is little variation throughout the year, with the high islands being generally hot and humid. Rainfall across the FSM is generally plentiful, with Yap receiving an annual average of approximately 123 inches based upon 1991–2020 records. (NOAA NCEI, 2025).

The FSM 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 in 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 Yap. 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).

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 Yap BSAP (2018) to avoid introducing unsupported estimates.

Yap Biodiversity Strategy and Action Plan

Of particular importance to the FSM, owing to reliance on near-shore coastal fisheries and the low-lying nature of many of its islands, 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, 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).

Yap State Vital Statistics

Geography	
Location	7°–10° N, 137°–148° E
Number of islands	138 (four closely associated islands form Yap Proper, plus 134 low coralline islands and atolls)
Land area	49.7 sq. miles
Forest (including agroforest)	26.8 sq. miles (17,176 acres)
Non-forest vegetation	7.9 sq. miles (5,078 acres)
Cropland	0.02 sq. miles (14 acres)
Urban (including urban cultivated)	1.6 sq. miles (1,020 acres)
Other (including water)	0.8 sq. miles (516 acres)
Ocean area	> 100,000 sq. miles
Climate	
Annual average temperature (1991–2020)	81.5°F
Annual average rainfall (1991–2020)	123 inches
Demographics	
Population (2021 estimate)	10,739
% of total FSM population	14%
Population density	216 per sq. mile
Economics	
Average annual wage (real)	\$4,804
% households involved in subsistence activity	95%
% contribution to national total household income	14.8%

Part 2: Biodiversity in Yap²

Biodiversity across the FSM is incredibly rich, with FSM recognized as part of the globally important Polynesia-Micronesia biodiversity hotspot (CEPF, 2007). There are two terrestrial and one marine ecoregion identified in the FSM. These represent exceptional examples of specific habitats that contain the most distinctive biodiversity for that habitat type. The terrestrial ecoregions comprise the Yap Tropical Dry Forests ecoregion and the Carolines Tropical Moist Forests ecoregion, which includes the Remetau Islands of Yap as well as the whole of Chuuk, Pohnpei and Kosrae states (OneEarth, 2025). Much of the Yap Islands State ecoregion is open savanna with secondary tropical dry forest. It contains two endemic bird species (with Yap cicadabird potentially being elevated from a subspecies to a separate endemic species), while also being home to a number of species with restricted ranges (OneEarth, 2025). In terms of marine biodiversity, the FSM is part of the East Caroline Islands Marine Ecoregion and contains some of the largest coral atoll complexes in the world (Spalding, 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. 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).

The FSM also supports approximately 36.3 sq. miles of mangrove forest across the islands, approximately 4.1 sq. miles of which are in Yap (Donnegan et al, 2011). Approximately 13% of Yap's vegetation consists of mangroves (Falanruw et al. 1987), and research shows that they sequester 33% of the carbon removed from the atmosphere by Yap's vegetation (Donato et al. 2012, 2011).

Indeed, much of the FSM is covered with forests, and while Yap is no exception with an estimated 26.8 sq. miles/57% of the islands forested, it also contains more non-forest vegetation than any of the other states, with approximately 6.4 sq. miles of savanna or other scrub or grassland (Donnegan et al, 2011). Upland forest covers 12.1 sq. miles of Yap, with swamp forest covering 62 acres and agroforest covering 10.5 sq. miles (Donnegan et al, 2011). Cropland accounts for only approximately 14 acres of land in Yap, and areas classified as 'urban cultivated' account for 299 acres (Donnegan et al, 2011). It should be noted that the limited area mapped as cropland is not indicative of limited food production as most traditional food production occurs in agroforests, "urban cultivated" areas, taro patches and in shifting gardens that can't be discerned on aerial or satellite imagery.

It is recognized that a number of threats to the biodiversity of Yap, and the entire FSM, exist. These threats, which have been identified at a national level and are relevant to Yap 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 Yap BSAP in 2004, significant developments toward comprehensive biodiversity conservation in Yap 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.

Perhaps the most significant conservation initiative to come about since the initial Yap 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.

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 Yap BSAP (2018) to avoid introducing unsupported estimates.

Yap Biodiversity Strategy and Action Plan

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 km² (30%) of the marine environment and 96 km² (15%) of the terrestrial environment are under effective management (Micronesia Challenge, 2024). Yap has placed 11% of its marine resources and 0.4% 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 Yap Biodiversity Strategy and Action Plan

Development Process for the Revised Yap BSAP

The Yap 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 latest-possible data and information regarding the status of biodiversity within the FSM as a whole, and Yap State, and the pressures it is under.

The Objectives and Actions as defined in the prior Yap BSAP were taken out to consultation, and a multi-stakeholder group was engaged in a three-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 interviews with women were held to ensure that the different interactions with and observations of biodiversity experienced by women in Yap 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 Yap State Biodiversity Strategy and Action Plan

Vision

We are mindful that our environment and our natural resources are all important, for they are the foundation of our economies, our cultures, and our identities as Pacific Islanders.” (Declaration of the First Micronesian Traditional Leadership Conference, 1999).

We, the people of Yap State are mindful that our culture, economy and very lives are dependent on our biodiversity. Our islands are small and dear, and there are limits to how much they can be exploited. There are, however, no limitations to making Yap better and better. We aspire to understand and protect our biodiversity and to continue to improve conditions for life on Yap.

We seek to maintain a partnership and balance with Yap’s biodiversity. We do not want to become obligatorily dependant on the world’s economic system for our lives, but desire to retain the option to live according to our own values and to be able to subsist on our own natural resources should we chose to do so. In order to maintain this basic freedom for Yapese people, it is necessary to maintain the integrity of Yap’s living ecosystem.

As we become better stewards of our biodiversity, we will develop ways to sustainably use our natural resources to enable us to participate in the world’s economic system. As we achieve economic development that is ecologically sustainable, we will become one of the most modern nations of the world of the future when the way a country cares for its biodiversity is the highest art.

We wish to retain the wisdom and enhance the skills of our island culture heritage, to live with respect for one another and with a reverence for life on our islands amid clean flowing waters, green healthy lands and a productive marine system that contributes to the health of the world environment.

Goal

The overall goal of the Yap BSAP is to “Take Care of Yap” in keeping with the mandate of Traditional Leadership at the Yap State Summit (1996).

This goal will be achieved through:

- Integration of biodiversity conservation and sustainable development
- Securing traditional empirical knowledge and technologies and enhancing it with modern science into a neo-traditional system of natural resource management suitable for today’s context
- Development of local capacity to manage natural resources on a sustainable basis
- Community-based approaches
- Taking a precautionary approach (maintaining the "wisdom in the basket")

Information presented in this BSAP

The Yap Biodiversity Strategy and Action Plan is structured around seven Objectives:

- Objective 1. Institutional Arrangements (“Getting our act together”)
- Objective 2. Secure and Enhance Traditional Knowledge (Build on what we already know)
- Objective 3. Inventory and Monitoring (“Counting our blessings” and identifying problems)
- Objective 4. Biosecurity – Addressing Invasive Species and Other Threats to Biodiversity
- Objective 5. Managing Pollution
- Objective 6. Environmental Awareness, Research and Capacity Building
- Objective 7. Stewardship Programs and Environmentally Sustainable Industries

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 Yap BSAP.

Implementation and Monitoring

Monitoring the implementation of the Yap 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 the Yap BSAP will undergo a mid-term review. This will be supported by annual check-ins, which will utilize a checklist approach to enable reporting during the mid-term review. These will be coordinated by the Director of Yap State Department of Resources and Development.

During the mid-term review, updates on the Implementation Actions will be provided by the Chiefs of Divisions within the Department and relevant NGOs, and the status of each will be recorded 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). Any challenges faced will also be recorded. Additional data for assessing indicators will be provided by the Director of the Department of Resources and Development and the Chiefs of Divisions.

It is anticipated that monitoring data will be stored by National Government in a way that is accessible to the State Government. Responsibility for updating monitoring data will lie primarily with Yap State Department of Resources and Development and Yap Environmental Protection Agency.

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 Yap’s biodiversity at that time.

Objective 1. Institutional Arrangements

Progress to date

Progress under this Objective has been mixed, with active coordination through the Environmental Stewardship Consortium (ESC) alongside limited progress on several planned actions. Overall efforts have focused on inter-agency networking and information sharing, with uneven implementation across actions.

The ESC has been established and is very active, supported by the Environmental Protection Agency, with relevant agencies and stakeholders meeting quarterly. However, the ESC operates without dedicated funding and relies on members' own resources, with participation drawn from existing agencies. Some capacity-building activities have progressed but remain constrained. Technical assistance for geographic information systems has been provided under a land degradation project. Broader coordination of sustainable development programming has not been prioritized, and activities are largely driven by donor funding requirements rather than a coordinated state program.

Several actions were not progressed, including establishing an online information-sharing platform, developing sustainable development indicators, formally defining roles and responsibilities across organizations, and establishing a Coordinated Project Review Process. While engagement with traditional leaders has taken place through ESC briefings and quarterly meetings, structured expansion of these consultations has not progressed.

Overall, progress under this Objective reflects functioning coordination through the ESC, alongside significant gaps in prioritization and follow-through on several planned actions.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Identify an appropriate champion to reinvigorate the Environmental Stewardship Consortium as a body to bring together all agencies and groups undertaking biodiversity-related programs and activities, or establish a Yap-wide environmental non-governmental organization as an appropriate alternative	• Champion appointed and formally endorsed by relevant authority or stakeholder group by end 2026 • Environmental Stewardship Council or alternative NGO re-established and meeting at least twice per year	\$5,000 – \$25,000 (new)	• Available people • Engagement
Set up an online platform for information sharing between participants in the Environmental Stewardship Consortium (or alternative body) and with appropriate agencies and organizations	• Operational online platform with regular content updates (e.g., quarterly) during the BSAP lifecycle • Number of agencies or organizations contributing data or updates through the platform per year	> \$100,000 (new)	• Technical capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Develop a research database overseen by the Environmental Stewardship Consortium and provide recommendations based on analysed research data	- Database established during the BSAP lifecycle - Recommendations developed based upon research data per year	> \$100,000 (new)	- Technical capacity - Maintenance funding
Appoint a contractor to develop indicators of sustainable development	- Contractor appointed and workplan approved during the BSAP lifecycle - Set of state-level sustainable-development indicators completed and adopted during the BSAP lifecycle	> \$100,000 (new)	- Funding source - Technical capacity
Train local personnel to coordinate with current geographic information system (GIS) staff and to act as a coordinator for activities under the Convention for Biological Diversity and the Micronesia Challenge	- Number of local personnel trained and certified to carry out coordination tasks per year - Number of state reports or submissions completed through the CBD/Micronesia Challenge frameworks per year	> \$100,000 (new)	Trainee availability
Develop and prioritize a climate resilient and sustainable development program	- Program document finalized and endorsed by relevant government authority during the BSAP lifecycle - Number of activities implemented under the program per year	> \$100,000 (new)	- Prioritization - Technical capacity - Equipment
Engage individual to assess policies and protocols of partners and agencies to identify gaps and overlaps and undertake an assessment of project overlaps with accompanying recommendations	- Champion appointed and coordination framework drafted during the BSAP lifecycle - Mapping of agency roles completed and duplication issues identified and addressed during the BSAP lifecycle	> \$100,000 (new)	Expert availability
Identify 5-year priorities under this BSAP	- Priorities identified by end 2027 - Evidence of progress towards priorities per year	\$5,000–\$25,000 (new)	Technical capacity
Increase consultations with traditional leaders to at least twice a year	Number of consultations held annually with traditional leaders	\$5,000 – \$25,000 (new)	- Engagement - Coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Record of formal recommendations from consultations being incorporated into ESC or state planning processes per year		
Establish a Coordinated Project Review Process (CPRP) via-Resolution to provide a clear and orderly process for community involvement and environmental review of proposed projects including bioprospecting, research projects, foreign investment and long-term leases, and proposals for unsustainable fishing ventures such as the Live Reef Food Fish Trade (LRFFT) that targets spawning aggregations of fish	- Resolution establishing Coordinated Project Review Process issued and publicly available during the BSAP lifecycle - Number of proposed projects reviewed through the Coordinated Project Review Process per year - Proportion of proposed projects receiving environmental clearance per year - Align with sustainable fisheries policy and Yap PAN regulation	\$5,000 – \$25,000 (new)	- Staff turnover - Political will

Objective 2. Secure and Enhance Traditional Knowledge

Progress to date

Progress under this Objective 2 has focused on documenting traditional knowledge and supporting its continued practice, with more limited progress in formally integrating traditional approaches with modern management and scientific frameworks.

Documentation of traditional land and sea use is ongoing, including incorporating culturally significant areas into area plans, and documenting oral traditions and traditional practices through the Historic Preservation Office. Progress in integrating traditional approaches to resource management has been uneven. While some marine protected area and resource management plans exist, most communities do not yet have formal management plans, and project-level integration of local practices remains inconsistent.

Systematic linkage of project results to scientific frameworks and secure funding remain unresolved. Support for traditional knowledge transmission continues through traditional skills programs, youth engagement, and cultural classes in schools, with elders prioritized in passing on knowledge.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to document traditional use of the land and sea on Yap to provide context for local projects as appropriate to individuals, families, and communities	- Number of communities, families, or sites with traditional land and sea use documented and archived per year - Extent of traditional use documentation referenced in local project planning or approvals annually	\$25,000–\$50,000 (new)	- Sensitivity regarding documentation of traditional knowledge - Technical capacity
Document and evaluate ways of integrating traditional controls on resource exploitation with modern management practices	- Number of communities with management plans in place per year - Number of communities per year with management plans that integrate traditional knowledge	>\$100,000 (new)	- Transportation costs and logistics - Community prioritization - Feasibility
Link projects results with scientific principles where appropriate, so that they may be further enhanced to provide viable and locally relevant alternatives for the future	- Number of project reports explicitly linking outcomes to scientific principles or evidence per year - Examples of project designs adapted or improved based on documented scientific findings per year	\$50,000–\$100,000 (new)	- Prioritization - Technical capacity - Awareness

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Support additional personnel to aid in the collecting and documenting of traditional knowledge and arts, and support expert traditional practitioners so that they may continue to practice and pass on their knowledge and skills with that knowledge held by elders a priority	- Personnel recruited and in post during the BSAP lifecycle - Volume of traditional knowledge, skills, or arts documented per year	\$50,000–\$100,000 (new)	Sensitivity regarding documentation of traditional knowledge

Objective 3. Inventory and Monitoring

Progress to date

Progress under Objective 3 in Yap has been uneven, with advances in protected area establishment and mapping, alongside significant gaps in staffing, data coverage, and systematic biodiversity analysis. Recruiting a Protected Area Network (PAN) Coordinator has been challenging.

Some progress has been made in expanding and demarcating protected areas. New marine protected areas have been identified, including one new site in Gachpar, alongside existing sites in Riken, Reey, and Tamil. Terrestrial protected area demarcation has included the Weloy terrestrial protected area, the Tamil watershed, and several mangrove protected areas.

GPS-based mapping has been used to develop maps, though land management mapping does not currently integrate layers for relevant communities, and capacity is limited to a single staff member. Limited progress has been made in biodiversity inventories and data analysis. Forest inventory analysis is ongoing, but broader species inventories within natural communities have not advanced due to funding limitations and delays in technical reporting. Data management and analysis remain weak. A tree species database exists within the forestry sector, but there is no equivalent database for marine biodiversity. Development of an official list of rare species has not progressed, with limited documentation beyond a small number of identified species.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Comprehensively inventory species within natural communities and incorporate species information into a geographic information system (GIS)	- Number of species inventoried and entered into GIS database per year - GIS layers completed for terrestrial and marine biodiversity distribution during the BSAP lifecycle	>\$100,000 (mix)	Technical capacity
Update maps with regard to species incidence	- Maps updated with new species occurrence data during the BSAP lifecycle - Updates completed according to schedule	\$50,000 – \$100,000 (new)	Political will
Analyse data to identify trends and/or pattern	- Annual analytical reports highlighting trends in biodiversity published - Number of management recommendations arising from analysis produced per year	>\$100,000 (new)	Available technical support
Establish and maintain a Yap State biodiversity database, including rare species, with information to be shared with leadership and communities	- Database established and functional during the BSAP lifecycle - Frequency of data updates (e.g., quarterly or annually) - Official list of rare species published during the BSAP lifecycle	>\$100,000 (new)	- Equipment - Ongoing technical capacity for maintenance

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of community outreach sessions conducted per year		
Recruit a Protected Area Network Coordinator	- Coordinator recruited and officially appointed by end 2026 - Annual reports produced under the coordination of the appointed officer	\$50,000 – \$100,000 (new)	Funding source
Continue to certify new marine protected areas	- Number of new marine protected areas certified per year - Percentage of Yap's nearshore area under certified protection per year	>\$100,000 (mix)	- Political will - Technical capacity
Demarcate terrestrial protected areas appropriately	- Number of terrestrial protected areas with clear boundaries mapped and endorsed per year - Area (hectares) of terrestrial ecosystems demarcated and recorded in GIS per year	>\$100,000 (new)	Technical capacity
Continue regular surveying and mapping of terrestrial and marine communities and protected areas	- Number of survey events conducted annually across ecosystems - Survey data publicly shared or incorporated into Yap's environmental database	>\$100,000 (new)	Technical capacity
Develop maps of current patterns within Yap's lagoon, and develop indicators for influence of land run-off	- Publication of maps during the BSAP lifecycle - Reports of monitoring, based on turbidity, published annually	>\$100,000 (new)	Coordination

Objective 4. Biosecurity – Addressing Invasive Species and Other Threats to Biodiversity

Progress to date

Progress under this Objective has been mixed, with strong activity in invasive species coordination and emergency response, steady progress in wildfire awareness and preparedness, and more limited advancement in enforcement and regulation of unsustainable natural resource exploitation.

Invasive species management has seen notable progress. The Yap Invasive Species Taskforce is active and functioning. It meets regularly, conducts annual reporting, and has implemented priority actions, with the successful eradication of *Imperata* grass achieved. An invasive species “swat team” has been established and deployed during emergency outbreaks. Regional collaboration has also progressed through work with Palau, Guam, FSM, and the Marshall Islands, including equipment support provided in 2024. Awareness and prevention activities related to invasive species have continued, though progress varies. Public awareness efforts are ongoing but constrained by limited resources and uneven leadership support. Surveys of invasive species, pests, and diseases have been conducted, including FSM-wide assessments and species checks, though funding gaps and the need for updated assessments remain. Efforts to introduce invasive species control measures for inter-island shipping and to establish a comprehensive state-level invasive species data collection system have shown little progress, with gaps in policy authority and implementation.

Community wildfire prevention plans are in place and actively followed, particularly during drought periods when restrictions on fire use are enforced and public announcements are issued by EPA. Public awareness programs featuring “Smokey Fruit Bat” and “Ngobchey Smokey Bear” are ongoing and highly visible, with outreach conducted through schools, festivals, media, and seasonal campaigns.

Progress on addressing unsustainable exploitation of natural resources has been limited overall. Some positive progress has been made in agriculture-related sustainability actions. A State seed bank has been established, supporting food security through climate-resilient crop varieties, and documentation of agricultural crop varieties is ongoing. No new development plans integrating climate considerations have been developed, and ecosystem-based climate adaptation measures have been identified but remain insufficiently implemented due to funding and capacity constraints.

Overall, progress under this objective reflects strong coordination and response capacity for invasive species and wildfire management, contrasted with persistent challenges in enforcement, data systems, and regulation of unsustainable natural resource use.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Utilize the Yap Invasive Species Taskforce as the main entity supporting invasive species management	- Evidence that taskforce meets regularly and maintains an active workplan - Number of coordinated response activities implemented per year	>\$100,000 (new)	- Coordination - Technical capacity
Conduct a public awareness program to acquaint people with invasive species and their dangers	- Number of awareness raising activities per year - Percentage of surveyed participants demonstrating increased awareness of invasive species	>\$100,000 (new)	- Outer island accessibility - Leadership endorsement

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Work with quarantine offices in Palau and Guam to develop effective prevention of invasive species entering Yap, e.g. pre-screening for invasive species	• Formal agreements or protocols established with Palau and Guam quarantine offices during the BSAP lifecycle • Number of shipments or passengers screened using agreed prevention measures per year	\$50,000–\$100,000 (mix)	• Outer island quarantine capacity • Coordination
Introduce and enforce invasive species control measures on inter-island shipping	• Number of vessels inspected for invasive species per quarter • Documented compliance rate with control protocols	\$50,000–\$100,000 (new)	• Technical capacity
Establish a list of invasive species indicators to be collected at the state level	• List of standardized indicators approved and adopted by Yap State during this BSAP lifecycle • Data collection forms and protocols developed and in use during this BSAP lifecycle	\$50,000–\$100,000 (new)	• Prioritization
Prioritize lists of invasive species threats to Yap and develop a program to address them	• Prioritized invasive species list published and reviewed annually • Number of targeted species with active management or eradication programs per year	>\$100,000 (new)	• Baseline data • Technical capacity
Implement a program to control and/or eradicate Yap's two worst invasive species and to monitor results via a geographic information system (GIS) and public participation	• Control or eradication program initiated for top two priority species during this BSAP lifecycle • Monitoring data entered into GIS and progress reported publicly each year	>\$100,000 (new)	• GIS capacity • Monitoring capacity • Capacity training
Organize an invasive species emergency response team for emergency response	• Emergency response team established and trained during this BSAP lifecycle • Number of emergency response drills or real deployments conducted per year	>\$100,000 (existing)	• Rapid response funding
Develop a strategy for combating an outbreak of invasive vines following natural disasters	• Post-disaster vine management strategy completed and endorsed during this BSAP lifecycle	>\$100,000 (new)	• Post-disaster response capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of affected areas restored using the strategy after major events per year		
Conduct surveys of invasive species, as well as other pests and diseases	- Number of terrestrial and marine surveys conducted per year - Number of new or confirmed invasive species recorded per year	>\$100,000 (new)	- Technical capacity - Equipment
Facilitate funding for the Invasive Species Coordinator to participate in cross-agency and international invasive species, pest and disease networks	- Funding secured annually for coordinator participation - Number of regional or international meetings attended by coordinator per year	\$50,000–\$100,000 (new)	- Political will - Travel funding
Request assistance from The Pacific Community (SPC) to enable the continuation of a neutering and spaying program to manage the population of cats and dogs	- Formal request submitted and assistance secured from SPC during this BSAP lifecycle - Number of animals treated annually under the spay/neuter program	\$50,000–\$100,000 (new)	Availability of veterinarians
Establish a mechanism for relevant agencies to maintain oversight of and enforce the sustainable use of natural resources, and prevent illegal harvesting, hunting, sale, purchase, or export of natural resources	- Number of outreach and awareness activities undertaken per year - Number of sustainability assessments conducted prior to commercialization or export approvals per year - Percentage of proposed resource uses meeting sustainability criteria per year	>\$100,000 (new)	- Awareness - Enforcement - Equipment
Implement the ban on, and enforce regulations regarding, commercial export of in-shore/near-shore marine resources	- Survey to identify level of exports undertaken during the BSAP lifecycle - Recorded inspections or enforcement actions confirming compliance with the export ban per year - Survey to measure public awareness on high risk/threatened marine species	\$50,000–\$100,000 (mix)	- Coordination - Technical capacity

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Raise awareness on importance of trees, especially large living trees, to prevent unnecessary cutting of limited large living trees	- Number of awareness raising activities per year - Numbers of people reached through awareness raising per year	<\$5,000 (new)	- Engagement - Willingness to change behavior
Evaluate and update the existing system requiring permits for all research in Yap (not just anthropological research) and ensuring the sharing of all research data (in line with national Access and Benefits Sharing frameworks)	- Number of permits issued per year - Annual documentation of research data	\$5,000–\$25,000 (new)	- Political will - Prioritization
Communicate status of natural resources to communities to ensure their sustainable use	- Number of community surveys undertaken per year, and analysis of results - Number of outreach activities per year - Number of newly managed areas within communities per year	\$5,000–\$25,000 (existing)	- Political will at all levels - Prioritization
Establish a state seed bank for Yap State	Number of plants distributed from the State seed bank per year	\$50,000–\$100,000 (new)	Direct funding availability
Document, coordinate, and share information regarding all varieties of agricultural crops such as yam, bananas etc. to help ensure continuation of local agrobiodiversity and agricultural practices	- Number of surveys undertaken per year - Establish a database	\$50,000–\$100,000 (new)	- Prioritization - Political will
Further develop a wildfire plan and ensure community wildfire prevention plans are followed	- Updated wildfire management plan adopted and distributed during the BSAP lifecycle - Number of communities implementing wildfire prevention plans per year	\$25,000–\$50,000 (mix)	- Enforcement - Community engagement
Continue conducting the wildfire public awareness program featuring Smokey Fruit Bat	- Number of outreach or education events conducted annually - Increase in community awareness or participation in wildfire prevention as measured by annual surveys	\$25,000–\$50,000 (existing)	Community engagement
Conduct regular Incident Command System (ICS) training to ensure preparedness to address emergencies such as large wildfires, oil spills, and typhoons	- Number of ICS training sessions held per year - Number of trained responders certified under ICS per year	\$50,000–\$100,000 (mix)	Awareness

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Continue to support community-level natural resource management planning to ensure comprehensive planning is undertaken by new communities	Number of community plans developed per year	\$5,000–\$25,000 (new)	- Political will at all levels - Community engagement
Establish and implement a project and development review process to ensure appropriate reviews of projects take place	- Process established during the BSAP lifecycle - Number of project reviews undertaken per year	\$25,000–\$50,000 (new)	- Political will - Funding
Ensure coastal road building and related development consider the interface of saltwater and freshwater with proper eco-engineering so that changes of waterflow detrimental to crops and marine ecosystems are avoided	Number of development plans reviewed per year	>\$100,000 (new)	- Prioritization - Number of water flow mitigation activities per year

Objective 5. Managing Pollution

Progress to date

Progress under this Objective has been uneven, with functioning regulatory processes in place alongside limited advancement in data systems, planning coordination, and some infrastructure-related actions. Earthmoving regulation enforcement is ongoing through established permitting and review processes led by the Environmental Protection Agency. Environmental impact assessments are applied where required, site inspections are conducted prior to permitting, and landowner authorization is required before earthmoving activities proceed.

Progress in mapping earthmoving and dredging activities remains limited, with information held in paper form and not yet integrated into a geographic information system. Household water catchment systems have been implemented through multiple water security and adaptation projects in a number of communities, with some initiatives completed or nearing completion. Wastewater management regulations are in place, including requirements for pig pens to be set back from shorelines. Solid waste management has progressed through assessments conducted under the PROPER project, while public awareness activities on pollution prevention continue at limited frequency.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Strengthen enforcement of earthmoving regulations by the Environmental Protection Agency	- Number of site inspections and enforcement actions conducted annually - Percentage of projects found compliant with earthmoving regulations per year	\$5,000 – \$25,000 (mix)	- Political will - Land disputes
Map earthmoving and dredging activities, incorporating this information into a geographic information system (GIS) database	- GIS database established with mapped sites of earthmoving and dredging activities during the BSAP lifecycle - Number of new or updated records added to the GIS per year	> \$100,000 (new)	- Technical capacity - Funding for technical expert
Enhance mitigation measures to minimize impacts of dredging	- Feasibility study or technical report on dredging alternatives completed during the BSAP lifecycle - Number of pilot projects trialling alternative materials or methods during the BSAP lifecycle - Additional mitigation measures identified and implemented (e.g. Silt mesh) during the BSAP lifecycle	>\$100,000 (new)	- Political will - Funding
Develop and implement a storm water management system, informed by those developed in other countries, e.g. Palau	Stormwater management plan developed and approved by state authorities during the BSAP lifecycle	–	- Political will - Willingness to adopt measures

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of sites implementing stormwater management infrastructure per year		
Develop and implement household water catchment systems based upon successful project experiences	- Number of households with functional water catchment systems installed per year - Volume of water collected per year - Reduction in post-disaster water imports per year	> \$100,000 (mix)	- Weather conditions - Transportation - Funding
Establish and implement wastewater (sewage, laundry etc.) management regulations	- Wastewater management regulations enacted and enforced during the BSAP lifecycle - Percentage of households or institutions compliant with wastewater standards per year	> \$100,000 (mix)	Technical capacity
Enhance solid waste management regulations	- Updated solid waste regulations adopted and implemented during the BSAP lifecycle - Quantity of solid waste diverted from open dumping to managed collection or recycling systems per year	> \$100,000 (new)	- Technical capacity - Increase in population
Conduct public awareness programs regarding the prevention and management of pollution in Yap at least twice a year	- Number of pollution-awareness activities conducted annually - Measured increase in public awareness levels through post-program surveys	\$50,000 – \$100,000 (mix)	Staff turnover
Assess, implement, and promote alternatives to Styrofoam importation and use in Yap	- Policy or regulation introduced restricting Styrofoam use and imports during the BSAP lifecycle - Number of local businesses adopting biodegradable or reusable alternatives per year	\$5,000 – \$25,000 (new)	Non-compliance with existing law
Engage technical expertise to help identify dangerous waste materials	- Expert engaged during the BSAP lifecycle - Report on dangerous waste materials	>\$100,000 (new)	- Expert availability - Funding
Enhance and enforce chemical waste regulations	- Enhanced regulations in place during the BSAP lifecycle - Number of violations prosecuted per year	\$50,000–\$100,000	- Technical capacity - Political will

Objective 6. Environmental Awareness, Research and Capacity Building

Progress to date

Progress under this Objective has been strongest in public and community awareness, with more limited advancement in formal education integration, research coordination, and long-term capacity development.

Public awareness activities are ongoing across multiple agencies, covering invasive species, forestry, watersheds, pollution, water quality, and natural disasters. Outreach is delivered through radio announcements, daily bulletins, school engagement, and inter-agency information sharing, with the Environmental Stewardship Consortium (ESC) providing a platform for coordination. Formal environmental education shows limited progress. Yap-focused environmental units exist at early childhood level, but broader curriculum development and teacher training need revision and expansion. Introduction of the Yap BSAP at secondary level has not yet been implemented.

Progress in learning from research remains limited. Research activities occur within forestry and marine sectors, largely driven by funding requirements, but research planning is reactive, baseline data are limited, and priority research needs are not clearly defined. Actions to establish a biodiversity research permit and tracking system and to create opportunities for Yapese participation in research have not progressed and require integration under the Coordinated Project Review Process.

Capacity development efforts are mixed. Scholarship support exists, but student tracking and coordination between offices need improvement. On-the-job training programs have been implemented intermittently, with some ending due to funding constraints, while limited vocational training has restarted. Efforts to increase the number of professional natural resource stewards have begun but remain insufficient, requiring better coordination across programs and stronger integration into education and training pathways.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Implement timely (at least twice a year) public awareness campaigns on relevant matters, such as invasive species, natural disasters, pollution, and the importance of Yap's biodiversity	Number of awareness campaigns and events undertaken per year	\$50,000–\$100,000 (new)	- Willingness to change behaviour - Private schools not included in activities
Improve environmental awareness amongst Outer Island leadership and communities	- Number of outer island community engagements undertaken per year - Measured impact of community engagements using surveys	>\$100,000 (new)	- Transportation costs and logistics - Leadership and community engagement
Write an environment book and have it integrated into the educational curriculum	- Book written during the BSAP lifecycle - Book incorporated into educational curriculum during the BSAP lifecycle	\$25,000–\$50,000 (new)	Private schools not included in activities

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
			Current education system (not local)
Provide information on the Marine Resources and Coastal Management Plan, and other stewardship plans	- Number of awareness activities conducted per year - Number of people engaged in awareness activities per year	\$25,000–\$50,000 (new)	- Manpower - Capacity and funding
Establish a calendar of environmental events to be rolled out on an annual basis	- Calendar produced and distributed annually - Number of events implemented as scheduled per year	\$25,000–\$50,000 (new)	- Development and production funding - Capacity and funding to hold events
Introduce secondary level students to the Yap BSAP, and link biodiversity with sustainable development	- Percentage of secondary schools incorporating BSAP content into curricula during the BSAP lifecycle - Data demonstrating student understanding of biodiversity–sustainable development linkages per year	>\$100,000 (new)	- Prioritization - Teaching time - Curriculum development capacity
Support holistic information flow to communities, addressing gaps in understanding between communities and high-level discussion and decisions, including establishing a process for regular communication with the Councils of Pilung and Tamol	- Communications strategy developed and implemented during the BSAP lifecycle - Number of community awareness events held per year - Number of participants in awareness events per year	\$25,000–\$50,000 (new)	- Community engagement - Leadership engagement
Revive and resource the Local Marine Areas Network (LMAN) consisting of representatives appointed by the Councils of Pilung and Tamol, and provide the LMAN with information on opportunities for projects and other training to support their communities	- Number of LMAN meetings held per year - Number of actions undertaken under the LMAN per year - Number of training opportunities provided to LMAN members per year - Number of LMAN members partaking in at least one training session per year	\$50,000–\$100,000 (new)	Engagement

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Utilize the existing government news brief service and website to disseminate environmental news and information	• Number and frequency of environmental updates published per year • Monthly website analytics	\$5,000–\$25,000 (new)	• Consistency of delivery • Verification of information
Define research needs and integrate these under a Coordinated Project Review Process (CPRP)	• Research needs list developed and approved by relevant authorities during the BSAP lifecycle • Number of research proposals reviewed under the CPRP process	\$25,000–\$50,000 (new)	• Technical expertise
Establish a biodiversity research permit and tracking system as part of the Coordinated Project Review Process, and strengthen coordination with the National Government and the Environmental Stewardship Consortium to enable State enforcement and ensure biodiversity research contributes to ecologically sustainable development	• Biodiversity research permit and tracking system operational and managed by state authorities during the BSAP lifecycle • Number of permit applications coming down from National Government per year • Number of research permits issued, tracked, and closed each year, with submission of findings	\$25,000–\$50,000 (new)	• Coordination • Political will
Develop and implement a system for providing opportunities for members of the Environmental Stewardship Consortium and other Yapese citizens to be employed as apprentices and associates to visiting scientists, to help develop local capacity and inform the public of the nature of ongoing research and its relevance to life on Yap	• Number of apprentices or associates placed with visiting research teams per year • Number of post-project public briefings or community presentations conducted by local project participants	\$25,000–\$50,000 (new)	• Awareness • Political will
Identify students interested in natural resource fields and assist them where possible in obtaining scholarships, track their progress and provide opportunities for internships on Yap during their studies, and assist them in finding employment upon completion of their education	• Number of students supported through scholarships, internships, or placement programs per year • Percentage of returning graduates employed in natural resource–related roles in Yap per year	\$25,000–\$50,000 (new)	• Staffing limitations • Capacity to track students
Establish a program of on-the-job training for those involved in natural resource management	• Number of people entering and completing the program • Number of employers participating in the program • Number of on-the-job training sessions conducted	\$50,000–\$100,000 (new)	• Coordination between organizations • Awareness • Engagement • Funding

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	Number of participants completing training and applying acquired skills within state or community programs		
Increase the number of professional natural resource stewards	- Number of professional natural resource steward positions filled in-state per year - Number of graduates/certified trainees placed into steward roles per year	\$25,000–\$50,000 (new)	Limited career pathways

Objective 7. Stewardship Programs and Environmentally Sustainable Industries

Progress to date

Progress under Objective 7 has been mixed, with advances in stewardship planning, protected area management, and community-led conservation, alongside slower progress in enforcement, data systems, and implementation of some land and marine management tools.

The State-Wide Fisheries Management Plan is in development but is behind schedule. Species protection measures, including fishing closures, size limits, and closed seasons, are in place, and many community marine protected area management plans exist. However, enforcement of export controls for in-shore and near-shore marine resources remains weak, with no comprehensive system in place at ports or airports.

Institutional arrangements for marine stewardship have seen some progress. Assessments of enforcement arrangements have been conducted, and review processes for new commercial marine industries are in place through state investment screening. The Environmental Stewardship Consortium provides a platform for coordination and information sharing. Land stewardship progress has been uneven. Ridge-to-reef connectivity has been incorporated into planning, land-use identification has advanced using existing data, and traditional land-use practices continue to guide management. However, development of formal terrestrial management areas, enforcement through a Coordinated Project Review Process, and implementation of land stewardship guidelines remain limited. Watershed outreach activities emphasize traditional management and stream maintenance, while GIS capacity exists but is constrained by staffing and limited use of available technology.

Critical areas for protection are increasingly addressed through community-led stewardship planning, with terrestrial and marine areas of biological significance now incorporated into the Protected Area Network. Efforts to increase the number of professional natural resource stewards show some progress through community, cultural, and education initiatives but remain insufficient. Emerging work on environmentally sustainable industries, including water management and carbon-related initiatives, has begun but lacks coordination and adequate support.

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Complete and implement the Marine Resources and Coastal Management Plan (MRCMP)	Plans developed during the BSAP lifecycle	>\$100,000 (new)	- Staff turnover - Logistical and implementation costs - Limited technical capacity
Establish and implement programs that regulate fishing seasons, designate fishing zones and protected areas, especially to protect routes of spawning aggregations and sites of spawning, set species specific lower and upper size restrictions and minimize the use of small nets	- New Marine Spatial Planning Law in place during the BSAP lifecycle - Fisheries database in place during the BSAP lifecycle - Fish Aggregating Devices (FADs) in place during the BSAP lifecycle - Align with PAN Regulation	>\$100,000 (new)	- Technical expertise regarding FADs - Enforcement - Political will
Collect catch and export data with relevant legislation passed to control the export of in-shore and near-shore marine resources	Budget allocated by Government or other sources during the BSAP lifecycle	\$25,000–\$50,000 (new)	- Political will - Enforcement

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
	- System in place to track catches and exports during the BSAP lifecycle - Legislation endorsed during BSAP lifecycle - Centralized database server for commercial data established during the BSAP lifecycle		Funding
Environmental Stewardship Consortium to assess all new commercial industry ventures to ensure they are sustainable and viable, utilizing the precautionary approach	- Environmental Stewardship Consortium is formalized to function as a State-level technical committee during the BSAP lifecycle - Environmental Stewardship Consortium Strategic Action Plan is endorsed during the BSAP lifecycle - Number of new commercial ventures assessed and outcome recorded per year	\$25,000–\$50,000 (new)	- Leadership engagement - Political will
Continue to support activities at the community level that connect land and marine areas	- Number of engagements with communities per year - Number communities engaged per year - Number of newly managed areas per year	\$50,000–\$100,000 (new)	- Political will - Lack of interagency collaboration
Develop minimum resource management criteria for communities to reach to receive MC Endowment funding for activities and to ensure existing guidelines are followed	Minimum criteria developed and implemented during the BSAP lifecycle	\$50,000–\$100,000 (new)	Identification of leads within State Government and traditional leadership
Define the best uses for different categories of land on Yap, including watersheds, and establish a program to assist landowners to utilize their lands in the best way, ensuring they are meeting the minimum resource management criteria	- Land-use ‘best use’ categorization completed and endorsed during the BSAP lifecycle - Number of landowners receiving technical support for sustainable land use	>\$100,000 (new)	- Technical capacity - Consistent funding and technical expertise
Ensure earthmoving regulations are adhered to and projects are assessed under the Coordinated Project Review Process (CPRP)	- Proportion of projects reviewed under the CPRP process per year - Number of enforcement or compliance checks conducted annually	\$5,000–\$25,000 (new)	- Political will - Coordination

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Provide information and guidance regarding agriculture, agroforestry, recommended species for planting, including fruit tree species, tree farming and management of native forests to communities in response to community needs and to support development of village and municipal plans	• Agriculture and agroforestry guidance developed during the BSAP lifecycle • Number of communities engaged in information sharing per year • Number of village or municipal plans referencing the guidance per year	\$50,000–\$100,000 (existing)	• Community engagement • Follow-through following engagement • Limited funding
Identify sources of technical expertise to support the maintenance of the geographic information system (GIS)	• Numbers of individuals trained per year • Maps for all GIS layers produced during the BSAP lifecycle	\$50,000–\$100,000 (new)	• Technical capacity • Staff turnover • Limited funding and technical capacity
Continue to protect species, communities, processes and systems that are unique to Yap or critical to the functioning of Yap's ecosystems	• Number of species and ecosystems mapped and legally designated for protection during the BSAP lifecycle	–	• Enforcement capacity • Incomplete species data
Continue to survey terrestrial and marine Areas of Biological Significance (ABSs), and develop stewardship plans for these	• Surveys completed during the BSAP lifecycle • Number of stewardship plans developed during the BSAP lifecycle	>\$100,000 (new)	• Technical capacity
Continue to develop and support natural resource stewardship, including traditional stewardship practices, through engaging youth in specific education and educational programs	• New curriculum developed during the BSAP lifecycle • Materials produced in local languages during the BSAP lifecycle • Number of teachers trained per year • Number of youth engaging with educational activities per year	>\$100,000 (new)	• Political will • Department of Education engagement
Develop a technical assistance and incentive program to assist individuals, groups, and communities to undertake projects that simultaneously improve living conditions for people and other biodiversity	• Program document approved during the BSAP lifecycle • Number of projects supported per year	\$50,000–\$100,000 (new)	• Coordination • Sustained funding

Implementation Actions	Action-specific indicators	Estimated annual cost (and type)	Constraints
Assess feasibility of utilizing water funds as a possible source of income generation for sustainable water management, and undertake capacity assessment of untapped water lenses	• Feasibility consultation conducted by Water Authorities with consumers/users during the BSAP lifecycle • Water lens assessment conducted during the BSAP lifecycle	>\$100,000 (new)	• Technical expertise • Baseline data
Investigate prospects and qualifications for earning carbon credits and carbon marketing to support forest conservation, especially for mangroves	• Assessment undertaken during the BSAP lifecycle, and output published	>\$100,000 (new)	• Technical capacity • Availability of suitable consultants

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