



Ngchesar State Protected Area System Management Plan 2011 - 2015

Prepared by the nine-member Ngchesar State Conservation Management Action Plan Team with assistance from Palau Conservation Society.



Funding support provided by Critical Ecosystem Partnership Fund and Sustainable Land Management Project Office of PALARIS





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What this plan covers

Ngchesar Protected Area System
Management Plan
2011- 2015



This plan was developed by the Ngchesar State Conservation Management Action Plan Team with assistance from the Palau Conservation Society.

Quick Peek at the Plan



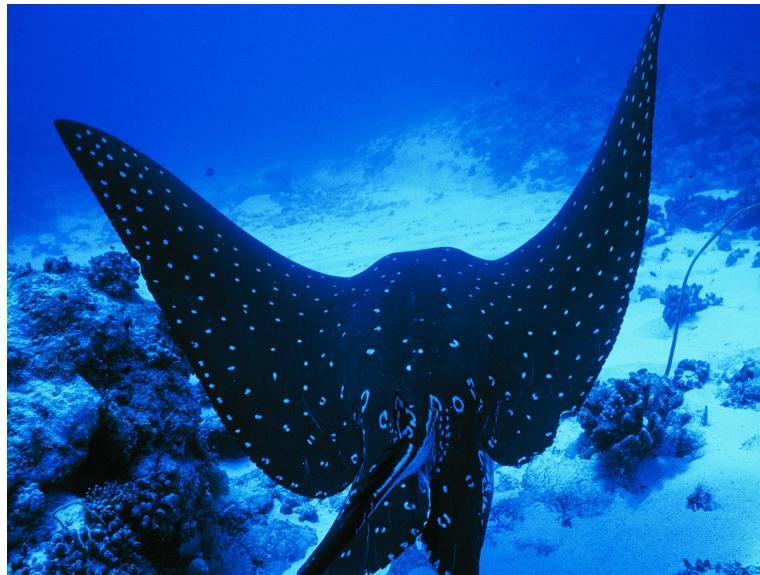
CRITICAL ECOSYSTEM PARTNERSHIP FUND



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Why manage these sites?

The Ngchesar State Protected Area System (NSPAS) consists of two conservation areas. These are the Mesekelat Conservation Area a terrestrial protected area and the Ngelukes Conservation Area a marine protected area. These two sites were selected to become a part of the NSPAS because of their abundant and diverse biodiversity, critical ecological processes and the benefits they provide to the people of Ngchesar.



Spotted Eagle ray (Ochaeu)
Photo courtesy Kevin Davidson

Quick Peek at the Plan



NGCHESAR

What we want:

Our Vision

We, the people of Ngchesar desire to protect and conserve Ngelukes and Mesekelat and Ngchesar in its entirety to ensure that these natural assets are sustained for the benefit of the people of Ngchesar today and into the future.

Our goals

Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002.

Goal 2: By 2020 Mesekelat protected area is healthy and its critical streams continue to provide clean water to the people of Ngchesar State.



Goal 3: By 2020, revenues generated from economic opportunities in Mesekelat and Ngelukes are increased by 10% (based on 2010 figures)

Quick Peek at the Plan



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Who is in charge?

This management plan calls for the creation of a Ngchesar State Protected Area System (NSPAS) department within the state government. This department headed by the Governor will implement activities to ensure the continued health of Ngchesar's conservation sites.

People of Ngchesar

Stewards of Ngchesar's resources including those in the NSPAS

Governor

Oversee the management of the NSPAS

NSPAS Department

Mandated to implement the management plan as well as undertake other natural resource management issues.

NSPAS Coordinator

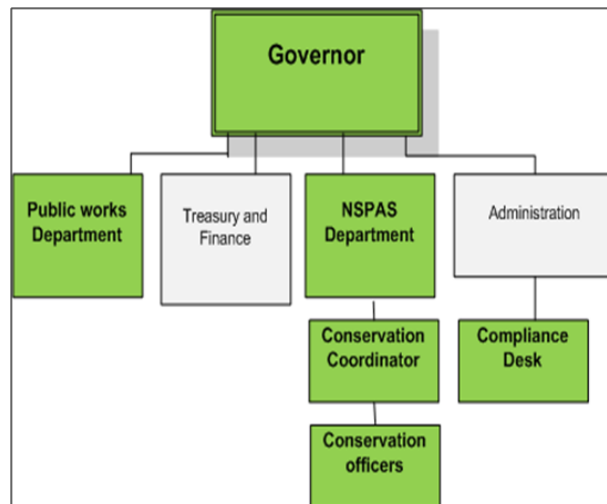
Oversee the day-to-day management activities of the NSPAS and to coordinate the activities of the various departments that are necessary to ensure proper implementation of management efforts according to the plan

Conservation Officer

Implement activities to achieve the objectives of the NSPAS management plan. Duties include surveillance and enforcement as well as education outreach.

Ngchesar Public Works Department

Implement environmentally sensitive infrastructure development that meets the needs of the people of Ngchesar without compromising the environment and resources that they also need.



Quick Peek at the Plan



What personnel are needed?

Management Personnel

Under this plan, three staff will be hired in Fiscal Year 2012

- NSPAS Coordinator
- Conservation Officers (2)

This plan also proposes to utilize the services of existing State personnel, including the

- State Attorney
- State Finance Officer
- The Public Works Department



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Zones:

Ngelukes and Mesekele Conservation Areas are zoned as no-take areas with controlled access. Allowable activities as specified in Ngchesar State Protected Area System Act:

- Enforcement;
- Research (via surveys);
- Monitoring (and Evaluation) Activities;
- Restoration of Natural Resources

Mesekele buffer zone:

This zone is technically outside the protected it is a ridgeline that acts as the southern boundary of the conservation area. This buffer zone is being targeted as a potential nature hiking trail that can be developed by businesses engaged in the eco-tourism industry.

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Activities in NSPAS:

Allowable Activities

Allowable activities as specified in Ngchesar State Protected Area System Act:

- Enforcement;
- Research (via surveys);
- Monitoring (and Evaluation) Activities;
- Restoration of Natural Resources;

Allowable activities requiring a permit issued by the office of the Governor:

- Educational and Awareness Activities in the Mesekelat buffer zone
- Compatible Tourism in the Mesekelat buffer zone
- Special Entry for Emergency response (such as fire fighting and or rescue efforts)

Restricted activities

With the exception of the specific allowable activities proposed above, all other activities within Mesekelat Conservation Area are prohibited.

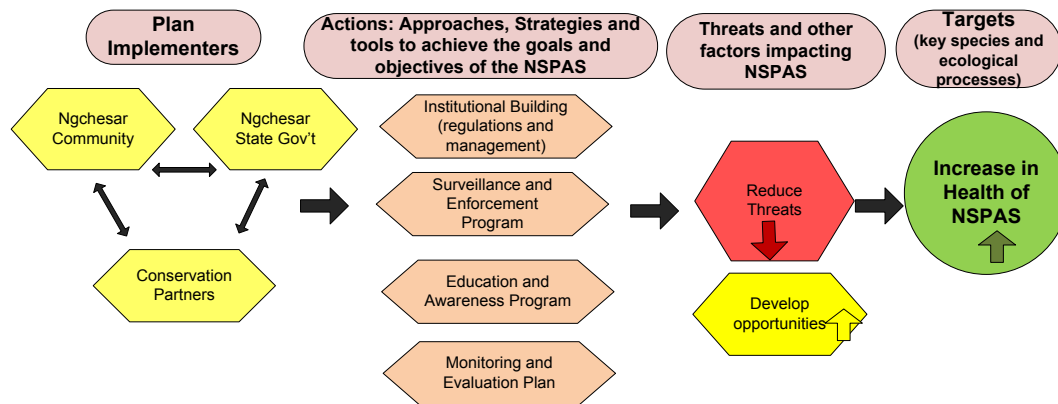
A permit system will be developed in the first year

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What work needs to happen?



Short Term Actions (year 1-2)	Medium Term Actions(year 3-5)	Longer Term Actions
Adopt Management Plan Access sustainable financing support from PAN Create NSPAS Program Hire NSPAS Coordinator and Conservation Officers Establish Outreach and Education Program Establish Sediment Management Program Establish Surveillance and Enforcement Program Establish training Program for staff Establish Monitoring and Evaluation Program	Expand NSPAS program into NSPAS Department Ongoing outreach Ongoing Surveillance and Enforcement Program Ongoing Sediment Management Program Establish a Compliance as part of Ongoing Monitoring and Evaluation Program	Integrate this plan with a state Master and Land Use Plan Use this plan to inform the development of a State Economic Development Plan Pave Ngchesar's roads

Quick Peek at the Plan



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Costs and funding

It will cost \$114,195 to implement all activities in the first year. Recurring costs over the five years are estimated at \$76,395 per year. One-time costs will vary per year depending on the activities.

A sustainable financing plan calls for funding by the Palau PAN during the first year, with additional funding following years. As activities are implemented, the Conservation Area will begin to generate its own revenues through ecotourism fees, fines associated with enforcement, and through grants or other fundraising efforts.

Budget Category	Amount	Total
Personnel	30,000	30,000
Activities Cost Items		
Major Equipment (truck and boat)	34,000	34,000
Office Equipment and Office Supplies	4,800	4,800
Surveillance and Enforcement		
Fuel, maintenance and supplies	12,500	12,500
Surveillance field equipment	4,000	4,000
Education and Outreach		
Production of education/awareness materials/meetings	9,000	9,000
Capacity Building		
Training (on and off island)	5,000	5,000
Subtotal		99,300
	Administration (15%)	14,895
Total		114,195.00

Quick Peek at the Plan

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Foreward

Ngchesar's coastal resources are at risk. Invasive plant species such as the kebeas are spreading throughout the interior of the state along the Palau Compact Road. The Ngerdorch River is filling in and becoming shallower most especially around the Shimizu river valley. Some of our smaller streams such as those found in the villages of Ngerkesou and Ngerwikl have decreased in size to mere trickles and in some cases have disappeared altogether. The swamp in the mangroves in front of our villages has hardened so that the women who collect ngduul are finding it harder than ever to earn a living. And most dramatic of all is the decline of our coral reefs and fishing grounds. Soil erosion resulting in run off entering the Shimizu and Mesekelat rivers has led to increased sedimentation along our coastline. From Uedangel in the South to Ngeresar in the north once productive ecosystems and habitats show signs of degradation and are losing much of their fisheries productivity.



And yet there is much that is still thriving here in Ngchesar. According to Costion in his Babeldaob Forest Survey conducted in 2005 to 2006 “Ngchesar is the richest area of Babeldaob in endemic species” and because most of these rare tree species are found in the Mesekelat Conservation Area we can be assured that Ngchesar will maintain this biodiversity into the future. The quality and quantity of the water in the Mesekelat Conservation Area continues to meet the needs of our communities today with sufficient reserves and quality to meet our growing needs. And from the Shimizu river valley to the fishing grounds at Bkul a Such farmers and fishers are finding that despite the degradation these resources continue to provide the goods and services that sustain us; if we take care of them.

Fortunately, the Ngchesar State Protected Area Act of 2002 which calls for the creation of the Ngchesar State Protected Area System provides an opportunity for us to maintain or rehabilitate many of these valuable resources. The goal of the Ngchesar State Protected Area System (NSPAS) is to ensure that Ngchesar's coastal resources are healthy so that they can continue to benefit the people of Ngchesar. This management plan details goals, objectives and strategies that will enable us to effectively steward our natural resources. Its implementation will ensure that Ngchesar's resources will continue to sustain us today and into the future.

My sincerest appreciation goes out to the people of the State of Ngchesar who inspired and informed this plan; and to the Ngchesar State Conservation Management Action Planning Team whose hard work, dedication and unwavering support for our state made this plan possible. Appreciation and thanks is also extended to the Palau Conservation Society for facilitating and supporting the development of this plan.

Romana Anastacio
Governor, Ngchesar State



The Ngchesar State Protected Area Act of 2002 (NSPL No. 146) established Ngelukes and Mesekelat as part of the Ngchesar State Protected Area System in September 2002.

Pursuant to NSPL No. 146, Governor Romana Anastacio introduced Resolution No. 8-6-2 on May 31, 2010 to the 8th Ngchesar State Council to establish Ngchesar State Conservation Management Action Plan Team. The team was tasked with drafting a Management Plan for the conservation areas that are also registered as part of

the Republic of Palau's Protected Areas Network (PAN).

Resolution No. 8-6-2 was adopted on May 31, 2010. The appointed members were Verano Ngirkelau, McCarthy Kotaro, Robat Saburo, Kennedy Kotaro, Marleen Ngirametuker, Christa Eldebechel, Sudo Moses, Florencio Adelbai, Secundina Kentaro, and Siskind Adelbai who declined. The Ngchesar State Conservation Management Action Plan Team (Conservation Management Team) was organized with Marleen Ngirametuker as the Chairperson, Florencio Adelbai, Vice-Chairperson, and Christa Eldebechel, Secretary/Treasurer. This group consists of individuals who possess extensive traditional ecological knowledge of Ngchesar's environment, established community leadership experience, diverse professional backgrounds which made them uniquely suited to the task at hand.

The planning process included bi-weekly meetings with the Palau Conservation Society (PCS) who provided the technical expertise and support in the development of the Conservation Management Plan. In addition to the meetings with PCS, the Conservation Management Team held several meetings to review the referenced materials related to the development of the management plan. Many of these meetings were dedicated to the formulation of the vision, goals, objectives, and tasks. The team also met with the Ngchesar State leadership, Ngchesar State Public Work employees, and the members of the community to provide update and solicit feedback on the plan before its finalization. In all, over twenty meetings were dedicated to the development of the plan.

With support from PCS, the Conservation Management Team members were able to engage in a series of field trips to the following sites: Ngelukes, Water Dam, and Taki on July 29, 2010; Kayak trip on the Ngerdorch River (Euall to Jungle River Cruise) to collect samples for sedimentation baseline data; Mesekelat forest survey on October 20; and a field trip to identify areas of bare land/soils contributing to runoff in the rivers (November 12). These field trips were intended to familiarize, educate and build the team's capacity and knowledge of the Ngchesar State Protected Area System (NSPAS), and to learn its condition and the issues that affected its health

To effectively manage the Ngchesar State Protected Area System requires that we have access to funding and technical support. This plan is intended to guide our conservation efforts as well as provide the rationale for requesting of financial and technical support from PAN and other funding sources.

Marleen Ngirametuker, Chairman
Ngchesar Conservation Management Planning Team

1.0 Purpose of This Plan

The purpose of this Management Plan is to articulate the objectives of which the protected areas in the Ngchesar State Protected Area System (NSPAS) were designated and provide guidance on how the designated area and associated resources are to be managed. It has been developed with input from local stakeholders, as well as from scientific data and background information derived through literature search as well as field visits to conservation sites by the Ngchesar State Management Planning Team. This plan endorses the use of an ecosystem-based management approach that takes into consideration the involvement of partner agencies in the Palau National Government, Non Government Organizations and other relevant agencies. It is intended to serve as a “living” document and can be amended as the need requires.

1.1 Format of The plan

Section 1.0 identifies the purpose of the plan, responsibilities of the stakeholders and outlines the framework for the Management Plan. Section 2.0 provides description of the sites and reasons for designation, the regulations, and management zones. Section 3.0 outlines existing management framework of natural resource management in Ngchesar State. Section 4.0 outlines the management approach for resource management in this network of activities within the MPA and the conservation objectives. Section 5.0 addresses public education and awareness respectively. Section 6.0 focuses on enforcement and compliance issues within the NSPAS. Section 7.0 details the monitoring of the ecological condition of the sites within the NSPAS to assess effectiveness of the management actions and plans for follow-up. Section 8.0 details the budget for the activities undertaken in this management plan. Background information of Ngchesar State, more detailed site description, maps and a detailed first year work plan to achieve the objectives of the NSPAS are contained in the appendix of this plan.

1.3 Roles and Responsibilities of Implementing Stakeholders

The implementation of this management plan will require the coordinated efforts of departments within the Ngchesar State Government as well as institutions and organizations external to the state government. A coordinator based at the state government and under the direction and authority of the Governor will coordinate all efforts required to attain the objectives of this plan. The following is a brief description of key implementing stakeholders in this plan.

Stakeholder	Role	Responsibilities
The People of Ngchesar	Stewards of Ngchesar’s natural resources	<ul style="list-style-type: none">To care for and sustainably use Ngchesar’s natural resources so that future generations have access to these same resources

Governor	To oversee the management of the NSPAS according to the plan.	<ul style="list-style-type: none"> • Design and Implement Permit System • Collect fees • Hire and supervise the Conservation Coordinator • Provide an annual report on the status of NSPAS to the Ngchesar State Council
NSPAS Coordinator	To oversee the day-to-day management activities of the NSPAS and to coordinate the activities of the various departments that are necessary to ensure proper implementation of management efforts according to the plan	<ul style="list-style-type: none"> • Responsible for overall management of the NSPAS • Coordinate all activities in the conservation area • Manage conservation officers • Prepare required reports of the sites and program • Coordinate and implement awareness and education program, including dissemination materials and information
Conservation Officers	Perform and report daily management tasks within the area to ensure proper implementation of management efforts according to the plan.	<ul style="list-style-type: none"> • Undertake and execute site management activities • Conduct surveillance and law enforcement activities • Conduct awareness activities • Maintain daily journal of activities and events • Operate and maintain equipment and property (such as boats, engines, radios, buoys, signs, etc.)
Ngchesar Public Works Department	Implement an environmentally sensitive road maintenance program in Ngchesar State.	<ul style="list-style-type: none"> • Develop and implement an Environmentally Sensitive Road Maintenance Program. • Integrate EQPB's storm water management best practices into the environmentally sensitive road maintenance program.
Ngchesar Water Treatment Department	Protect water quality and ensure that Ngchesar State's drinking water supply is maintained.	<ul style="list-style-type: none"> • Operate and maintain the dam in the Mesekelat Conservation Area • Maintain streams above dam to ensure free flowing water • Monitor water quality at the dam and at the Ngchesar Water Treatment plant
Ngchesar Compliance Desk officer	Implement NSPAS regulatory framework	<ul style="list-style-type: none"> • Manage building permit application. <ul style="list-style-type: none"> a. Dispense application b. Ensure application is filled c. Receive application d. Process application

		<ul style="list-style-type: none"> e. Create application form • Site inspections • Develop and implement Fee/fine process
Ngchesar school teachers and elementary students	Enhance public awareness of the importance and the rules and regulations that govern the Ngchesar State Protected Area System	<ul style="list-style-type: none"> • Assist in developing educational and outreach materials for NSPAS • Integrate NSPAS outreach material into the class rooms attended by Ngchesar elementary school students.

2.0 Ngchesar State Protected Area System (NSPAS)

The Ngchesar State Protected Area System (NSPAS) consists of two conservation areas. These are the Mesekelat Conservation Area a terrestrial protected area and the Ngelukes Conservation Area a marine protected area. These two areas were selected to become a part of the NSPAS because of their abundant and diverse biodiversity, critical ecological processes and the benefits they provide to the people of Ngchesar.

2.1 Site Description Mesekelat Protected Area

The Mesekelat Conservation Area boundary extends from Mesekelat Taki which is the site of the Ngchesar water supply dam to Ollumel er a Rechieb to Ngerdelungch and back to Mesekelat Taki. A ridgeline following a West to East alignment borders the Mesekelat Conservation Area. This ridge line was once part of a road and electric power grid system constructed by the Japanese when they administered the Palau Islands. Ceramic cones that once held electrical lines can still be found embedded in trees along the ridge line. For the most part this ridge is located outside the protected area except for a small section around the midpoint mark of the ridge which is located within the confines of the protected area.

The Mesekelat Conservation Area consists of upland and riparian forests. The area is characterized by steep forested slopes and numerous streams. These forested slopes are predominantly old growth ridge forests where the dominant tree species is the udeuid, *Manikara udoido* tree. The streams are mostly fast flowing and shallow.

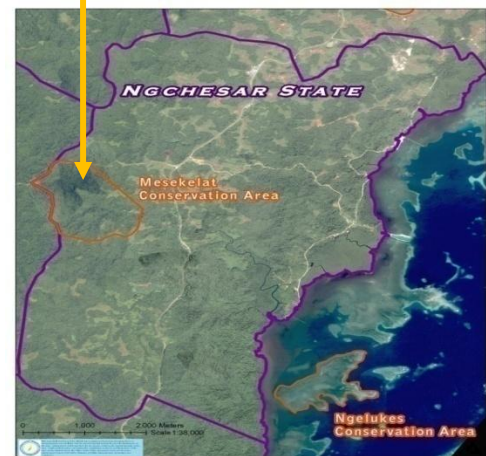


Mesekekat Protected Area

Importance to Ngchesar

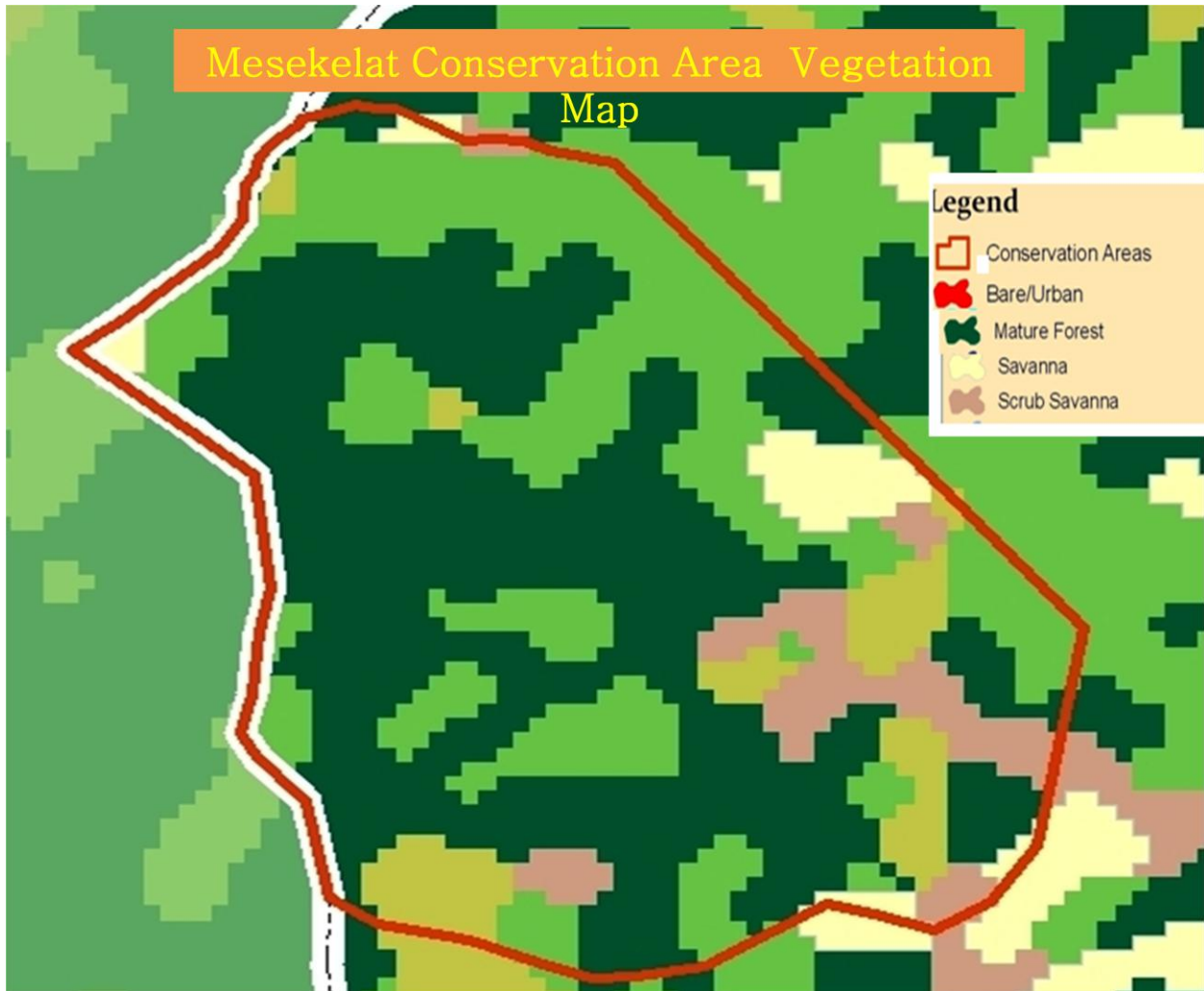
Mesekekat Conservation Area contains the source of Ngchesar State's piped water supply. The quality and quantity of this water source is sufficient to meet Ngchesar's current and projected water needs. As such its continued health is critical to the interests of the State. Additionally, there is potential for this conservation area to generate revenue for the state. The Conservation Management Team believes that with proper marketing, a viable spring water bottling operation utilizing water from this source can be successful. The management planning team recommends that when Ngchesar engages in a larger land use planning process, one of the objectives of this process ensure that frameworks are in place to enable operations of this nature to be realized.

Ngchesar is the richest area in Babeldaob of endemic tree species and most of these are found in the Mesekekat



Ngchesar Map

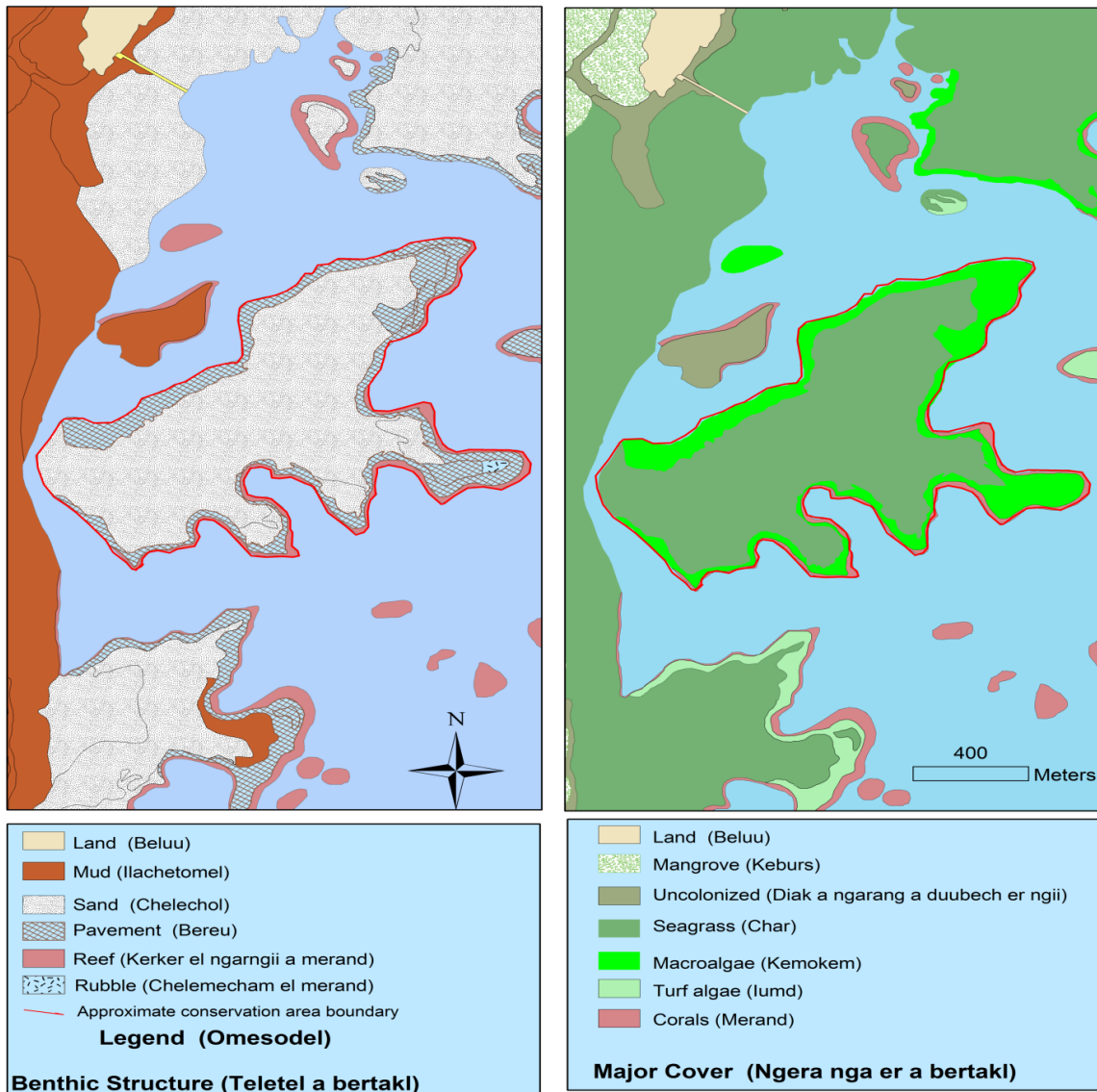
watershed and the Mesekekat Conservation Area which is located in this watershed. As a sanctuary of numerous endemic plant species, Mesekekat Conservation Area ensures that Ngchesar State's natural resources and history is conserved.



Ngelukes Conservation Area

Ngelukes Conservation Area is a 1km patch reef in front of Ngersuul village. Ngelukes's substrate is mostly sand and rubble. Its interior is characterized by sea grass beds. Most of the corals in this patch reef are found along its outer edges along with macroalgae covered rubble. It is a shallow reef however at its edge there are depths that reach 20 feet at maximum high tide. Numerous fish species can be found in Ngelukes, however it is known locally as a site for aggregations of meas (*Siganus argenteus*) and kelsebuul (*Siganus lineatus*). Invertebrates such as ngimes (*Stichopus hermanni*), cheremrum

Ngelukes Conservation Area



Benthic habitat map: NOAA/NCOS/NCCOS/CCMA/ Biogeography Team; Printing: Funding from Government of Spain; Compiled by Palau International Coral Reef Center

Source: Palau International Coral Reef Center

(*Actinopyga miliaris*) and ibuchel (*Tripneustes gratilla*) are plentiful in this reef. Ngelukes is also a well known habitat for two species of turtles the melob (*Chelonia mdyas*) and the ngasech (*Eretmochelys imbricata*). Additionally, *Acropora pichoni*, a rare coral species has been found in Ngelukes and nowhere else in Palau.

Importance to Ngchesar

The people of Ngchesar believe that the closure of Ngelukes has resulted in a spillover of fish and invertebrates to the adjacent reefs so that community fishers and gleaners have benefited from this closure. There is some evidence to this claim. For the past several years the Ngelukes Conservation Area has been the site of monitoring activities by the Palau International Coral Reef Center

(PICRC). Results show that Ngelukes has a higher sea cucumber density than adjacent reefs which are a control site. Restricting access has led to a decrease in fishing pressure on the populations of invertebrate species which has allowed them to recover. Because of this Ngelukes ensures that Ngchesar’s fisheries is viable and can support the communities who depend upon them.

2.3 NSPAS Situational Analysis (Targets and Threats)

This plan focuses on the conservation of endemic and native trees, birds and the protection of a network of streams that constitute Ngchesar State’s piped water supply in Mesekelat forest, as well as socio-economically valuable fish and invertebrate species through the management of Ngelukes patch reef. Priority targets are listed in the following tables.

Priority Targets for Mesekelat Conservation Area

Target	Name/Scientific Name	Biological/Ecological/Social Importance
Streams	Mesekelat Taki	Water source for Ngchesar State
Trees	<ul style="list-style-type: none"> • Btaches, <i>Calophyllum inophyllum</i> var. <i>wakamatsui</i> • Udeuid, <i>Manikara udoido</i> • Chelsau, <i>Trichospermum ledermanii</i> • Chersachel, <i>Horsfeldia palauensis</i> • Blacheos, <i>Gmelina palauensis</i> 	This list, comprise trees that are endemic to Palau as well as rare native trees.
Birds	<ul style="list-style-type: none"> • Biib, <i>Pilinopus pelewensis</i> • Chieb (Belochel), <i>Ducula oceanica</i> • Wuul, <i>Cettia annae</i> • Chermelachull, <i>Myiagra erthyrops</i> 	The birds on this list are endemic to Palau. The belochel is a globally near threatened species.
Fruit Bat	<ul style="list-style-type: none"> • Olik, <i>Ptopus pelewensis</i> 	This is an endemic fruit bat that is regularly hunted for subsistence as well as for commercial purposes.

Priority Targets for Ngelukes Conservation Area

Target	Name/Scientific Name	Biological/Ecological/Social Importance
Fish	<ul style="list-style-type: none"> • Kedesau, <i>Lutjanus bohar</i> • Keremlal, <i>Lutjanus gibbus</i> • Tiau, <i>Plectropomus spp</i> • Kelsebuul, <i>Siganus lineatus</i> • Meyas, <i>Siganus argenteus</i> • Bikl, <i>Plectorhincus obscurus</i> 	These species are valuable food fish species. These fish species have been identified as some of the fishes that fishers specifically target.

	<ul style="list-style-type: none"> • Oruidel, <i>Caranx melampygus</i> 	
Invertebrates	<ul style="list-style-type: none"> • Ngimes, <i>Stichopus hermanni</i> • Cheremrum, <i>Actinopyga miliaris</i> • Irimd, • Ibuchel, <i>Triptneustes gratilla</i> 	These invertebrates are routinely harvested for subsistence use as well as for sale in the local food markets in Ngchesar and in Koror. A significant number of women in Ngchesar glean and process invertebrates such as these sea cucumber species as part of their livelihood activities.
Turtles	<ul style="list-style-type: none"> • Melob, <i>Chelonia mydas</i> • Ngasech, <i>Eretmochelys imbricata</i> 	The melob is a globally threatened species and the ngasech is a globally critically threatened species.
corals	<ul style="list-style-type: none"> • <i>Acropora pichoni</i> (no Palauan name) 	This is a rare coral species only found in Ngelukes and nowhere else in Palau

Threats to the Targets

The NSPAS like other protected areas in Palau is vulnerable to a wide range of threats most of which are human induced. A threat is defined as any human activity or related process that has a negative impact on key biodiversity features, ecological processes or cultural assets within protected areas. Two threat assessments informed this plan. The first was a community wide assessment conducted as part of the Ngchesar State Conservation Action Plan development facilitated by the Nature Conservancy Palau Field Office. The second threat assessment was conducted by the Ngchesar State Conservation Planning Team with a specific focus on the NSPAS sites. Prioritization of threats was based on their overall contribution to the loss of biodiversity and/or disruption of ecological processes.

The threats as confirmed by all stakeholders are:

1. Inappropriate Development Practices (*resulting in sedimentation of rivers and reefs*)
 - a) Poor road construction and maintenance practices
 - b) Poor site management practices during construction (houses and other structures)
 - c) Lack of state development control processes (building permits etc.)
2. Inappropriate agriculture practices (*resulting in sedimentation of rivers and reefs*)
3. Illegal fishing and harvesting within the sites (*resulting in decline in key species*)
4. Inadequate Enforcement (*resulting in persistent illegal harvesting*)
 - a) Incomplete legal framework for management (lack of fee/fine structure)
 - b) Inadequate capacity (manpower, financial resources, transportation, equipment, inconsistent surveillance)



Threats 1 and 2 result in sediment entering the Ngerdorch River and eventually settling in the Ngelukes Conservation Area.

Threats 3 and 4 result in the degradation of the resource base, this leads to declines in the fisheries potential provided by Ngelukes and the refugia qualities provided by Mesekelat Conservation area.

3.0 Ngchesar State Protected Area System Management Authority

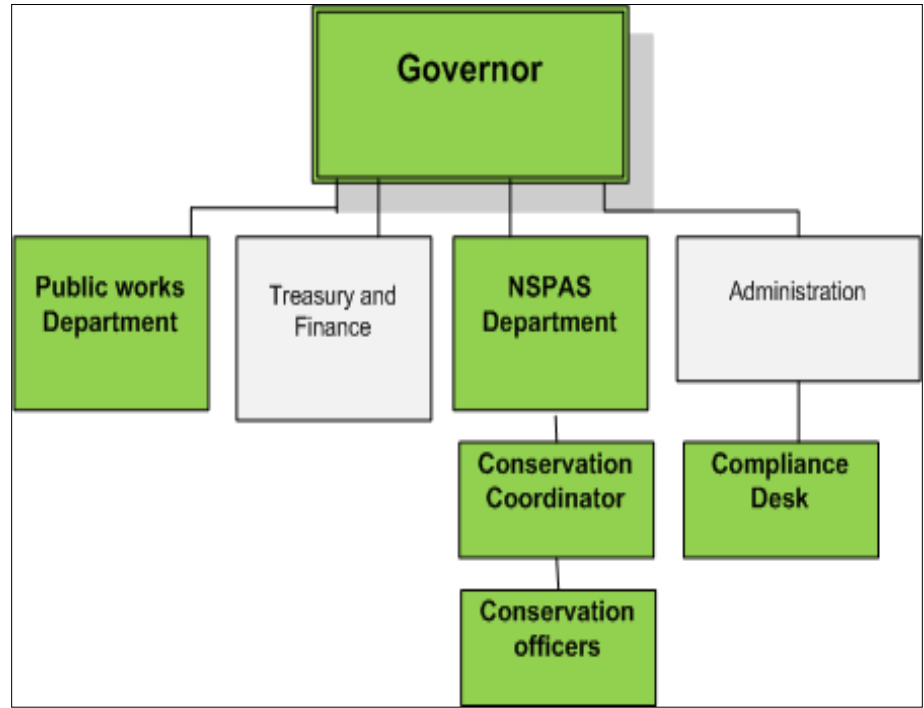
Ngchesar State Public Law (NSPL) No. 146 known as the Ngchesar State Protected Area Act authorizes responsibility for the management of all protected areas designated under this act to the office of the Governor. The Governor has the authority to promulgate regulations to further carry out the intent of this Act. NSPL No. 146 authorizes the creation of regulations for the achievement of specific management objectives for a given protected area, restrictions or condition on the entry into or use of any resources within a protected area, procedures for permitting such entry or use, fee requirements for such permitting, penalties to be imposed in addition to or instead of any set forth by statute, and any other prohibitions, rules or procedures needed to achieve the management objectives of a given protected area. Any fines and any permit fees collected pursuant to this Act shall be deposited in the Ngchesar State Treasury. NSPL No. 146 does not limit the role or authority of the traditional leader of Ngchesar to enact edicts similar to this Act, or to arbitrate disputes or assess penalties stemming from those edicts.

3.1 Legislative Conflicts

The strategies and resulting recommended actions will not result in any legislative conflicts with existing Ngchesar laws and regulations.

3.2 Recommended NSPAS Management Structure

Ngchesar State Public Law No. 146 confers management authority over the NSPAS to the Governor. The Governor is authorized to implement activities designed to achieve the objectives of the NSPAS. This management plan is intended to guide implementation of efforts to achieve these objectives. As such this plan recommends that a department be created to administer the Ngchesar State Protected Area System and implement actions called for in this plan. The NSPAS department will be head by a Conservation Coordinator who will be responsible for the daily operations of the department.



Conservation officers working under the direction of the Conservation Coordinator will implement the strategies outlined in this management plan. This management plan also recommends the creation of a compliance desk within the Ngchesar State Government to oversee the implementation of its regulatory components. Additionally this plan recommends that the NSPAS Department coordinate with the Public Works Department to implement activities that ensure conservation and transportation objectives as called for in this plan.

3.3 Management and Rules of the Mesekele Conservation Area.

IUCN Categories

The Mesekele Conservation Area is designated as a “no entry- no take” area. This designation aims to protect Ngchesar State’s water source as well as to conserve the rich biodiversity found in the upland and riparian forests that comprise the conservation area. The Mesekele Conservation Area falls under IUCN Category 1b *Wilderness Area, protected area is managed mainly for wilderness protection. Large area of unmodified or slightly modified land, and/or sea retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.*



This plan proposes that a ridge comprising the south western to south eastern boundary of the Conservation Area become a buffer zone. This area is a natural ridge line that crosses into several habitat types, from grasslands, to ridge forests to savannahs and finally riparian forest. As a buffer zone it would be a managed area with a limited use designation. The

buffer zone provides an ideal hiking trail with eco-tourism and educational potential. The proposed buffer zone is shaded in green on the figure above.

Allowable Activities

Allowable activities as specified in Ngchesar State Protected Area System Act:

- Enforcement;
- Research (via surveys);
- Monitoring (and Evaluation) Activities;
- Restoration of Natural Resources;

Allowable activities requiring a permit issued by the office of the Governor:

- Educational and Awareness Activities in the Mesekelat buffer zone
- Compatible Tourism in the Mesekelat buffer zone
- Special Entry for Emergency response (such as fire fighting and or rescue efforts).

Restricted activities

With the exception of the specific allowable activities proposed above, all other activities within Mesekelat Conservation Area are prohibited.

3. 4 Management and Rules at Ngelukes Conservation Area

Ngelukes Conservation Area is designated as a “no entry- no take” area. This designation is intended to remove fishing pressure on the patch reef so that it can maintain and increase its historical fisheries productivity. It is envisioned that increased productivity will result in a spillover effect to nearby reefs. This will benefit the communities who rely on nearby fishing grounds for their livelihood.

Ngelukes Conservation Area falls under IUCN Category IV Habitat/Species Management Area: *Protected Area managed mainly for conservation through management intervention. Area of land and/ or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats/ or to meet the requirements of specific species.*

Allowable Activities

The following allowable activities are specified in the Ngchesar State Protected Area System Act.

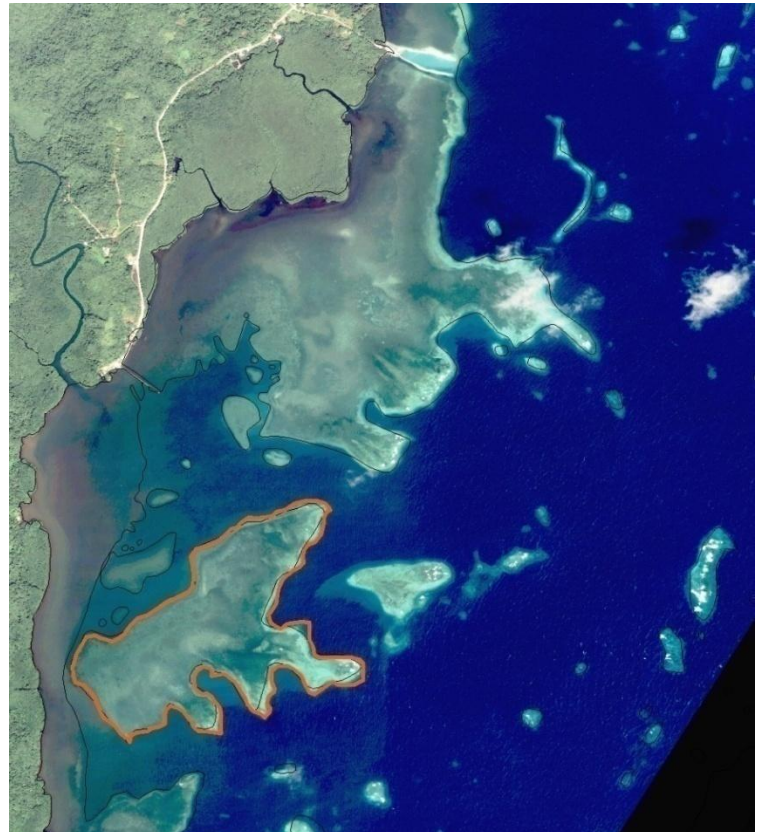
- Enforcement;
- Research (via surveys);
- Monitoring (and Evaluation) Activities;
- Emergency response;
- Innocent passage

The following are activities that are allowed with a permit issued by the office of the Governor:

- Educational and Awareness Activities in Ngelukes Conservation Area.

Restricted activities

With the exception of the specific allowable activities above, other activities within Ngelukes Conservation Area are strictly prohibited.



Ngelukes Conservation Area

4.0 NSPAS Plan Implementation

The goals, objectives and strategies of this Management Plan are designed to achieve the following vision for the NSPAS

Kemam a rechad ra Ngchesar a kmal somam el mengeluolu e mengereomel a dimla ngarngii el mekreos el dikesam el Ngelukes ma Mesekekat luldimumkl er a cherrengel a beluu er a Ngchesar, me bo el sebechel melemolem el oltekau a ungil el klengar er kemam er chelechang ma telecheroll el merael el mei.

This vision is translated as:

We, the people of Ngchesar desire to protect and conserve Ngelukes and Mesekekat and Ngchesar in its entirety to ensure that these natural assets are sustained for the benefit of the people of Ngchesar today and into the future.

4.1 Goals and Objectives of the NSPAS

The goals and objectives presented in this management plan are designed to ensure that the Ngchesar State Protected Area System is healthy and provide the goods and services upon which the communities in Ngchesar rely.

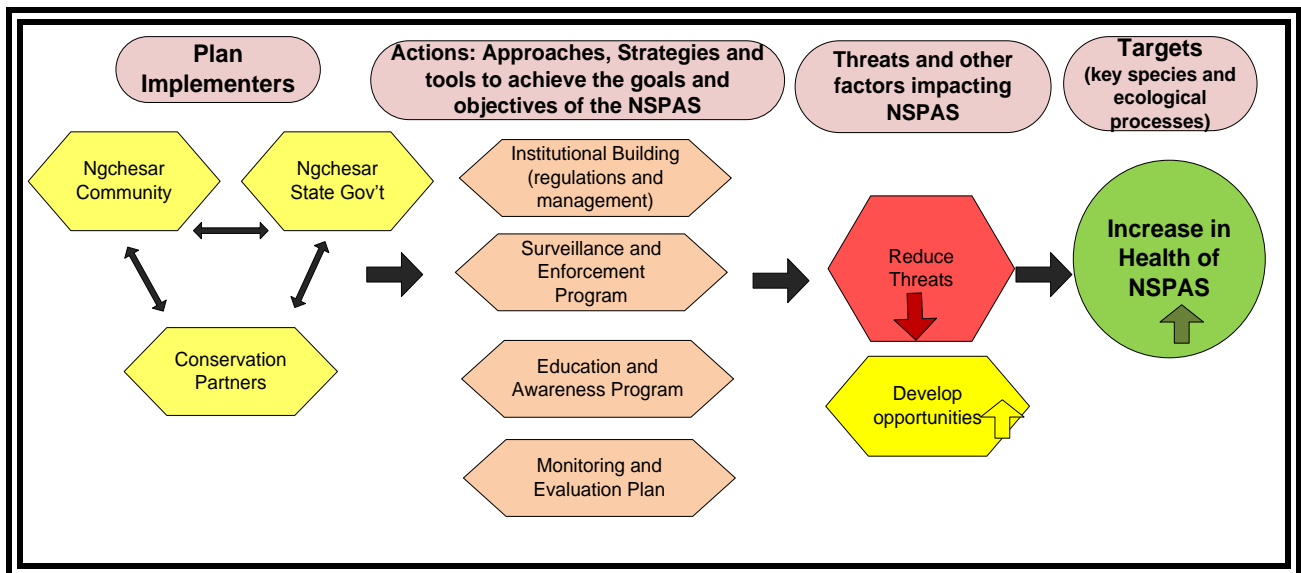
Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002.	
Objective 1	Ngelukes has clear water, and there is a decrease in sediment flowing into it.
Objective 2	Community members know and value the importance of Ngelukes and its resources.
Objective 3	Ability of Ngelukes to recover its “reef seeding” capabilities is enhanced
Goal 2: By 2020 Mesekekat protected area is healthy and its critical streams continue to provide clean water to the people of Ngchesar State.	
Objective 1	Community members know and value the importance of Mesekekat and its resources
Objective 2	Mesekekat buffer zone is established and managed
Objective 3	Critical streams that feed into the dam are identified and maintained
Goal 3: By 2020, Ngelukes and Mesekekat Conservation Areas will be generating annual revenues for Ngchesar State.	
Objective 1	Income generating activity in Mesekekat and Ngelukes is established and or strengthened

4.2 Implementation Roadmap

To achieve the goals and objectives of the Ngchesar State Protected Area System the NSPAS Department will need to coordinate its efforts with those of existing departments within the state government and collaborate with the Ngchesar community and environment and conservation agencies and organizations in Palau. This coordination and collaboration will include the use of a variety of approaches, strategies and tools to:

1. build the institutional capacity (develop a regulatory framework for conservation, expand scope of public works department and create new programs within the state government)of Ngchesar State Government to manage the Ngchesar State Protected Area System as well as regulate activities that impact the NSPAS;
2. develop a surveillance and enforcement program to oversee the NSPAS;
3. strengthen community stewardship of the Ngchesar State Protected Area System through education and outreach,
4. and implement regular monitoring of targets identified in this plan so that evaluation of programmatic interventions can be assessed and future actions determined so that management can be adaptive in nature.

Ngchesar mgmt. plan implementation chain



This implementation chain describes the partnerships and programs that when implemented will result in a decrease in threats to Ngelukes and Mesekelat conservation areas and/or enhance the health of these two conservation areas that make up the Ngchesar State Protected Area System.

4.3 Annual Work Plans

The actions identified in the implementation chain above will be further developed as a series of activities in annual work plans. These activities will focus on capacity and institutional building of Ngchesar State government, the development of surveillance and enforcement as well as monitoring and evaluation programs and plans, and the implementation of education and awareness campaigns to foster behavioral changes in support of the Ngchesar State Protected Area System. Annual work

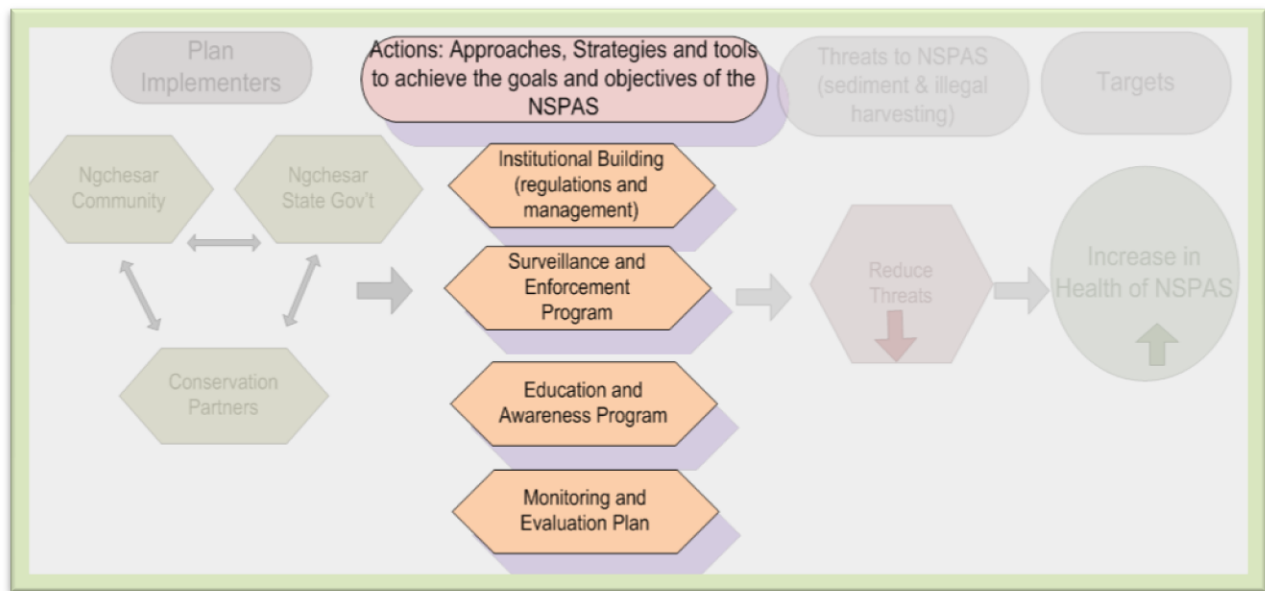
plans will also include an associated budget identifying funding amounts and sources for the activities.

4.4 Key Outcomes and Results called for in work plans

Achieving the goals and objectives of the NSPAS requires the existence of enabling conditions such as a regulatory framework within Ngchesar State government, shifts in certain land use practices such as road construction and maintenance as well as farming, and behavioral changes in existing resource use practices such as harvesting. Activities specified in annual work plans are designed to produce these conditions and as such are intended to result in:

- changes to the existing Ngchesar State organizational structure and management framework,
- changes to improve existing regulatory framework of land and resource management
- changes in management practices within the Ngchesar State public works department,
- changes in behavioral patterns in the community, and
- changes in the manner in which conservation partners engage with and implement biological assessments and monitoring in Ngchesar State.

These changes are actually key outcomes or results needed to transform the NSPAS from being a non managed system into an effectively managed one in which threats are decreased and the health of target species and systems is increased. Annual work plans will consist of activities aimed at achieving these changes or key outcomes within each of the four program areas highlighted in the diagram below.



Ngchesar mgmt. plan implementation chain

Outcomes or results chains describing the enabling conditions needed to reduce threats to the protected areas and improve the health of key targets of the NSPAS are presented in this management plan. They are intended to serve as a “road map” or course of action to inform the development of NSPAS annual work plans by determining which type of activities are needed and when to implement them.

Activities that will be implemented throughout the lifetime of this plan are aimed at achieving changes in community behavior, changes in the institutional structure and behavior in Ngchesar State government so that the desired changes in the condition of the resources that make up the Ngchesar State Protected Area System can occur. Activities will be implemented within the next five years, the lifetime of this management plan. However, because this plan is developed using an Ecosystem based management approach the various programs and processes arising out of this plan can be integrated into an Ngchesar Master and Land Use Plan when the State is ready to take on those larger planning processes.

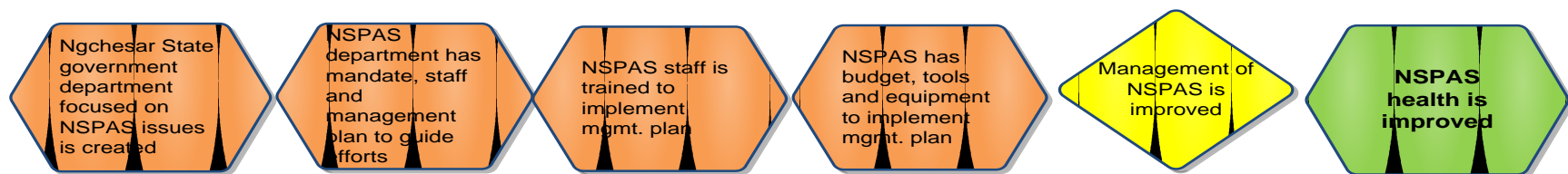
5.0 Building capacity and strengthening Ngchesar State Government institutions

Building the institutional capacity of Ngchesar State to effectively manage the NSPAS is a priority action and the success of the NSPAS is dependent on this particular outcome. This approach utilizes three strategies to ensure that the NSPAS is effectively managed. The strategies are as follows:

- Strategy 1: Create the Ngchesar State Protected Area System program and Department
- Strategy 2: Develop and implement an earth moving permit process and programs to guide land use activities in Ngchesar State to decrease erosion and sediment problems.
- Strategy 3: Develop and implement a sediment management plan to minimize the negative impacts of construction and maintenance of Ngchesar's road system.

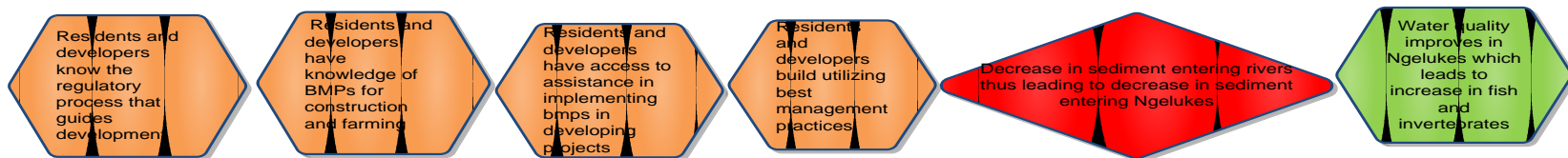
Optimize Opportunity to ensure that NSPAS is healthy			
NSPAS response: Strategy 1: Create the Ngchesar State Protected Area System Department			
All Goals specified in management plan	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
All objectives specified in management plan	<ol style="list-style-type: none"> 1. Create an NSPAS Program within the government organizational structure. <ol style="list-style-type: none"> a) Develop mandate for NSPAS program that includes implementation of this management plan b) Develop compliance desk to facilitate implementation of this plan 1. Recruit staff for NSPAS department (Conservation Coordinator and Officers) 2. Provide training for coordinator and officers to implement NSPAS <ol style="list-style-type: none"> a) Work with PCS, PICRC, PIMPAC to ensure that staff is trained. 3. Provide tools and equipment for conservation officers to implement the NSPAS 	<ol style="list-style-type: none"> 1. Elevate the NSPAS program into the NSPAS department 	<ol style="list-style-type: none"> 4. Integrate NSPAS department and compliance desk with the Ngchesar State Planning Commission/Office as specified in a Master and Land Use Plan.

Implementation of strategy 1 will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the institutional changes that will occur and the results of this strategy.



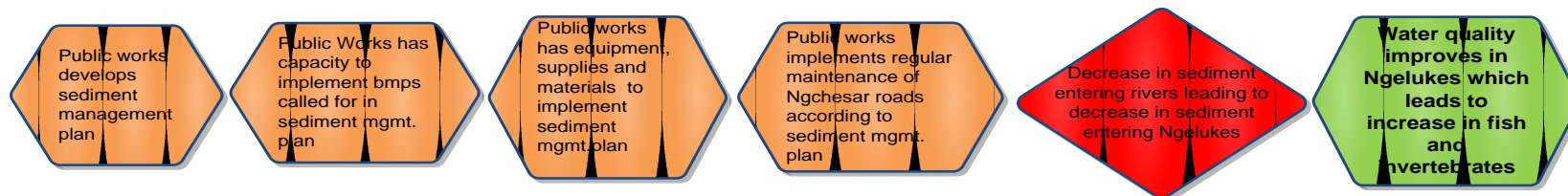
Threat to NSPAS: Inappropriate development practices contributing to sediment entering Ngelukes and associated reefs.			
NSPAS response: Strategy 2: Develop and implement an earth moving permit process and programs to guide land use activities in Ngchesar State.			
Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002.	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
	<ol style="list-style-type: none"> 1. Compile best management practices (BMPs) for storm water management, construction and other development activities. 2. Conduct outreach activities on these BMPs to community members and in particular to developers with existing construction projects 3. Compile BMPs on agriculture <ol style="list-style-type: none"> a) Collaborate with PCAA, PCC-CRE, EQPB to determine most effective BMPs for agriculture in Ngchesar State 4. Conduct outreach activities on agriculture BMPs with farmers and community members 	<ol style="list-style-type: none"> 1. Develop an earth moving permit program based on the EQPB framework to guide development <ol style="list-style-type: none"> a) Create a compliance desk to implement this program b) Develop standard operating procedures and associated forms to facilitate the implementation of this program c) Assign/recruit personnel for compliance desk position d) Assign personnel/conservation officers to enforce permit conditions 2. Ngchesar State develops regulations associated with permit process <ol style="list-style-type: none"> a) Retain legal expertise to assist in drafting regulations b) Develop fees and fines associated with permitting program 3. State implements outreach activities on: <ol style="list-style-type: none"> a. Best management practices for development projects and farming activities. b. Earth moving permit program and its benefits to community. 4. Ngchesar State implements earth moving Permit program 5. Ngchesar State enforces erosion and sediment control measures 	Integrate earth moving permit process and program into larger Master and Land Use Plans to guide land use in Ngchesar State.
Objective 1: Ngelukes has clear water, and there is a decrease in sediment flowing into it. Objective 3: Ability of Ngelukes to recover its “reef seeding” capabilities is enhanced			

Implementation of strategy 2 will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the social change that will occur and the results of this strategy.



Threats to NSPAS: Inappropriate Development Practices: Ngchesar has more than 8 miles of unpaved road that is currently in use. These unpaved roads are a leading contributor to sediment in the rivers and reefs of Ngchesar.			
NSPAS response: Strategy 3: Develop and implement a sediment management plan to minimize the impacts of construction and maintenance of Ngchesar’s road system.			
Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002.	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
	<ol style="list-style-type: none"> 1. Conduct assessment of Ngchesar roads, its condition and contribution to sediment problem. <ol style="list-style-type: none"> a) Identify and map road segments and other problem areas leading to runoff b) Identify and document best management practices to address problem areas (use Palau EQPB storm water management guidelines) c) Identify and document structural solutions such as maintaining a crown on road surfaces (use Palau EQPB storm water management guidelines) 2. Draft sediment management plan emphasizing environmentally sensitive road construction and maintenance procedures. 3. Train Ngchesar Public Works personnel on environmentally sensitive road maintenance procedures 4. Secure tools and equipment needed to conduct environmentally sensitive road maintenance 5. Implement annual road maintenance plans 	<ol style="list-style-type: none"> 1. Implement Sediment management plan 2. Schedule regular maintenance of road system 	<ol style="list-style-type: none"> 1. Secure funding and pave the roads in Ngchesar state.
Objective 1: Ngelukes has clear water, and there is a decrease in sediment flowing into it. Objective 3: Ability of Ngelukes to recover its “reef seeding” capabilities is enhanced			

Implementing strategy 3 will change the manner in which Ngchesar State public works department constructs and maintains the roads in the state. This change will lead to a decrease in sediment entering Ngelukes Conservation area and result in a healthier NSPAS.



6.0 Education and Awareness

This plan calls for the development of an education and awareness plan to produce the social change needed to enhance the health of the Ngchesar State Protected Area System. This approach calls for the implementation of two strategies:

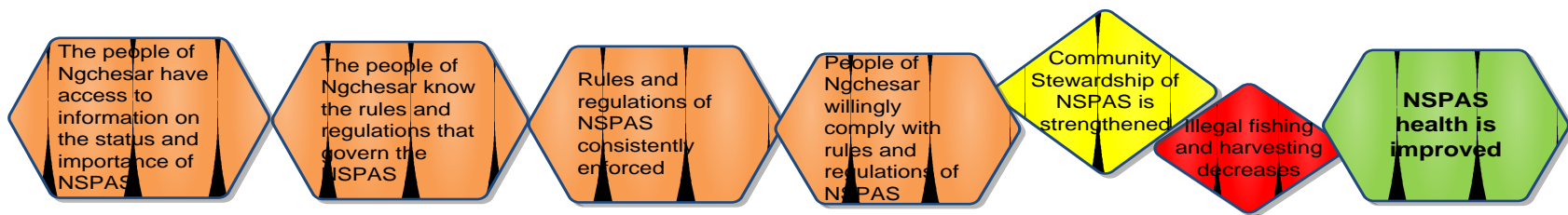
1. Increase community’s knowledge of the NSPAS to strengthen stewardship of Ngchesar’s natural resources
2. Develop outreach materials and build capacity of conservation officers to support eco-tourism operations and enhance the visitor experience of visitors to Ngchesar State.

1. The people of Ngchesar depend on the state’s natural resources for their social and economic development. The NSPAS allows for the recovery and maintenance of key resources to ensure that these resources continue to provide benefits for the community. However, the health and productivity of the NSPAS requires that the public supports its establishment and subsequent management. Effective community stewardship requires that Nchesar’s people have information about the resources that they own. It requires that they understand the connection between the wellbeing of that resource and their own wellbeing. It also requires that they are aware of rules and regulations governing these same resource and see that the government is consistently enforcing these rules.

Opportunity: Strengthen existing community stewardship of NSPAS			
NSPAS response: Strategy 1: Conduct outreach activities to increase knowledge of NSPAS and its rules as well as demonstrate Ngchesar State’s commitment to NSPAS through consistent enforcement of the rules and regulations that govern the sites.			
All Goals	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
All Objectives	1) Develop and implement a Ngchesar State Protected Area System	1. Continue implement the	Integrate these efforts with

	<p>(NSPAS) Education and Awareness Plan. This plan will include the following subset of activities:</p> <ol style="list-style-type: none"> Produce video documenting the sites in NSPAS Fabricate and install Signs for Ngelukes and Mesekelet Conservation Areas. Develop brochures promoting NSPAS, (to be disseminated at the Palau Visitor’s Authority, airport, state office, schools and tour agencies such as the Jungle River Cruise). Develop a Website for Ngchesar’s network protected area management area <p>2. Develop and implement outreach campaign on the rules and regulations governing NSPAS (There are a range of stakeholders to the NSPAS maintaining their support requires that management communicate consistently with these stakeholders. Related activities include the following):</p> <ol style="list-style-type: none"> Holding meetings with stakeholder groups to update, inform and/or solicit their input regarding NSPAS Annual report on condition of NSPAS can be delivered as part of the Governor’s State of the State Address Developing Report Cards illustrating health of NSPAS 	<p>Education and Awareness Plan.</p> <ol style="list-style-type: none"> Create educational material highlighting biodiversity and/or ecological process at Mesekelet and Ngelukes to be used in class room instruction for Ngchesar students. 	<p>efforts in Ngchesar State land use plan.</p> <p>Outreach material integrated in school curriculum in Babeldaob and Palau schools.</p>
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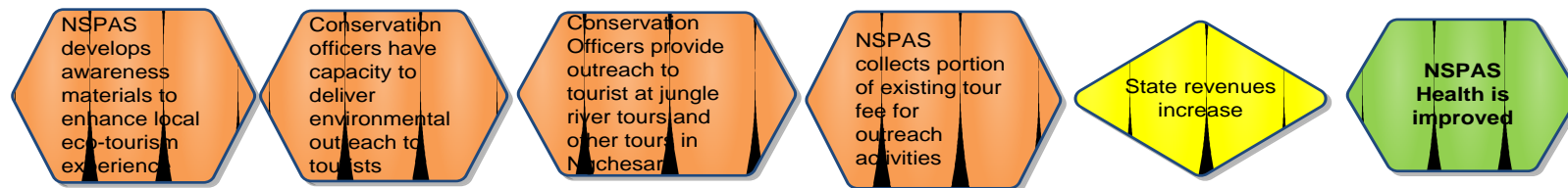
Implementation of strategy 1 of the Education and Awareness program will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the social change that will occur and the benefits of this strategy.



There is great potential for eco-tourism development in Ngchesar State. However, the state does not have to develop and implement an eco-tourism business. It can support existing eco-tourism businesses by providing services to enhance the visitor experience of the customers of those existing businesses. The NSPAS Department can support existing eco-tourism businesses by providing environmental awareness materials and outreach to enhance the visitor experience of these tours.

Opportunity: Strengthen existing ecotourism businesses in Ngchesar			
NSPAS response: Strategy 2: Develop outreach materials and build capacity of conservation officers to support eco-tourism operations and enhance the visitor experience of visitors to Ngchesar State.			
All Goals	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
All Objectives	<ol style="list-style-type: none"> Design and develop outreach materials that highlight the NSPAS and other unique ecological and cultural sites in Ngchesar. Provide outreach materials to eco-tourism businesses in and/or operating in Ngchesar. Train conservation officers and other staff in community outreach skills (e.g., pamphlets, videos, slideshows, guest presentations, radio announces, etc.) with advice from specialists. Develop a regulatory framework that supports eco-tourism and other nature based businesses in Ngchesar. <ol style="list-style-type: none"> develop and implement business license fee structure for these businesses develop application and other forms to be processed at compliance desk Identify and provide incentives for nature based businesses. Coordinate outreach activities with national tourism activities to optimize exposure. 	<ol style="list-style-type: none"> Continue to implement outreach activities Identify and develop enabling conditions to allow for nature based businesses to grow. (water bottling, eco-tourism ventures etc.) 	<ol style="list-style-type: none"> Ngchesar develops policies supporting the development of a nature based industries such as a water bottling operation. Policies become integrated into economic development plan component of Ngchesar State Master Plan.

Implementation of strategy 2 of the Education and Awareness Program will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the institutional changes that will occur and the benefits of this strategy.



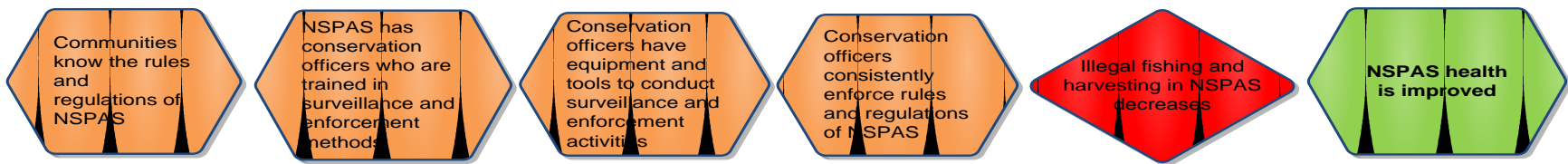
7.0 Surveillance and Enforcement

A detailed surveillance and enforcement plan that includes activities with timeline and associated budget aimed at achieving specific objectives of Ngelukes and Mesekelat Conservation Areas will be developed as part of the activities called for in the first year work plan of this management plan. The Surveillance and Enforcement component of this management plan will be developed in consultation with partners such as Palau Fish and Wildlife Division, Koror State Conservation and Law Enforcement Department and regional partners such as the Pacific Islands Marine Protected Areas Community (PIMPAC). The plan shall include approaches for dealing with specific enforcement issues, such as enforcement procedures, evidence handling and chain of custody, and training needs for conservation officers. A Surveillance and enforcement program for the NSPAS will reduce instances of illegal fishing and harvesting in the conservation areas and will result in increased health of the NSPAS.

Threats: Illegal fishing and harvesting within the sites (<i>resulting in decline in key species</i>)			
NSPAS response: Strategy 1 Develop and implement Surveillance and Enforcement Program and Plan			
Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002. Goal 2: By 2020 Mesekelat protected area is healthy and its critical streams continue to provide clean water to the people of Ngchesar State.	Short/ Term Actions (must be achieved within 1-2 years)	Medium Term Actions (may be achieved in 3-5 years)	Longer Term Actions (Beyond 5 years)
	<ol style="list-style-type: none"> 1. Recruit Conservation Coordinator and Conservation Officers to implement the NSPAS management plan 2. Train staff in law enforcement skills, conservation principles, and public relations. 3. Provide NSPAS department with necessary tools and equipment to implement surveillance and enforcement activities 4. Develop an enforcement plan (plan should include activities, personnel, equipment and a budget line to fund activities.) 5. Develop reporting system for violations and penalties 	<ol style="list-style-type: none"> 1. Collaborate with Palau Division of Fish and wildlife, Koror State Conservation and Law Enforcement Department to evaluate the success of enforcement and compliance and provide additional training or 	<ol style="list-style-type: none"> 1. Integrate NSPAS surveillance and enforcement activities into larger state wide surveillance and enforcement program specified in land use plans.

<p>Goal 1. Objective 2 Community members know and value the importance of Ngelukes and its resources</p> <p>Goal2. Objective 1 Community members know and value the importance of Mesekekat and its resources</p>	<p>6. Consistently implement surveillance and enforcement activities</p>	<p>support as needed</p>	
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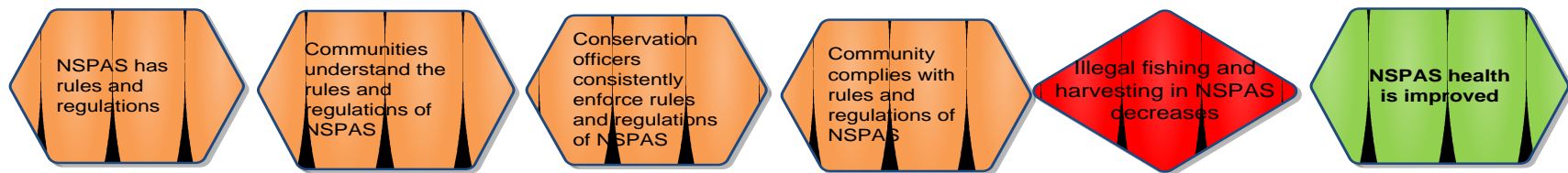
Implementation of strategy 1 of the Surveillance and Enforcement Program will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the social change that will occur and the results of this strategy.



Ngchesar State Public Law (NSPL) No. 146 created the Ngchesar State Protected Area System. The law states calls for the promulgation of regulations to carry out the intent of this Act. Regulations that specify the restrictions or condition on the entry into or use of any resources within the NSPAS, procedures for permitting such entry or use, fee requirements for such permitting, penalties to be imposed for violations will be developed in association with this plan.

Threats: Persistent illegal fishing and harvesting within the sites			
NSPAS response: Strategy 2 Strengthen legal framework for NSPAS management			
Goal 1: By 2020, abundance of valuable invertebrates and valuable fish species in Ngelukes is maintained or improved at the level of surveys conducted in 2002. Goal 2: By 2020 Mesekelat protected area is healthy and its critical streams continue to provide clean water to the people of Ngchesar State.	Short/ Term Actions (achieved within 1-2 years)	Medium Term Actions (achieved by 3-5 years)	Longer Term Actions (Beyond 5 years)
Goal 1. Objective 2 Community members know and value the importance of Ngelukes and its resources Goal2. Objective 1 Community members know and value the importance of Mesekelat and its resources	<ol style="list-style-type: none"> 1. Develop regulations to govern the NSPAS. <ol style="list-style-type: none"> a) State retained lawyer draft regulations b) Develop fee and fine structure for NSPAS 2. Develop outreach materials on rules and regulations of the NSPAS 3. Conduct outreach activities to community regarding rules and regulations of the NSPAS 4. Consistently enforce rules and regulations of the NSPAS 	<ol style="list-style-type: none"> 1. Conduct outreach activities to community regarding rules and regulations of the NSPAS 2. Consistently enforce rules and regulations of the NSPAS 	<ol style="list-style-type: none"> 1. Integrate surveillance and enforcement activities into larger state wide enforcement as specified by a land use plan.

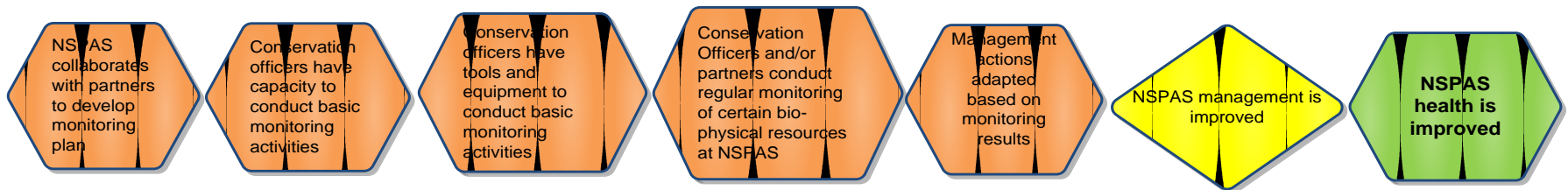
Implementation of strategy 2 of the Surveillance and Enforcement Program will generate outcomes that will result in improved health of the NSPAS. The following results chain illustrates the social change that will occur and the benefits of this strategy.



8.0 Monitoring and Evaluation

The purpose of monitoring is to identify any change in the status of the resources (short-term and long-term), to identify relationships (ex. Intensity of land use in watershed and extent of sedimentation in Ngelukes and adjacent reefs), and provide information to be used in the determination of the effectiveness of the management interventions. Monitoring plans for the NSPAS will include monitoring protocols that have been identified as appropriate for Palau and meet the Palau Protected Area Network (PAN) requirements. This will require program integration, standardization of methods, agreements to support collaborative efforts and mechanisms for data sharing. The NSPAS Conservation Coordinator will lead these efforts.

Opportunity: to improve management of the NSPAS			
NSPAS response: Develop monitoring Plan to determine impact of management actions on conditions of key species and ecological processes in the NSPAS			
All Goals	Short/ Term Actions (achieved within 1-2 years)	Medium Term Actions (achieved by 3-5 years)	Longer Term Actions (Beyond 5 years)
All Objectives	<ol style="list-style-type: none"> 1. Develop a Monitoring plan for Ngelukes and Mesekelet Conservation Areas. This plan should be developed in close consultation with the Palau International Coral Reef Center, Palau Division of Forestry, The Palau EQPB, the Belau National Museum’s Natural History Department and others. 2. Train officers on basic monitoring protocols 3. Provide tools and equipment needed for monitoring activities 4. Conduct regular monitoring activities 	<ol style="list-style-type: none"> 1. Implement scheduled monitoring activities 2. Assess the effectiveness of management actions and adapt future actions accordingly 	<ol style="list-style-type: none"> 1. Integrate monitoring and evaluation program into larger land use monitoring and evaluation program.



9.0 Budget

Annual Operational budget for the NSPAS

Budget Category	Unit Cost	Unit	Number	Total
Staff (includes fringe)				
NSPAS Coordinator	12,000	\$/year	1	12,000
Conservation Officer	7,000	\$/year	2	14,000
Finance Officer/current state officer 20% of the time	4,000	\$/year	1	4,000
Electricity	200	\$/month	12	2,400
Phone/Internet	100	\$/month	12	1,200
Miscellaneous office supplies	1,000	\$/year	1	1,000
General Operational Costs				\$34,600
Surveillance and Enforcement				
Fuel (boat and car)	10,000	\$/year	1	10,000
Maintenance (boat and car)	2000	\$/year	1	2000
Supplies	500	\$/year	1	500
Surveillance and Enforcement cost				12,500
Sediment management				
Fuel/cost	5,000	\$/year		5,000
Equipment rental cost	3,000	\$/year		3,000
Sediment management cost				8,000
Education and Awareness				
Production of education /awareness materials	7,000	\$/year	1	7,000
Community Meetings/outreach efforts	2,000	\$/year	1	2,000
Education and Awareness outreach				9,000
Site monitoring/management effectiveness				
supplies	500	\$/year	1	500
Capacity Building				
Training for conservation officers (On island training)	1,000	\$/year	1	1,000
Training for Conservation officers (off island training)	4,000	\$/year		4,000
Annual program evaluation, reporting, and work planning	1,000	\$/year	1	1,000
Monitoring and Evaluation				6,500
Total Annual Operational Cost				70,600
Initial Program Inputs: Capital Items, Infrastructure, and Planning				
Office Equipment				
Computer/printer/projector/camera	3,800			3,800

Surveillance and Field Equipment	4,000		4,000
Surveillance vehicle (4x4 pickup)	30,000		30,000
Total Initial Costs			37,800
Total Annual Operational Cost			
Total Budget Costs			108,400

Budget Narratives:

This budget reflects the cost of operating and implementing the NSPAS management plan on an annual basis. However, there are several capital purchases that are incurred during the first year that will not be reflected in subsequent years.

Personnel Costs:

A total of \$30,000 will be paid out to one NSPAS Coordinator, two conservation officers and dedicated time from the finance officer. This cost includes fringe benefits.

Administrative Costs:

A total of \$4,600 will be spent on administering the NSPAS program and/or Department. Office supplies, electricity and communications are included in this cost.

Education and Awareness Program:

A total of \$9,000 will be spent on education and awareness outreach activities. This includes the cost of developing outreach materials as well as community meetings.

Sediment Management Program:

A total of \$8,000 will be spent on implementing an environmentally sensitive road maintenance program to decrease erosion of soils and sediment influx into streams and reefs.

Monitoring and Management:

A total of \$6,500 will be spent on monitoring activities. This includes conservation officer trainings on and off island as well as collaborations with partners to implement the monitoring component of this plan.

Surveillance and Enforcement Program:

A total of \$12,500 will be spent on surveillance and enforcement activities. The majority of this cost will be in fuel costs, maintenance of the cars and boats needed for surveillance activities and supplies associated with this program.

One Time Capital Costs:

\$37,800 will be spent to purchase a boat, a truck, surveillance equipment and a computer to manage the data from surveillance activities.