



**INNOVATION
COLLABORATION
CONSERVATION**
Inspiration



**STATUS REPORT
2003-2015
APPENDIX**

STATES AND SITES

REPUBLIC OF PALAU * PROTECTED AREAS NETWORK

PAME FINDINGS PER STATE AND SITE PRIORITIES & IMPROVING PAME

Methodology

The PAME Assessment methods and tools evaluate institutional capacity of management teams responsible for implementing management plans. Originally, the tool was developed for evaluating the management of marine spatial areas, but was revised to evaluate both marine and terrestrial sites in Palau. The tool consists of questions with multiple choice answers and requires the involvement of several stakeholders, including participants that were involved from the Site's beginnings to its existing management team. The questions are read and discussions ensue about the topic resulting in a unanimously selected answer. Once all the questions are asked, the tool will have calculated the percentage score for the Management Category, and then assigns a rating:

- <65% = "Poor"
- 65-75% = "Adequate"
- 76-85% = "Fair"
- 86-95% = "Good"
- > 95% = "Effective"

Overall Results

Average results across the Network are presented in the 2003-2015 Status Report. This Appendix presents individual results per State and Site and identifies priorities within the three Category groupings (categories assessing natural resources, infrastructure and logistics, and community effects).

Across the board findings

Multiple states received low scores in the following areas:

1. Monitoring (biophysical and socioeconomic) impacts PAME scores across multiple categories. Many sites scored very low for both socioeconomic and biophysical monitoring, with lower scores associated with socioeconomic monitoring. States need assistance in setting up monitoring programs, and in using data to inform communities and adapt management.
2. Nearly all sites need assistance with setting up a Legal Framework to address the prosecution process.
3. Illegal extraction in no-take sites continues in most States.
4. Most states had low Finance scores. In particular, States need assistance in developing and implementing Sustainable Financing Plans.
5. Many sites need assistance with defining

conservation targets.

6. Most sites need help with analysis to determine the extent and impact of ecosystem services that the PA is conserving/enabling.
7. Borders and rules/regulations are not well marked or communicated.
8. Several sites have gaps in their education and outreach programs.
9. Ngarard and Ngiwal had multiple "Poor" scores and are in need of immediate assistance.

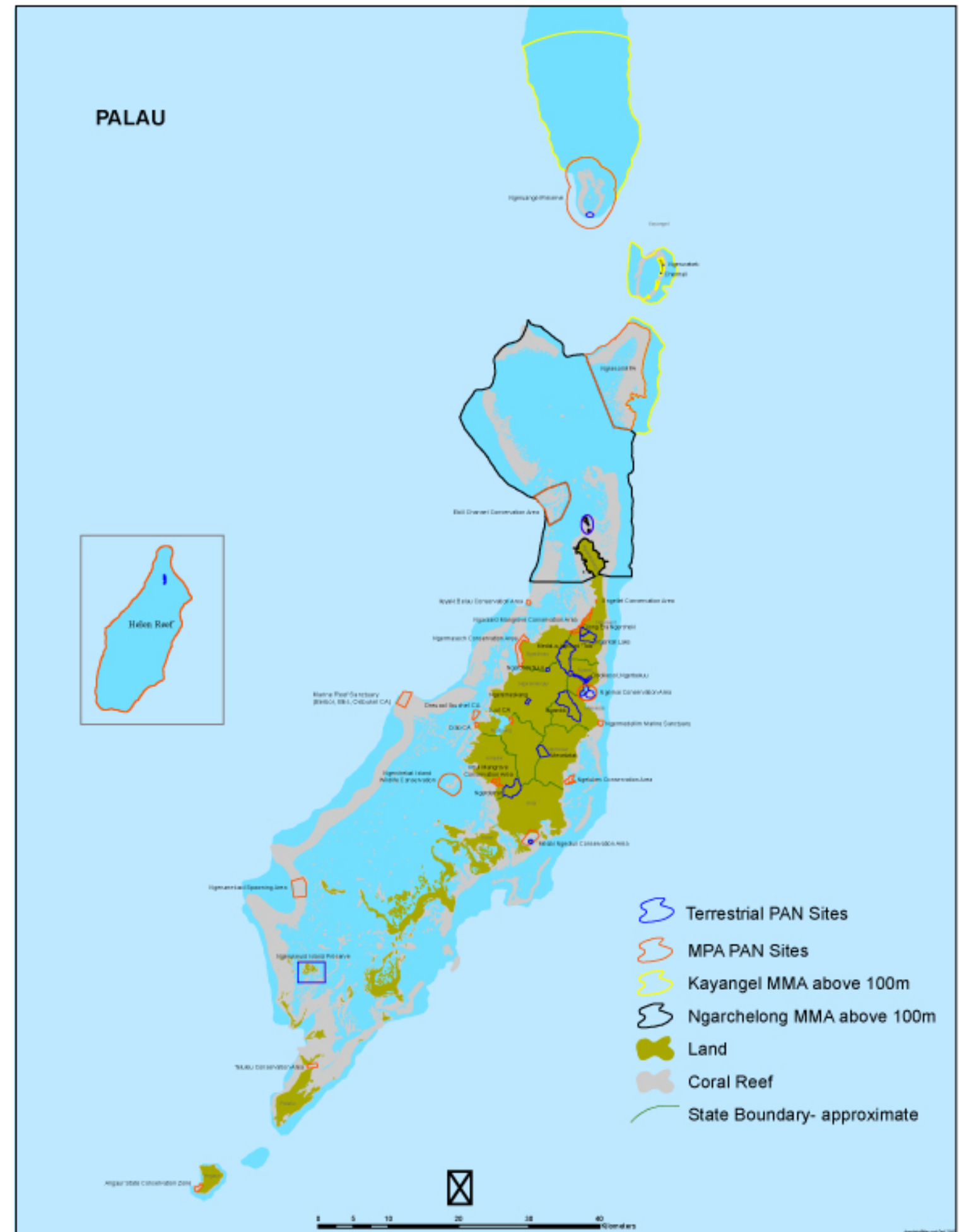
Improving the PAME Assessment

The PAME tool used was modified specifically for Palau, based on other marine spatial assessment evaluation tools. This is the first time the PAME tool was used in Palau for the PAN. While reviewing data and analyzing results, several areas in which to improve the PAME process and tool were identified.

1. Assessments should be unique, specific to the site, and independent. In several cases, the PAME assessment was applied across a state or a state's system of conservation areas, even though the sites were widely different. Conservation targets for coral reef were scored against forested sites. In several cases, the PAME tools were copied for multiple sites as well. PAME Assessments should not be generalized across sites.
2. Specific technical assistance should be sought to better define "Effective," and other ratings, rather than having these be defined by straight percentages. For instance, some categories have few questions and some have many. In a category with only 2 questions (e.g. biophysical), one low score could yield a rating of 50%, which is defined as "Poor." In a category with many questions (e.g. Stakeholder engagement), one low score could yield a rating of 95%, which is defined as "Effective." Thus the influence of one single score varies widely, which hinders fair prioritization of needs.
3. Several categories include a question about the formation of the site. For instance, sites received a low score if biophysical data was not used during site selection. These types of questions should be removed from future PAME Assessments as they give unfair weight to the past and do not adequately reflect the

state of current management. Additionally, in cases where data was not used in the past and the category has only a few questions, keeping those questions in may make it impossible for the site to ever achieve an Effective rating (e.g. if 1 out of 3 questions receives a low score, the site will rate "Poor," even if the low score comes from the past).

4. Specific technical assistance should be sought to better define scoring for the status of conservation targets. Currently, targets that are "stable" receive a score of 1 out of 2, regardless of the initial or optimum state. This means that a site with stable populations could receive a score of 50%, which is "Poor," even if the site has healthy, optimum populations.
5. PAME data should come with metadata (data about the data) to better identify possible human errors. For instance, about half of the PAME tool spreadsheets contained an error in the calculations in the Legal category. Specific tracking of which tools were being copied and which root files were used may have prevented this error or identified how many other spreadsheets carried the error.
6. A process for reviewing data should be put in place before it is sent out for analysis. For instance, several conservation targets were missing scores, but the percentages were automatically calculated and carried throughout the spreadsheet. An independent review of the data should also be included in the metadata.
7. Given the importance of the Conservation Effect category in judging Effective Conservation and PAN, specific technical assistance should be provided to States to set conservation targets. Technical assistance should be sought for scoring and rating the category, particularly if the number of targets varies per site. Currently the tool is set for 5 conservation targets, but there may be sites where it is appropriate to have a different number (more or fewer) of conservation targets.
8. A philosophical and scientific question to consider is whether sites warrant lower scores if they have rotating closures over permanent closures, as is now the case. It may be the case that rotating closures are appropriate for the site.





MELEKEOK STATE

	Average PAME Score	Rating
PAME categories assessing Natural Resources		
Biophysical	50%	Poor
Conservation effect	86%	Good
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	72%	Adequate
Finance	33%	Poor
Infrastructure/equip	67%	Adequate
Legal	61%	Poor
Planning	94%	Good
Staffing	92%	Good
PAME categories assessing Community Effects		
Socio-economic	75%	Adequate
Stakeholder engagement	76%	Fair
Traditional knowledge	100%	Effective
Overall Average	75%	Adequate

According to the PAME Assessment, Ngardok could have an Effective rating with only relatively minor investments in a few categories. The most critical need is to develop a Sustainable Financing Plan. Filling gaps in community involvement and education programs is also a priority.

Natural Resource PAME Categories

Ngardok scored “Poor” in the Biophysical category because it was not selected using biophysical data. Currently, however, there is ongoing and relevant monitoring. In the Conservation Effect category, Reviewers found that no target resources are degraded and most are improving. Water quality and crocodiles were assessed as stable, thus the “Good” rating. The Ecosystem Services category scored “Poor” because reviewers found that there is no analysis of the protected area’s ecosystem services. However, as this area has been the subject of numerous research and monitoring projects, this may mean that a fresh perspective is needed in analyzing the existing data.

Recommended actions - Natural Resources

- Use existing biophysical data to assess the relevance of Ngardok’s border
- Analyze existing data from the site to see if its effect on Ecosystem Services is visible.

Infrastructure PAME Assessment Categories

Reviewers found that the site is lacking a formal Enforcement Program and that there are major deficiencies to using the patrols and boundary markers that are in place. Thus the “Adequate” ranking. **Financing is a priority** with reviewers finding gaps in funding versus need and **lack of a sustainable financing plan**. Infrastructure/equipment scored only “Adequate” because most, but not all, equipment and facilities are adequate. The Legal Framework rating is “Poor” because additional mechanisms and procedures are needed to support operations and because there is no clear legal framework regarding site violations. The only actions needed to move the Planning rating to Effective would be to better use the results of biophysical and socioeconomic monitoring in planning and decisionmaking. To move the Staffing rating to Effective, staff need a bit more improvement in training and skills.

Recommended actions - Infrastructure

- **Priority:** Use the existing tourist and visitor potential at the site to develop a **Sustainable Financing Plan**.
- Develop a legal framework to address the prosecution process for site violations.
- Incorporate trends from socioeconomic monitoring into planning and decisionmaking.

Community Effects PAME Assessment Categories

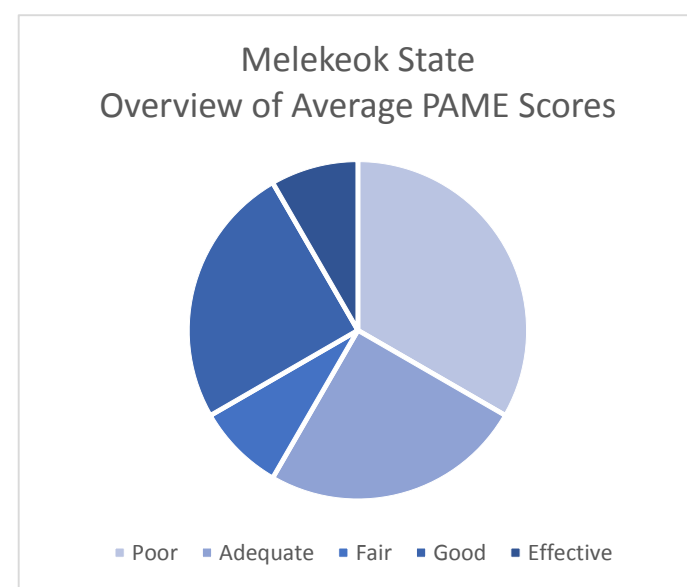
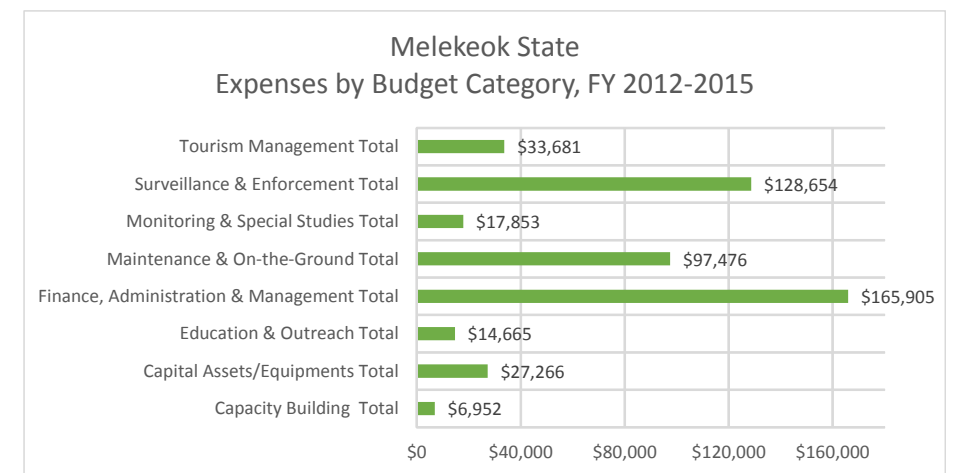
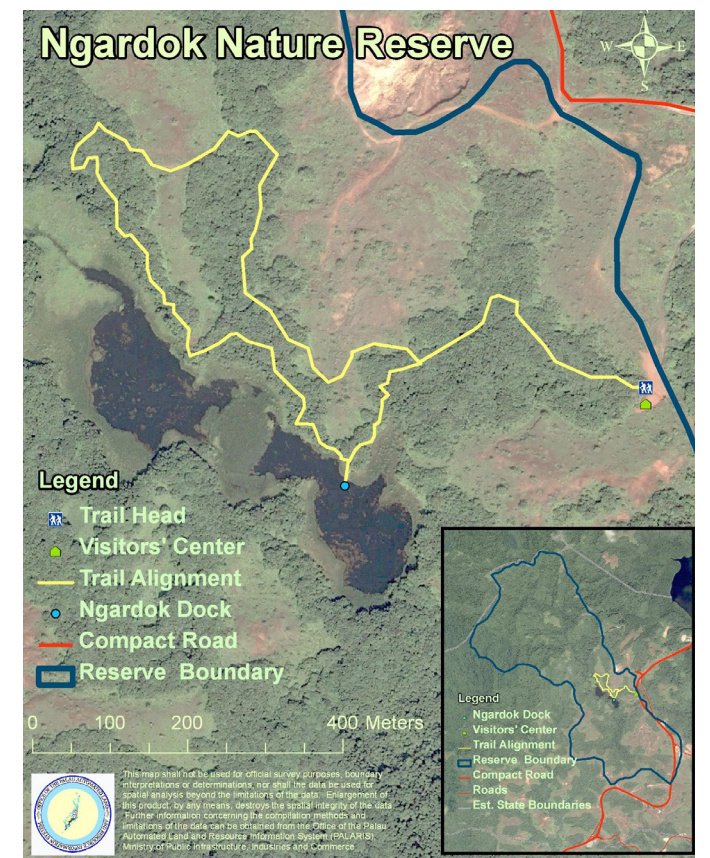
The Socioeconomic category rating is Adequate because it was not selected using socioeconomic data. Although the Stakeholder Engagement rating is “Fair” there are many areas for improvement with several questions scoring very low.

Recommended actions - Community Effects

- Better communicate boundaries and maintain signs and markers - perhaps through a joint maintenance/education program
- **Priority:** Improve and better integrate mechanisms for stakeholder participation in decisionmaking and management
- Fill gaps in the education and outreach program.

Ngardok Nature Reserve	
Year into PAN	2008
Year Established	1997
Total size (km ²)	5.0
Percent Marine/Terrestrial	100% Terrestrial

Features: Wetland of International Significance (Ramsar Convention); Largest freshwater lake in Micronesia; Freshwater river, streams, and habitats; Watershed, Water source for Capitol; Terrestrial and forest biodiversity; Endangered species, particularly saltwater crocodiles; Cultural, tourist, and educational sites, including trail testing and development; Research sites, particularly for soil restoration and water quality. **Management:** No-take, restricted entry with zones; Active restoration sites and visitor sites. Active research sites.





NGARCHELONG STATE

(Assessed for Ebiil only)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	67%	Adequate
Conservation effect	79%	Fair
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	94%	Good
Finance	47%	Poor
Infrastructure/equip	33%	Poor
Legal	72%	Adequate
Planning	61%	Poor
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	50%	Poor
Stakeholder engagement	61%	Poor
Traditional knowledge	100%	Effective
Overall Average	65%	Adequate

PAME Assesments were done for Ebiil only. Inadequate financing is hindering effectiveness across a number of categories. Review of the site in relation to the ongoing Northern Reefs work is also necessary. The sites may be working more effectively than presented here.

Natural Resource PAME Categories

Although Ebiil's overall Biophysical rating was Adequate based on historical data use, it received a low score for having only ad hoc monitoring and no integrated monitoring program. Despite a "Fair" rating, reviewers assessed the condition of corals as degraded and there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- **Priority:** Use existing monitoring programs to create an integrated monitoring program that feeds back into decisionmaking.
- **Priority:** Identify causes and solutions for degrading coral.

Infrastructure PAME Assessment Categories

Slight improvement to Enforcement capacity would bring this rating to "Effective." For Financing, the site is in need of overall increased financing and also needs assessment of its role within the local economy. Reviewers found that the Infrastructure and Equipment in place is inadequate. The Legal Framework rating is "Poor" because additional mechanisms and procedures are needed to support operations and because there is no clear legal framework regarding site violations. The rating of "Poor" under Planning is questionable. Reviewers found that for Ebiil, there is no Management Planning Team (which does not have access to technical information), that there is no socio-economic monitoring in place, and trends from biophysical monitoring are not being incorporated, and management zones had not been integrated into government planning processes. However, there has been significant investment in the Northern Reefs management planning process, which has been participatory, and which has involved multiple partners. Thus, the results under this category warrant review. Staff numbers are below optimal and staff could use additional training and capacity.

Recommended actions - Infrastructure

- **Priority:** Identify financing sources and lobby for additional funding support

- Develop a legal framework to address the prosecution process for site violations.
- Review "Planning" category rating and determine if appropriate as "Poor," given ongoing Northern Reefs work

Community Effects PAME Assessment Categories

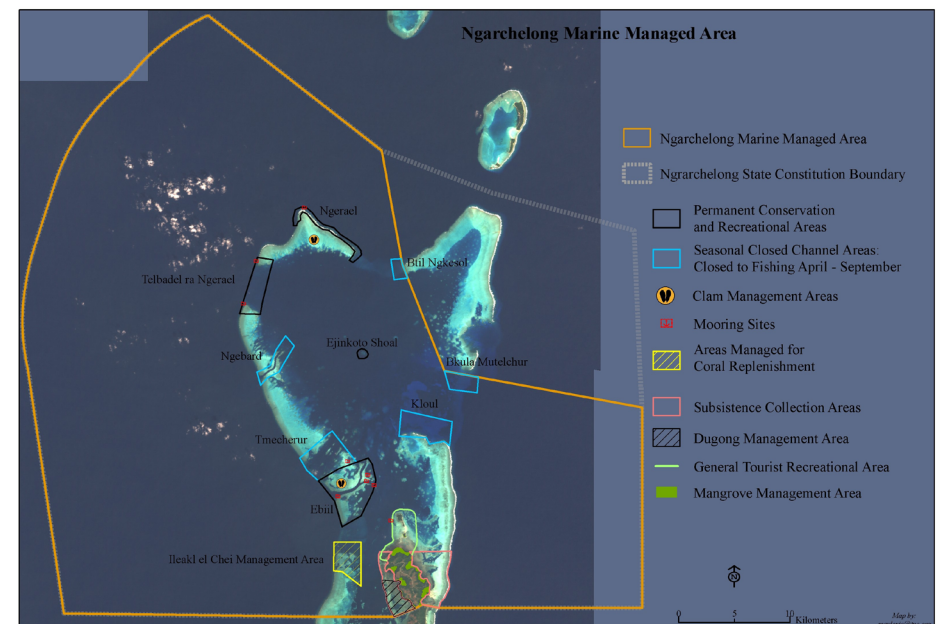
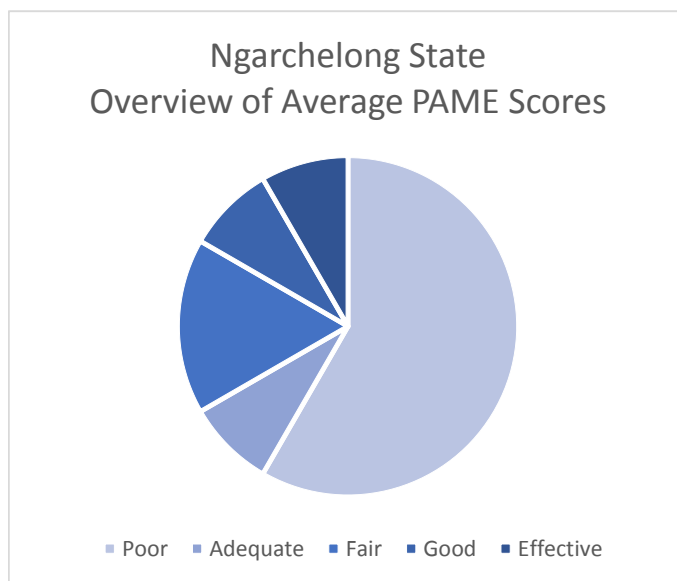
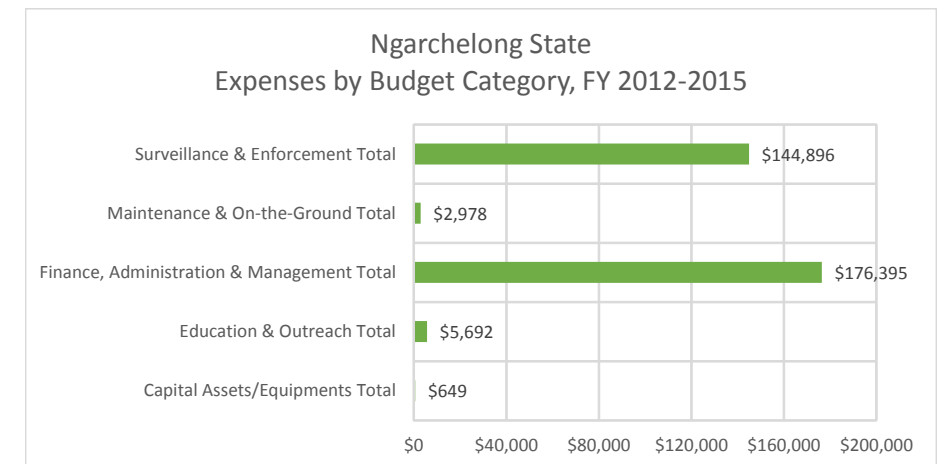
The Socio-economic category rating is "Poor" because it was not selected using socioeconomic data and because reviewers found no ongoing socioeconomic monitoring. The Stakeholder Engagement rating was poor because reviewers found no Management Planning team and no participatory planning, an issue that may be resolved through the ongoing Northern Reefs work. Education and awareness programs were identified as only ad hoc.

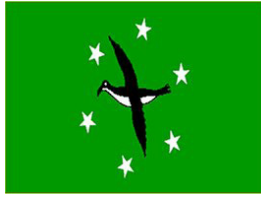
Recommended actions - Community Effects

- Develop and integrate socioeconomic monitoring
- **Priority:** Determine whether participatory scores are relevant given ongoing Northern Reefs work.
- Create a formal education and outreach program.



	Ebiil Conservation Area	Ngarchelong Marine Managed Area (NMMA)
Year into PAN	2008	2013
Year Established	1999	2013
Total size (km²)	19.1	523.0
Percent Marine/ Terrestrial	100% Marine	99.6% Marine; 0.4% Terrestrial
Features	Grouper Spawning and Aggregation Site (SPAG); Coral Reef, channel; Marine Biodiversity; Climate Resilient Corals	All of Ngarchelong's marine resources: Reefs, channels, lagoon; Highly productive fishing grounds and nurseries; Dive sites; Climate change resistant areas; Critical species. Small islands
Management	Permanent conservation and recreation. No-take, restricted entry.	Mixed regimes with 6 zones: Permanent Conservation and Recreation (no-take, restricted entry); General Tourist Recreation (restricted take, open entry); Seasonally Closed Channels; Exclusive Resident Use Areas; Coral Replenishment Areas (no-take, no-entry); General Use Areas.





NGCHESAR STATE

(Separate assessments for each site)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	50%	Poor
Conservation effect	75%	Adequate
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	69%	Adequate
Finance	30%	Poor
Infrastructure/equip	50%	Poor
Legal	90%	Good
Planning	82%	Fair
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	79%	Fair
Stakeholder engagement	82%	Fair
Traditional knowledge	100%	Effective
Overall Average	73%	Adequate

Inadequate monitoring and feedback programs are keeping both sites from achieving “Effective” ratings across several categories.

Natural Resource PAME Categories

The “Poor” Biophysical rating is because Reviewers found that Mesekelat was not selected using Biophysical data and does not have a biophysical monitoring program. Ngelukes had high scores for both. Reviewers found that in both sites, all conservation targets are either stable or improved. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- **Priority:** Create an integrated monitoring program for Mesekelat that feeds back into decisionmaking.

Infrastructure PAME Assessment Categories

In both sites there is no Enforcement Program, but there is capacity to enforce regulations. Both sites scored poorly across all but one of the Finance criteria (sites have been assessed in relation to the local economy). For Mesekelat infrastructures and equipment is mostly adequate, but is inadequate for Ngelukes. In legal criteria, Ngelukes is missing a clear legal framework regarding site violations. Planning is rated “Fair” because zones for both sites have not been fully integrated into government spatial planning processes and because both sites are not making good use of biophysical and socioeconomic monitoring data. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Address and improve all financing criteria: budget, sustainable financing plan, staffing and resources, and amount of funding
- Develop and write an Enforcement Program and develop a legal framework for violations in Ngelukes.
- Integrate monitoring data into planning and integrate site zones into larger government plans.

Community Effects PAME Assessment Categories

The Socioeconomic category rating is “Fair” because both sites were not selected using sufficient socioeconomic data and because reviewers found only ad hoc socioeconomic monitoring in Mesekelat. Stakeholder engagement

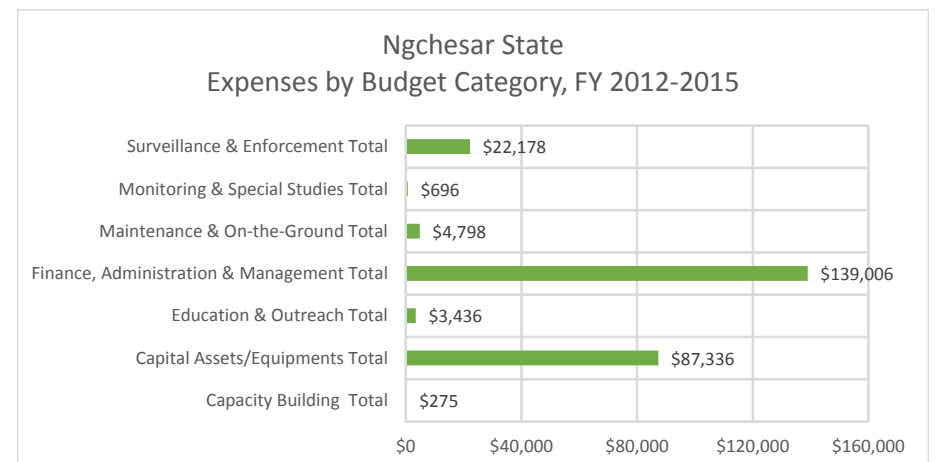
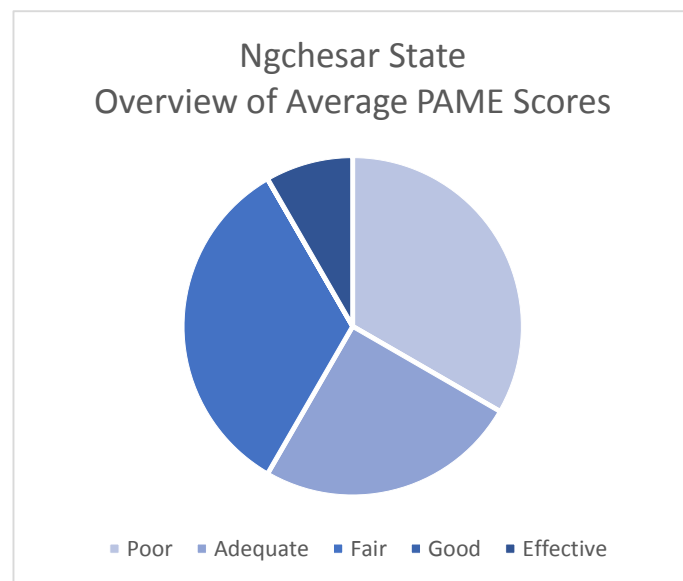
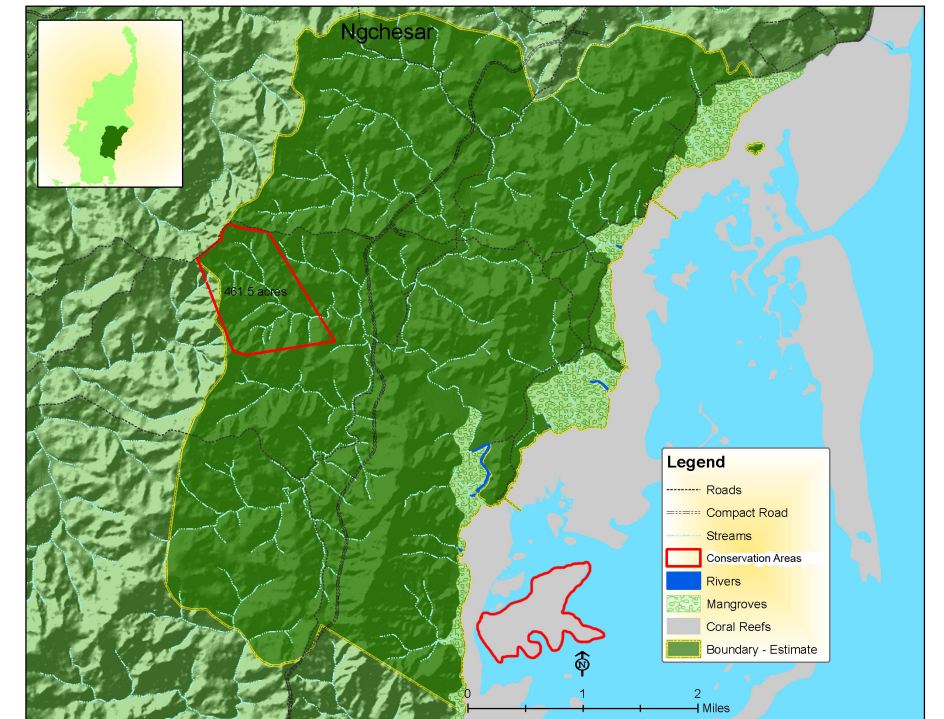
	Mesekelat Watershed Reserve	Ngelukes Marine Protected Area
Year became PAN Site	2008	2011
Year Established	2002	2002
Total size (km ²)	3.8	0.5
Percent Marine/ Terrestrial	100% Terrestrial	100% Marine
Features	Water source; Forest and streams; Terrestrial biodiversity, endemic and native trees, birds and fruit bats	Only known Palauan location of Acropora pinhoni; Patch reef; Seagrass beds; Fish and invertebrates, particularly rabbitfish; Sea turtles
Management	No-entry, No-take	No-entry, No-take



was rated “Fair” because the boundaries of both sites are not well known, delineated, or being maintained, and because of the inadequate monitoring program, there have been no community consultations to share biophysical or socioeconomic assessments.

Recommended actions - Community Effects

- Better communicate boundaries and maintain signs and markers.
- **Priority:** In tandem with biophysical monitoring partners, develop and integrate socioeconomic monitoring programs and community feedback mechanisms.





NGIWAL STATE

(Ngemai and Olsolkesol/ Ngerbekuu assessed together)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	42%	Poor
Conservation effect	64%	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	86%	Good
Finance	47%	Poor
Infrastructure/equip	33%	Poor
Legal	78%	Fair
Planning	57%	Poor
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	38%	Poor
Stakeholder engage- ment	85%	Fair
Traditional knowledge	100%	Effective
Overall Average	65%	Adequate

Ngiwal’s sites scored poorly across multiple categories, particularly monitoring, financing, planning, and community engagement. With **multiple sites and multiple low scores, Ngiwal’s PAN Sites warrant technical assistance across the board.**

Natural Resource PAME Categories

The “Poor” Biophysical rating arises because of lack of historical data use and because reviewers found only ad hoc monitoring. Conservation Effect was rated “Poor” although 4 out of 5 targets were assessed as improving in status. Sea urchins were seen as stable. However, threats have not been abated by at least 75% and management plan goals are not showing at least 75% of planned results according to monitoring data. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- **Priority:** Create a formal monitoring program.

Infrastructure PAME Assessment Categories

To move the Enforcement category to effective, only a few actions are needed, including marking boundaries and building enforcement capacity. The sites scored poorly across most of the Finance criteria (sustainable financing has been explored and sites have been assessed in relation to the local economy) and infrastructure and equipment is inadequate. In legal criteria, the sites are missing a clear legal framework regarding site violations and could have continued development of mechanisms and procedures to support operations. The Planning category received a “Poor” rating because of many missing components: No functioning management body, activities that have not been completed, inadequate inclusion of monitoring data into decisionmaking, only irregular review, no assessment of connectivity with other sites, and no integration with the State’s spatial planning. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Address and improve all financing criteria
- **Priority:** Address and improve most planning criteria

Community Effects PAME Assessment Categories

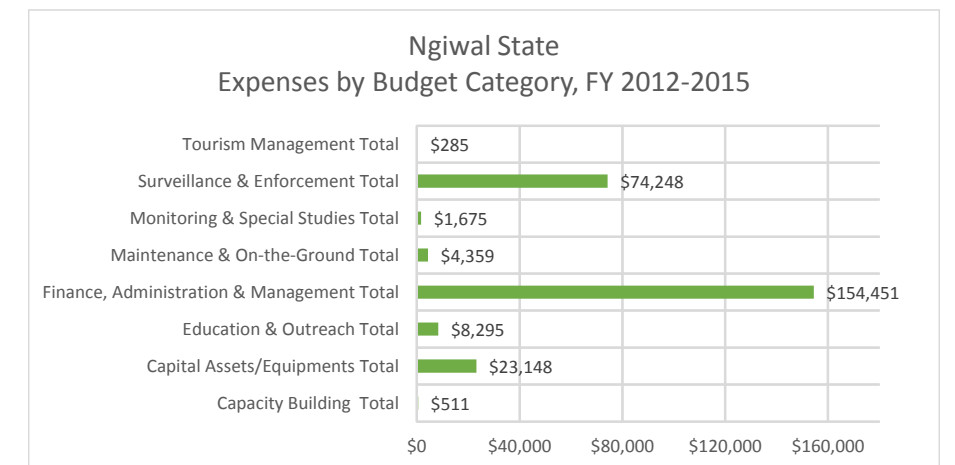
The Socioeconomic category scored poorly in 3 out of 4

	Ngemai Conservation Area	Olseokesol / Ngerbekuu River Conservation Area
Year became PAN Site	2008	2008
Year Established	1997	2009
Total size (km ²)	1.0	1.1
Percent Marine/Terrestrial	100% Marine	100% Terrestrial
Features	Patch reef; Seagrass beds Endangered species (dugongs), area known for sea urchins	Waterfall; Watershed and water source Forest and streams, Terrestrial biodiversity in pristine condition
Management	Strict closure with limited visitation; Fish recovery area.	Restricted visitation with plans for recreation and tourism

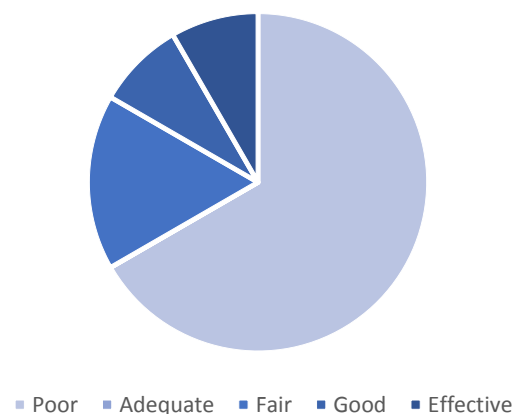
questions, because there is inadequate socioeconomic monitoring and use of data and because alternative livelihoods have not been explored. Several steps are needed to move Stakeholder Engagement to “Effective,” including communicating boundaries, filling gaps in education and outreach programs, better incorporating stakeholders into decisionmaking, and increasing community support for the protected areas.

Recommended actions - Community Effects

- Better communicate boundaries and maintain signs and markers.
- **Priority:** In tandem with biophysical monitoring partners, develop and integrate socioeconomic monitoring programs and community feedback mechanisms.
- **Priority:** Improve engagement with the community (across multiple categories: livelihoods, education and outreach, decisionmaking).



Ngiwal State
Overview of Average PAME Scores





HATOHOBEL STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	100%	Effective
Conservation effect	86%	Good
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	94%	Good
Finance	53%	Poor
Infrastructure/equip	67%	Adequate
Legal	94%	Good
Planning	100%	Effective
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	75%	Adequate
Stakeholder engagement	100%	Effective
Traditional knowledge	100%	Effective
Overall Average	87%	Good

Helen Reef scored well across most categories. Financing remains a priority and there is one worrisome biophysical result.

Natural Resource PAME Categories

Despite the “Good” assessment, of note is a reviewer assessment that bird populations have declined. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- Survey birds and takes steps to address this target.

Infrastructure PAME Assessment Categories

Enforcement scored well, with need for improved capacity. Finance scored poorly across several questions, and the site could use additional staff and resources, assessment of the role within the local economy, an improved budget, and better performance of the existing sustainable financing plan. Most infrastructure is adequate. Improvements to mechanisms and procedures to support operations will move the Legal category to “Effective.” Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- Priority:** Address and improve financing criteria

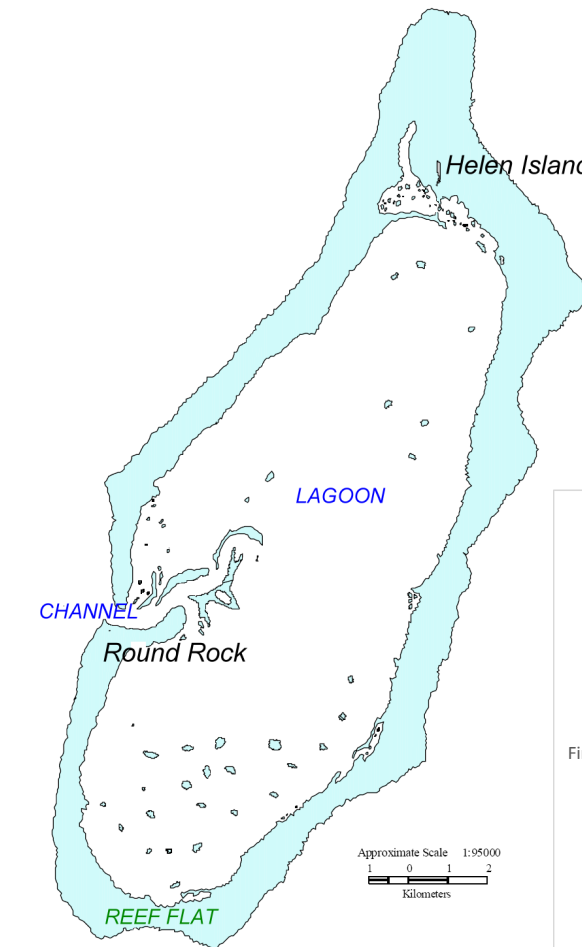
Community Effects PAME Assessment Categories

The Socioeconomic category scored “Adequate” because there was inadequate socioeconomic data available during site selection.

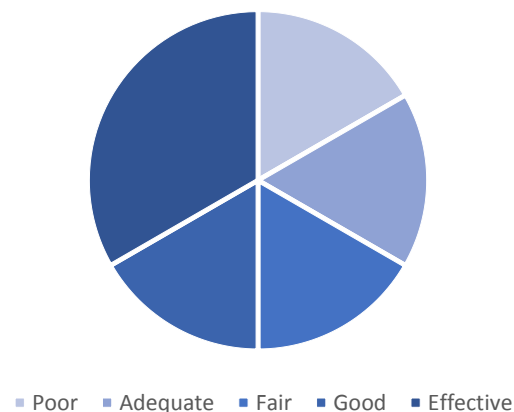


	Helen Reef Conservation Area
Year became PAN Site	2009
Year Established	2001
Total size (km ²)	163.0
Percent Marine/ Terrestrial	99.4% Marine/ 0.6% Terrestrial

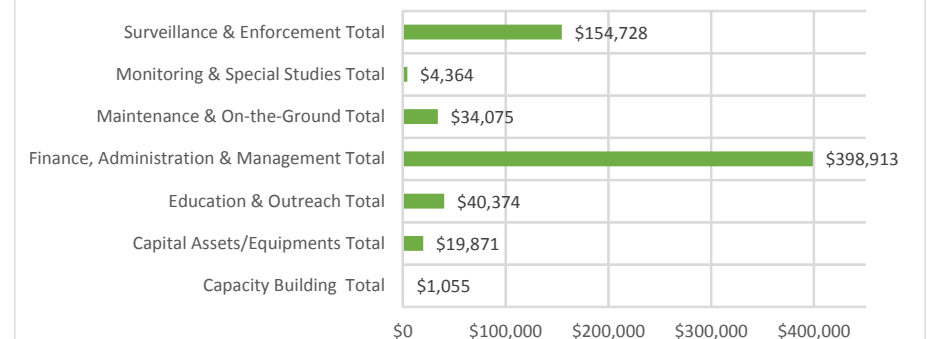
Features: Outstanding atoll in size, ecological integrity, biomass, and biodiversity. Largely undisturbed atoll ecosystem; Tens of thousands of nesting seabirds and sea turtles. **Management:** 70% of site is no-take; 30% zoned for regulated fishing for subsistence and cultural events. Regulated tourism and recreation.



Hatohobei State
Overview of Average PAME Scores



Hatohobei State
Expenses by Budget Category, FY 2012-2015





NGARDMAU STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	85%	Fair
Conservation effect	52%	Poor
Ecosystem services	100%	Effective
PAME categories assessing Infrastructure		
Enforcement	64%	Poor
Finance	53%	Poor
Infrastructure/equip	67%	Adequate
Legal	77%	Fair
Planning	83%	Fair
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	83%	Fair
Stakeholder engagement	91%	Good
Traditional knowledge	100%	Effective
Overall Average	75%	Adequate

A priority for all 4 sites is to reduce extractive activities in no-take zones. All sites need a review of sustainable funding. Terrestrial sites need investment in regular monitoring, boundary markers, and education and outreach.

Natural Resource PAME Categories

Reviewers found that ongoing monitoring at both terrestrial sites is not integrated with management needs. Although Conservation effect rated “Poor,” the situation is not clear. All identified targets were assessed as at least stable; however, none of the sites had the full suite of 5 identified targets. Ngermasech, IlyakBeluu, and Ngerchelchuu are not achieving conservation goals at a rate of 75% or above.

Recommended actions - Natural Resources

- Identify 5 conservation targets for each site.
- Develop and implement regular biophysical monitoring for terrestrial sites.

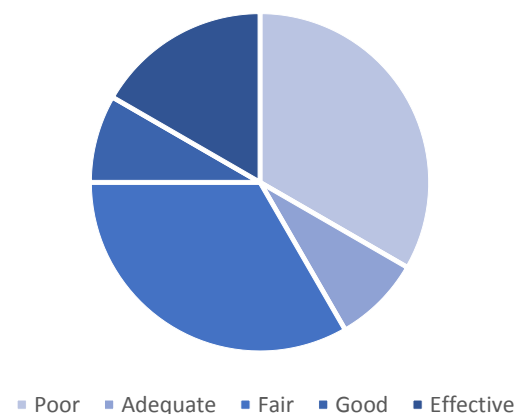
Infrastructure PAME Assessment Categories

Enforcement rated “Poor” because extractive activities in no-take zones are still occurring in all 4 sites, and there are major deficiencies to enforcing regulations across the Network. The two terrestrial sites are not delineated. Finance rated “Poor” because reviewers found the budget and staffing to be inadequate and a lack of sustainable financing mechanisms and income. This finding was for all 4 sites, even with the income stream at Medal-a-Iyechad (thus suggesting possible need for a review of the PAME assessment findings for that site). Most Infrastructure was deemed adequate across all 4 sites. In Legal criteria, the sites are missing a clear legal framework regarding site violations and could have continued development of mechanisms and procedures to support operations. Across all sites, reviewers found inadequate incorporation of monitoring data into planning. They found no regular biophysical monitoring at the two sites. Reviewers found no incorporation of the site’s zoning into larger State spatial planning processes. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- Priority:** Improve enforcement capacity to reduce extractive activities in no-take zones.

Ngardmau State
Overview of Average PAME Scores



	Ngermasech Marine Protected Area	IlyakBeluu Reef	Ngerchelchuu Ridge Conservation Area*	Medal-A-Iyechad Waterfall “Taki” Conservation Area
Year became PAN Site	2010	2010	2010	2010
Year Established	1998	2005	2005	2005
Total size (km ²)	3.3	0.6	0.3	6.1
Percent Marine/ Terrestrial	100% Marine	100% Marine	100% Terrestrial	100% Terrestrial
Features System connectivity (e.g. biophysical) addressed across the network	Patch reefs; Seagrass beds; Mangrove; Spawning and Aggregation Site, Nursery	Reef; Trochus; Manta Ray cleaning station; Dive Site	Highest peak; Savanna; Rare birds	Highest waterfall; Watershed, Rivers and streams, Terrestrial biodiversity; Cultural sites; Tourist site
Management	Controlled access, no-take except during specified harvests.	Controlled access, no-take except during specified harvests. Tourist sites	Service zone (road and peak), All other area restricted take, (community purposes with permission), restricted entry	Tourist zone (all activities regulated); All other area restricted take, (community purposes with permission), restricted entry

* This report does not advocate for or attempt to establish or negate any particular state’s ownership of any particular resource, nor does this report have any bearing on state boundary disputes or legal challenges.

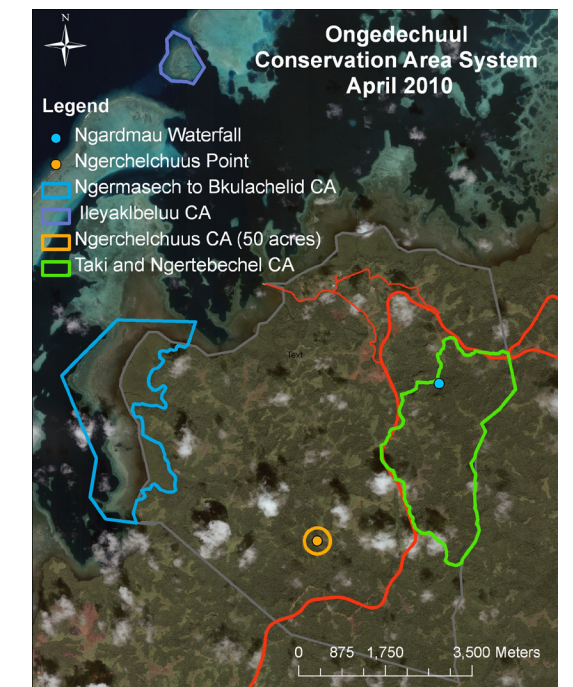
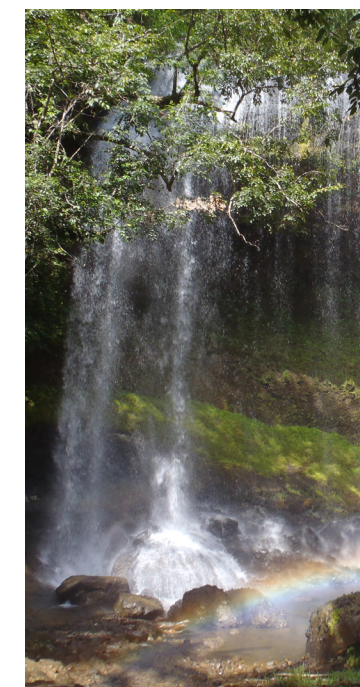
- Review and develop sustainable financing plans
- Implement regular monitoring and incorporate findings into decision-making.

Community Effects PAME Assessment Categories

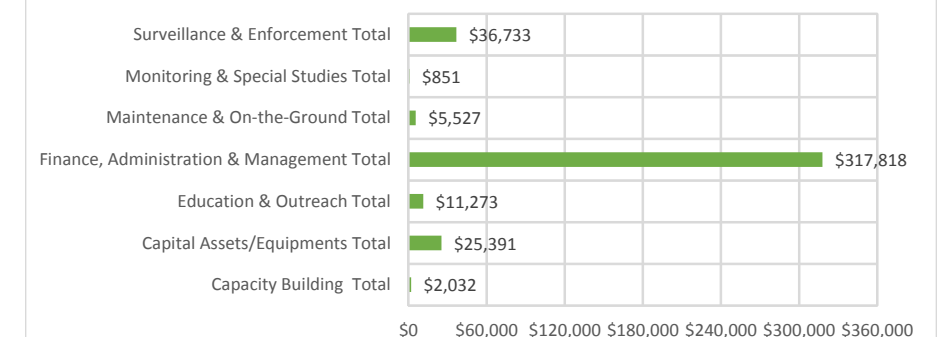
The Socioeconomic category scored “Fair” because socioeconomic monitoring is only ad hoc and not regular in all 4 sites. Both marine sites have gaps in education and outreach programs but would otherwise be Effective. Terrestrial sites have gaps in education and outreach programs and boundaries are not delineated or known and boundary markers and information boards are not being maintained.

Recommended actions - Community Effects

- Fill gaps in the education and outreach program for all 4 sites.
- Delineate and communicate boundaries and maintain signs and markers.



Ngardmau State
Expenses by Budget Category, FY 2012-2015





AIMELIIK STATE

(Assessed for Ngerderar only)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	100%	Effective
Conservation effect	86%	Good
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	69%	Adequate
Finance	73%	Adequate
Infrastructure/equip	67%	Adequate
Legal	100%	Effective
Planning	83%	Fair
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	100%	Effective
Stakeholder engagement	91%	Good
Traditional knowledge	100%	Effective
Overall Average	83%	Fair

A priority for the site is to reduce extractive activities in no-take zones.

Natural Resource PAME Categories

Most conservation targets are improving; water and trees were stable. As in other sites, there has been no analysis of Ecosystem Services.

Infrastructure PAME Assessment Categories

Although Enforcement rated “Adequate,” extractive activities in no-take zones are still occurring. The site also needs boundary markers and improved capacity to enforce regulations. The Finance category rated as “Adequate” because the budget is inadequate, staffing and resources are inadequate, and a sustainable financing plan does not cover more than 75% of costs. Most Infrastructure and equipment are adequate. Planning is rated “Fair” because site zones have not been fully integrated into government spatial planning processes and because biophysical and socioeconomic monitoring data and trends are not being incorporated into planning and decisionmaking. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Improve enforcement capacity to reduce extractive activities in no-take zones.
- Target improved financing.
- Implement regular monitoring and incorporate findings into decisionmaking.

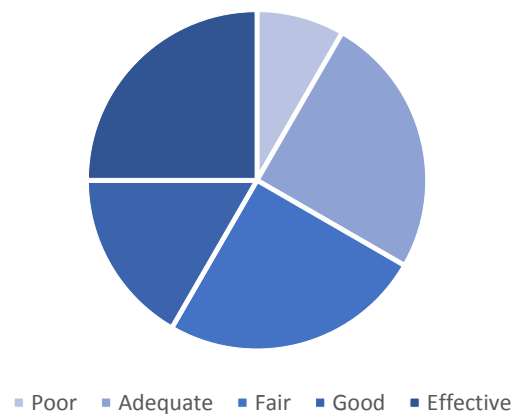
Community Effects PAME Assessment Categories

To achieve an “Effective” Stakeholder Engagement rating, stakeholders need to better understand the site’s boundaries, as well as the site’s resources, threats, and management.

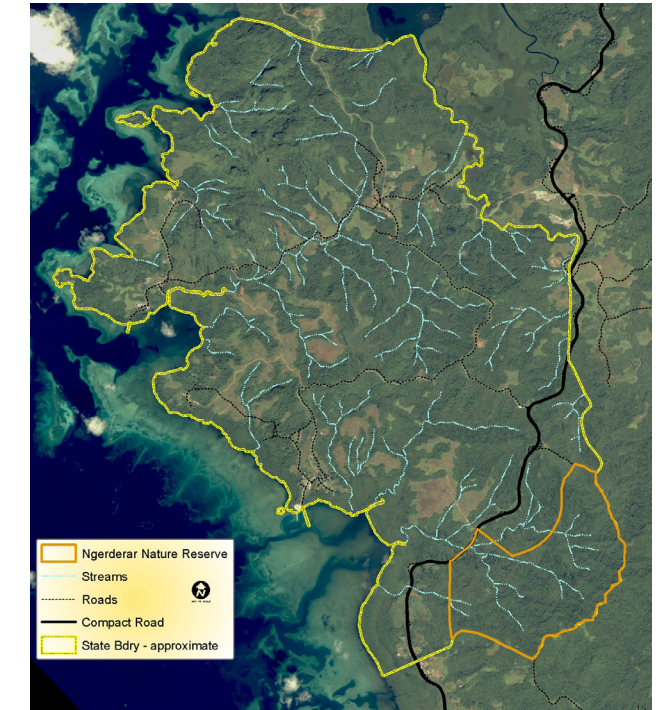
Recommended actions - Community Effects

- Mark or communicate site boundaries.
- Improve community understanding of resources, threats, and management to above 75%.

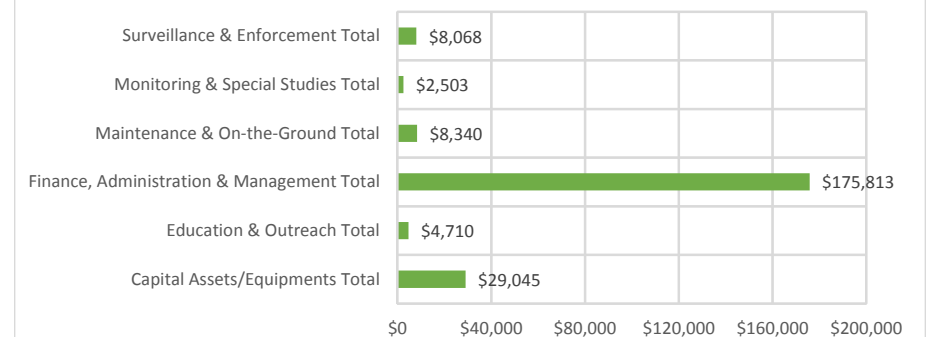
Aimeliik State
Overview of Average PAME Scores



	Ngerderar Watershed Reserve	Imul Mangrove Conservation Area	Marine Reef Sanctuary (Fish)	Ngerchebal Island Wildlife Conservation Area
Year became PAN Site	2011	2015	2015	2015
Year Established	2008	2002	2003	2006
Total size (km ²)	3.8	0.8	2.8	0.3
Percent Marine/ Terrestrial	100% Terrestrial	100% Marine	100% Marine	100% Marine
Features	Forest, Terrestrial biodiversity and old growth forest; Concentration of Micronesian Pigeons; Rivers and streams; Cultural sites and home to legends; Watershed with few bare areas, backup water source with flow year-round, even during draught	Mangrove	Reef; Fish	Island; Reef flat
Management	Tourist zone (no-take); All other areas Controlled access, no-take; Active restoration/maintenance of streams	Restricted entry, restricted take	No-take, no-entry	No-take, no-entry



Aimeliik State
Expenses by Budget Category, FY 2012-2015





AIRAI STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	50%	Poor
Conservation effect	43%	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	78%	Fair
Finance	27%	Poor
Infrastructure/equip	33%	Poor
Legal	100%	Effective
Planning	92%	Good
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	75%	Adequate
Stakeholder engagement	88%	Good
Traditional knowledge	100%	Effective
Overall Average	73%	Adequate

Natural Resource PAME Categories

The site scored “Poor” in the Biophysical category because it was historically not selected using biophysical data. In the Conservation Effect category, reviewers found coral, fish, and invertebrates to be stable, but seagrass degraded. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- **Priority:** Address degradation of seagrass.

Infrastructure PAME Assessment Categories

Although Enforcement rated “Adequate,” extractive activities in the no-entry, no-take site are occurring. The site scored poorly in all but one Finance criteria (the site has been assessed financially in relation to the local economy) and infrastructure and equipment is inadequate. The Planning category would be “Effective” if the site had regular socioeconomic monitoring and incorporation of data. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Improve enforcement capacity to reduce extractive activities in no-take zones.
- **Priority:** Address and improve financing criteria

Community Effects PAME Assessment Categories

The Socioeconomic category scored “Adequate” because there is no socioeconomic monitoring. Filling gaps in education and outreach programs is needed to move the Stakeholder Engagement rating to “Effective,” with needed improvements to knowledge of boundaries, understanding of conditions and threats, and overall increased support for the site.

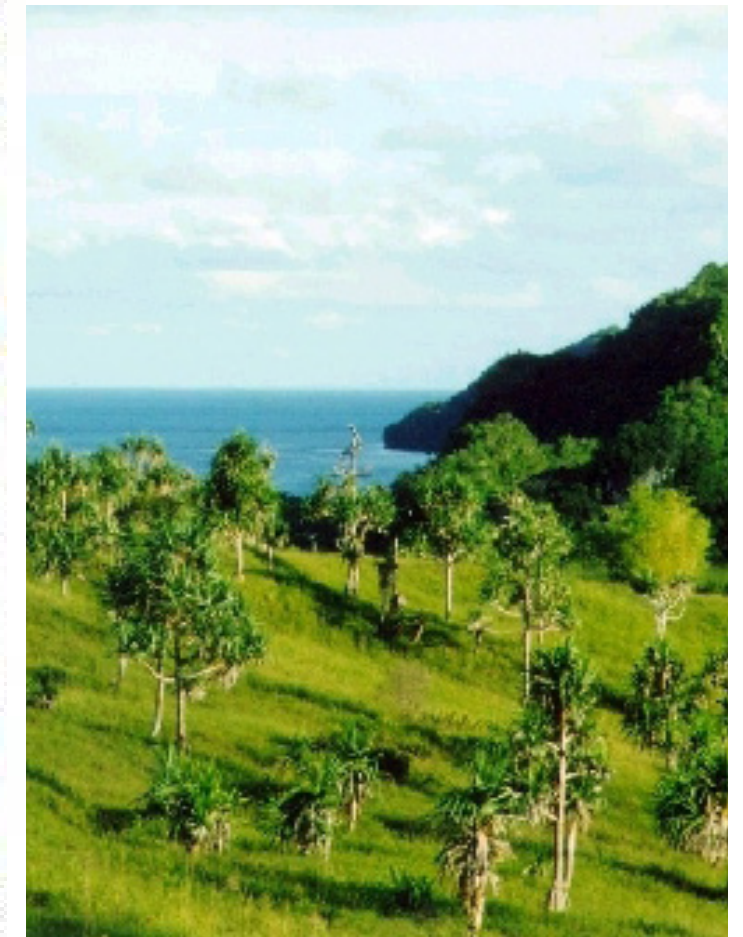
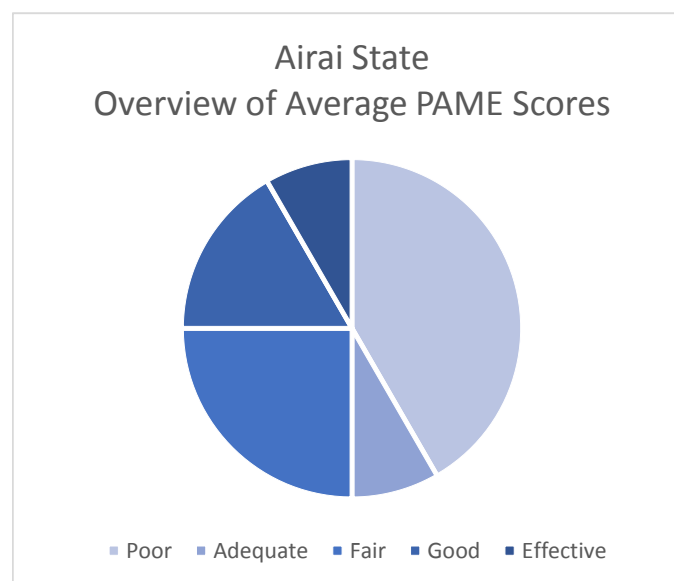
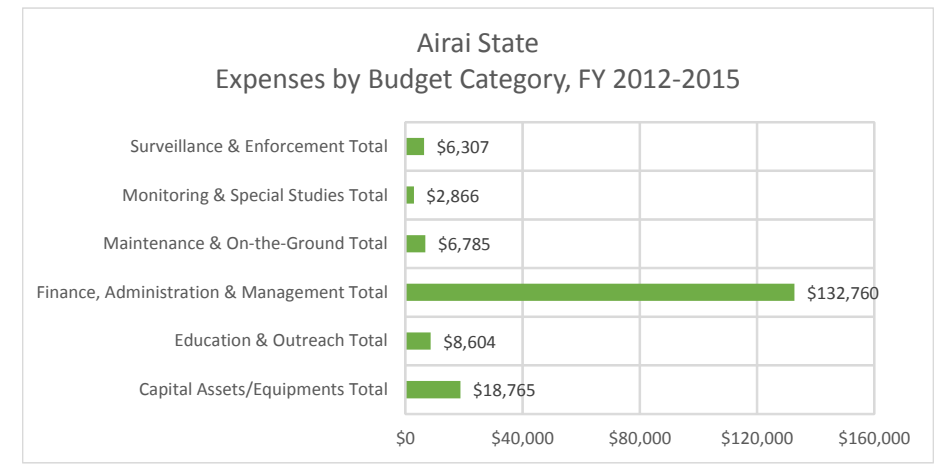
Recommended actions - Community Effects

- Develop and integrate socioeconomic monitoring
- Fill in gaps in education and outreach programs



	Medal Ngediull Conservation Area
Year became PAN Site	2011
Year Established	2006
Total size (km ²)	3.3
Percent Marine/Terrestrial	97% Marine/3% Terrestrial

Features: Rich habitat diversity, with mangroves, seagrass beds, mud flats, shallow reef basins, and patch reefs, plus the only limestone rock islands outside of Koror; Cultural sites; Fish nursery areas for Napoleon Wrasse, Humphead Parrotfish, and Rabbitfish. **Management:** No-entry, No-take.

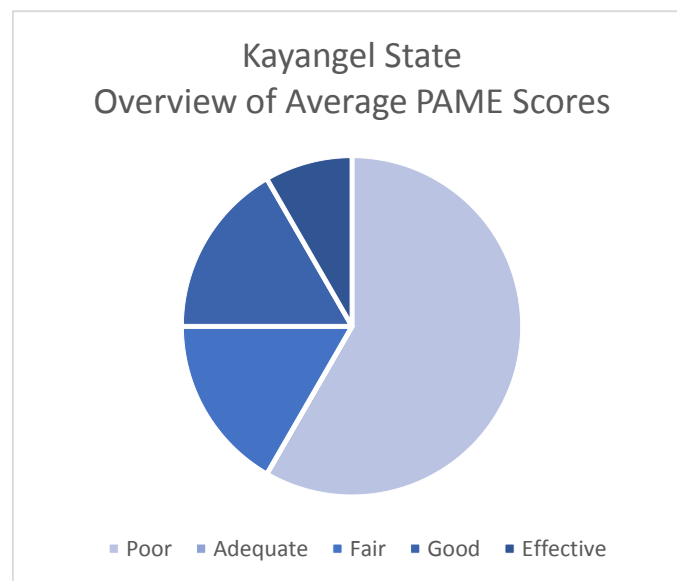




KAYANGEL STATE

(Assessed for Ngkesol, Ngeruangel, and Territorial Waters only)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	42%	Poor
Conservation effect*	7%	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	56%	Poor
Finance	27%	Poor
Infrastructure/equip	33%	Poor
Legal	78%	Fair
Planning	86%	Good
Staffing	92%	Good
PAME categories assessing Community Effects		
Socio-economic	70%	Adequate
Stakeholder engagement	80%	Fair
Traditional knowledge	100%	Effective
Overall Average	62%	Poor

* Very few targets have been defined. This category cannot be fully analyzed.



Only data from PAME Assessments of marine sites is included. Criteria were deemed inapplicable to the sacred terrestrial sites. There is a need to develop cultural site criteria and assessment methods that apply to privately-owned and/or cultural sites on land.

Natural Resource PAME Categories

Biophysical monitoring is only ad hoc in all three marine sites. In the Conservation Effect category few conservation targets were identified, and those that were identified were assessed as degraded or stable. However, the data in the PAME Assessment needs review in light of information in the Management Plan. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- Develop and implement a regular, integrated biophysical monitoring program.
- Identify conservation targets for each site and redo PAME for this category.

Infrastructure PAME Assessment Categories

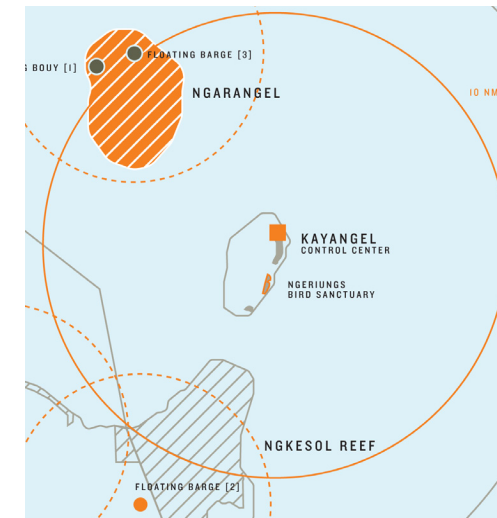
Enforcement was rated “Poor” across all 3 sites because there is no formal enforcement program, capacity to enforce regulations across the network has major deficiencies, and extractive activities still continue in no-take zones. The site scored poorly in all but one Finance criteria (site has been assessed in relation to the local economy) and infrastructure

	Ngaruangel Reserve
Year became PAN Site	2011
Year Established	1996
Total size (km ²)	35.0
Percent Marine/Terrestrial	86% Marine/14% Terrestrial
Features	Atoll ecosystem; Breeding seabirds; Nesting sea turtles; Reef ecosystem, marine biodiversity; Culturally symbolic site, home to legends
Management	Controlled access, take; Regulated tourism, sportsfishing, diving; Regulated trochus harvest; harvest for State functions.

and equipment is inadequate. The Legal Framework rating is “Fair” because additional mechanisms and procedures are needed to support operations, there is no clear legal framework regarding site violations, and the closures are not permanent. To move the Planning category rating to “Effective”, all sites need improved biophysical and socioeconomic monitoring against better defined conservation targets, and use of that data in planning and decisionmaking. Kayangel is the only state with Staffing rated as “optimal.” To move to “Effective” those staff need additional training and capacity.

Recommended actions - Infrastructure

- **Priority:** Develop an Enforcement Plan and improve enforcement capacity to reduce extractive activities in no-take zones.
- **Priority:** Address all financing criteria
- Incorporate monitoring into decisionmaking.

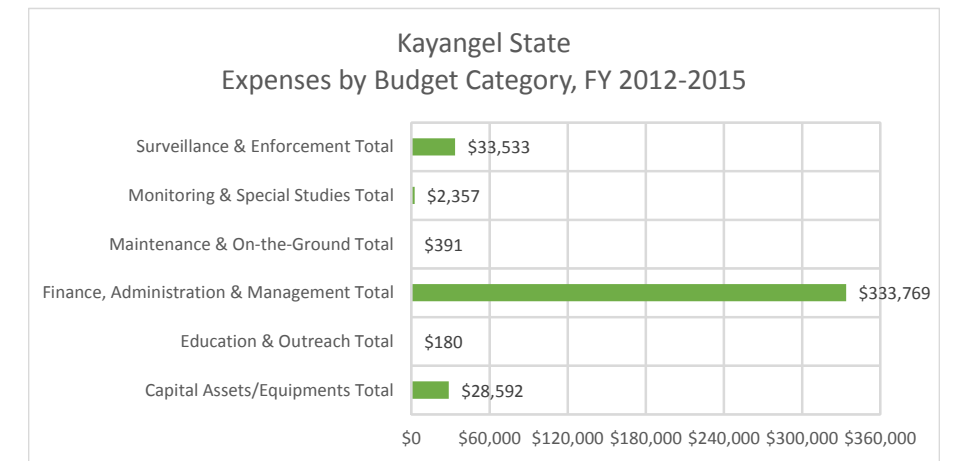


Community Effects PAME Assessment Categories

Reviewers found only ad hoc socioeconomic monitoring for Ngeruangel and no monitoring for the other two sites. Stakeholder engagement scores varied widely by site. Ngeruangel had Fair bordering on Good Engagement and Ngkesol was Adequate. Territorial Waters scored poorly in several questions, including: lack of public consultations, unknown boundaries, no endorsement of the management plan, and inadequate mechanisms for stakeholder participation. All three sites scored poorly for education and outreach programs.

Recommended actions - Community Effects

- **Priority:** Seek endorsement of the Territorial Waters Management Plan
- Improve education and awareness programs across all sites.
- Develop, implement, and use socioeconomic monitoring data.



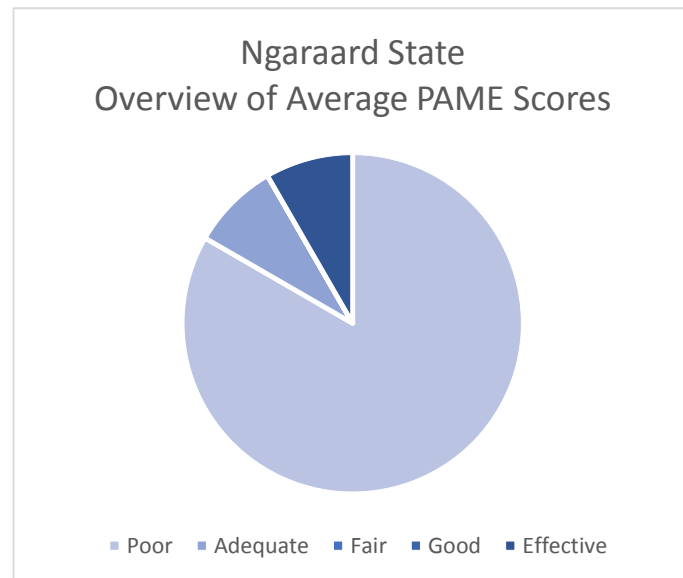
Kayangel Territorial Waters	Ngkesol Barrier Reef Marine Protected Area	Ngerusebek Sacred Site Forest Preserve	Chermall Sacred Site Forest Preserve
2015	2015	2015	2015
2012	2012	2012	2012
331.0	81.0	0.003	0.003
100% Marine	100% Marine	100% Terrestrial	100% Terrestrial
One of only 2 sandy atolls in Palau; Multiple marine ecosystems, marine biodiversity, spawning and aggregation sites, endangered marine species	Marine ecosystem, marine biodiversity; Dive sites; Fishing grounds	Atoll forest; Endangered Micronesian Megapodes; Cultural site	Atoll forest; Endangered Micronesian Megapodes; Cultural site
Specific sites for sportsfishing and tourism; All activities require a permit	3-year “open-close” rotational system. When open, all activities require permit	Privately owned traditional site, restricted access	Privately owned traditional site, restricted access



NGARAARD STATE

(Generalized across all 4 sites)	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	13%*	Poor
Conservation effect	29%**	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	39%	Poor
Finance	47%	Poor
Infrastructure/equip	33%	Poor
Legal	78%	Fair
Planning	75%	Fair
Staffing	67%	Adequate
PAME categories assessing Community Effects		
Socio-economic	25%	Poor
Stakeholder engagement	28%	Poor
Traditional knowledge	100%	Effective
Overall Average	45%	Poor

* Reviewers are missing known data cited in the management plan
 ** This value was generalized and thus in appropriate. Unique conservation targets are needed.



PAME Assessments did not use known data that was cited in the management plan. PAME Assessments were generalized across all 4 sites and should be redone with new data in mind and uniquely for each site. With **multiple sites and multiple low scores, Ngaraard's PAN Sites warrant technical assistance across the board.**

Natural Resource PAME Categories

Reviewers found inadequate or no biophysical information or monitoring data available for all 4 sites. However, this does not take into account existing data that was used in the Management Plan about birds and fisheries. Thus there is a disconnect between what the Reviewers found and available data. Conservation targets were the same across all 4 sites and thus each site has only 2-3 applicable targets, even though scores were assessed against all 5 targets (e.g. reef was applied as a target to forest sites. Most targets (birds, mangroves, wetlands, and seagrass) were assessed as stable, although coral reefs were assessed as degraded, thus the rating of "Poor". As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- **Priority:** Seek technical support to develop and implement monitoring programs for all 4 sites; align with existing monitoring programs and existing data
- **Priority:** Identify unique conservation targets for each individual site
- Redo PAME for Biophysical and Conservation Effect

Infrastructure PAME Assessment Categories

Enforcement rated "Poor" despite two good signs: the presence of an enforcement team and perceived reduction in illegal activities. Boundaries have not been delineated, there is no formal enforcement program, the existing enforcement group has major deficiencies in capacity, and there are still extractive activities in no-take zones. Most Finance questions scored poorly due to inadequate financing and budget, no implementation of a sustainable financing plan (which has been assessed), and inadequate staffing and resources. Similarly infrastructure was deemed inadequate. In Legal criteria, the sites are missing a clear legal framework regarding site violations and could have continued development of mechanisms and procedures to support operations. Planning is rated "Fair" because site zones have not been fully integrated into government spatial planning processes, connectivity has not been assessed, the management team does

	Ngaraard Mangrove Conservation Area	Ungellel Conservation Area	Diong Era Ngerchokl Conservation Area	Ngerkall Lake and Metmellasech River Conservation Area
Year became PAN Site	2011	2011	2011	2011
Year Established	1994	2007	2008	2008
Total size (km ²)	2.9	0.03	0.9	2.2
Percent Marine/ Terrestrial	100% Marine	100% Marine	100% Terrestrial	100% Terrestrial
Features	Mangrove; Fish nursery for multiple economically important species	Mangrove (untouched)	Cultural site and home to legend; Tourism site; Unique freshwater swamp; Rivers and streams, Terrestrial biodiversity	Only other freshwater pond in Palau, freshwater marsh; Rivers and streams, Terrestrial biodiversity, Endangered birds, history of increasing population of Micronesian Pigeons; Home for saltwater crocodiles; Water source for multiple villages
Management	Subsistence fishing allowed in Northern Part; South is no-entry, no-take	No-entry, No-take	Education and ecotourism allowed, no-take	Watershed above Ngerkall Pond and Metmellasech dam is no-entry, no-take; Watershed below drainage points are open to education and ecotourism

not have clear roles and responsibilities, and because the lack of biophysical and socioeconomic monitoring programs means that data and trends are not being incorporated into planning and decisionmaking. Staffing is below optimum and training and skills capacity could be improved to move this category to "Effective."

Recommended actions - Infrastructure

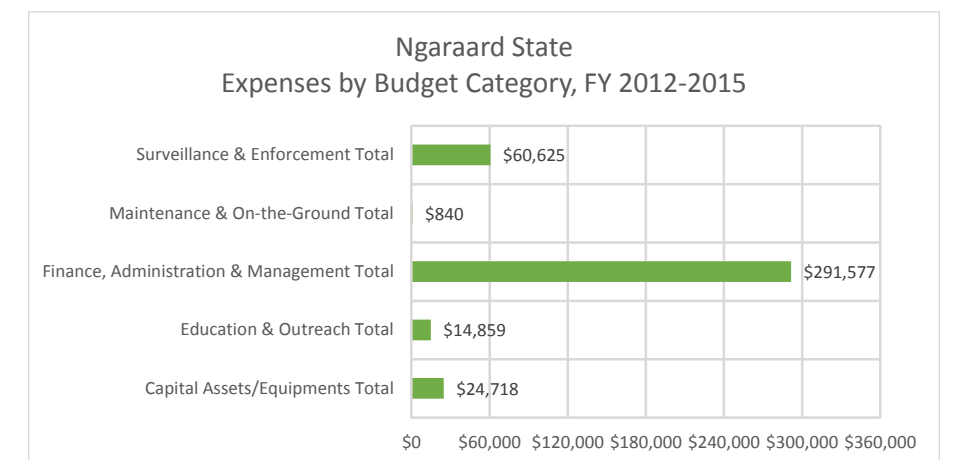
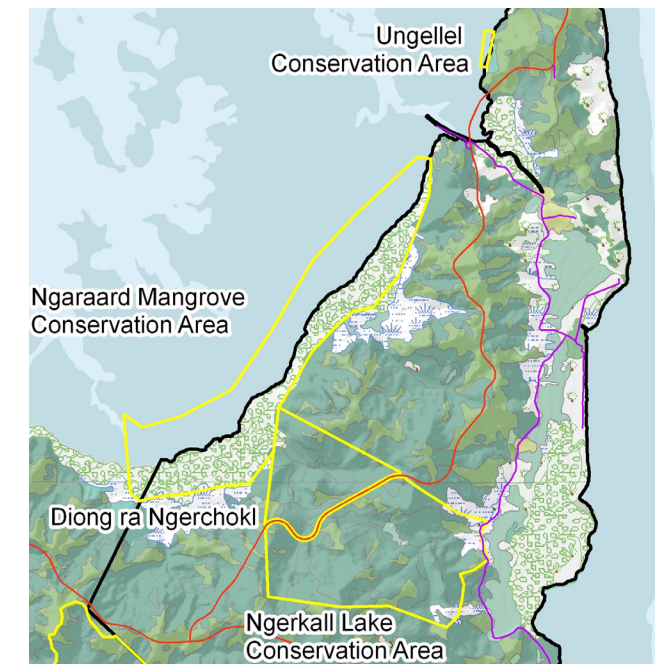
- **Priority:** Seek technical support to improve Enforcement program, develop budget and Sustainable Financing Plan, improve Planning Processes, and develop Monitoring plans

Community Effects PAME Assessment Categories

The Socioeconomic category scored poorly in 3 out of 4 questions, because there is inadequate socioeconomic monitoring and use of data and because alternative livelihoods have not been discussed as a way of generating community support. Stakeholder Engagement scored poorly for many questions, including need to delineate and communicate boundaries, lack of representative planning team with an active participatory process, lack of community feedback about monitoring, and low levels of stakeholder awareness and support.

Recommended actions - Community Effects

- Better communicate boundaries and maintain signs and markers.
- **Priority:** In tandem with biophysical monitoring partners, develop and integrate socioeconomic monitoring programs and community feedback mechanisms.
- **Priority:** Improve engagement with the community (across multiple categories - planning, livelihoods, education and outreach, decisionmaking, participatory processes).

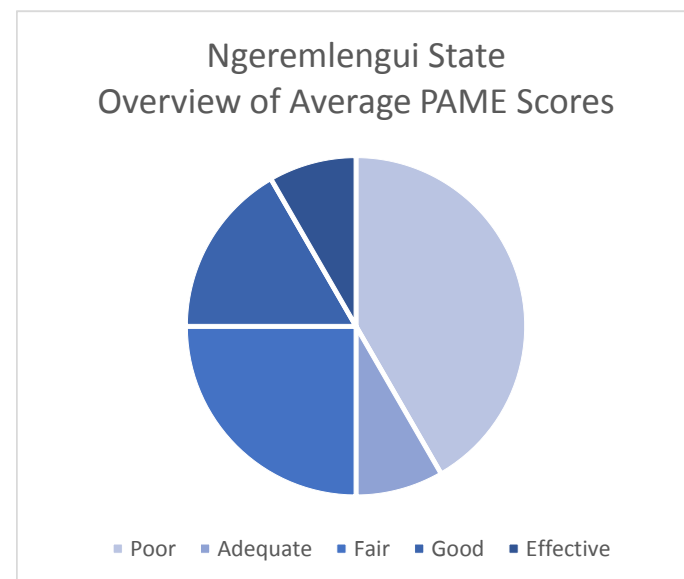




NGEREMLENGUI STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	50%*	Poor
Conservation effect	29%*	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	78%	Fair
Finance	27%	Poor
Infrastructure/equip	33%	Poor
Legal	100%	Effective
Planning	92%	Good
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	75%	Adequate
Stakeholder engagement	88%	Good
Traditional knowledge	100%	Effective
Overall Average	71%	Adequate

* These findings require review.



Natural Resource PAME Categories

Reviewers rated the site “Poor” in the Biophysical category due to “little or no information available on the biophysical conditions associated with the site.” However, given extensive bird surveys in the area both before and after site establishment, this PAME result warrants review. Only 2 conservation targets were defined; both were assessed as degraded. However, reviewers found that threats had been decreased and conservation goals met at the 75% level. This finding may also need review. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- Review PAME assessment finding in the Biophysical and Conservation Effect categories.
- Define conservation targets.

Infrastructure PAME Assessment Categories

Although Enforcement rated “Fair,” extractive activities in the no-take site is occurring. The site scored poorly in all but one Finance criteria (site has been assessed in relation to the local economy) and infrastructure and equipment is inadequate. The Planning category would be “Effective” if the site had regular socioeconomic monitoring and incorporation of data into an adaptive management process. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Improve enforcement capacity to reduce extractive activities in no-take zones.
- **Priority:** Address and improve financing criteria.
- Improve socioeconomic monitoring and feedback

Community Effects PAME Assessment Categories

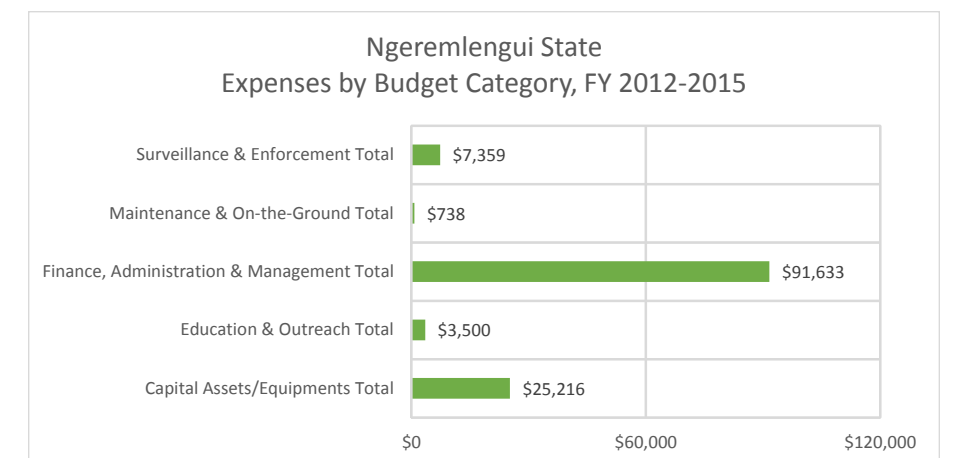
The Socioeconomic category scored “Adequate” because there is no socioeconomic monitoring. Filling gaps in education and outreach programs is needed to move the Stakeholder Engagement rating to “Effective,” with needed improvements to knowledge of boundaries, understanding of conditions and threats, and overall increased support for the site.

Recommended actions - Community Effects

- Develop and integrate socioeconomic monitoring
- Fill in gaps in education and outreach programs

Ngeremeskang Bird Sanctuary	
Year became PAN Site	2012
Year Established	2008
Total size (km ²)	15
Percent Marine/Terrestrial	100% Terrestrial

Features: Palau’s only area protected specifically for forest birds. Highest bird diversity in Palau and economically important for bird-watching. Swamp forest, Forest, Bird abundance. **Management:** No-take, controlled access.





PELELIU STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	33%	Poor
Conservation effect	71%	Adequate
Ecosystem services	100%	Effective
PAME categories assessing Infrastructure		
Enforcement	94%	Good
Finance	27%	Poor
Infrastructure/equip	33%	Poor
Legal	78%	Fair
Planning	92%	Good
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	50%	Poor
Stakeholder engagement	100%	Effective
Traditional knowledge	50%	Poor
Overall Average	75%	Adequate

Natural Resource PAME Categories

Reviewers rated the site “Poor” in the Biophysical category because there was little biophysical information during setup. However, this should be reconciled with the fact that there has been considerable survey work at the site for many years. This survey work, however, needs to be aligned with management needs. Although Conservation Effect rated only “Adequate” there were many bright spots: seagrass, herbivorous fish, and sea turtles improved; sea cucumbers and corals were stable, and some threats were decreased by 75% or more. However, the site is not meeting Management Plan goals by 75%.

Recommended actions - Natural Resources

- Improve biophysical monitoring programs so they meet management goals

Infrastructure PAME Assessment Categories

Enforcement could move to “Effective” with additional capacity building. The site scored poorly in all but one Finance criteria (site has been assessed in relation to the local economy) and infrastructure and equipment is inadequate. In Legal criteria, the sites are missing a clear legal framework regarding site violations and could have continued development of mechanisms and procedures to support operations. The Planning category would be



An example of a community-led conservation movement, the “Real Fishermen Measure Up” campaign spearheaded by the Ebiil Society was shared with the community in Peleliu © Ann Singeo

“Effective” if the site had regular socioeconomic monitoring and incorporation of data into an adaptive management process. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Address and improve financing criteria.
- Improve socioeconomic monitoring and feedback

Community Effects PAME Assessment Categories

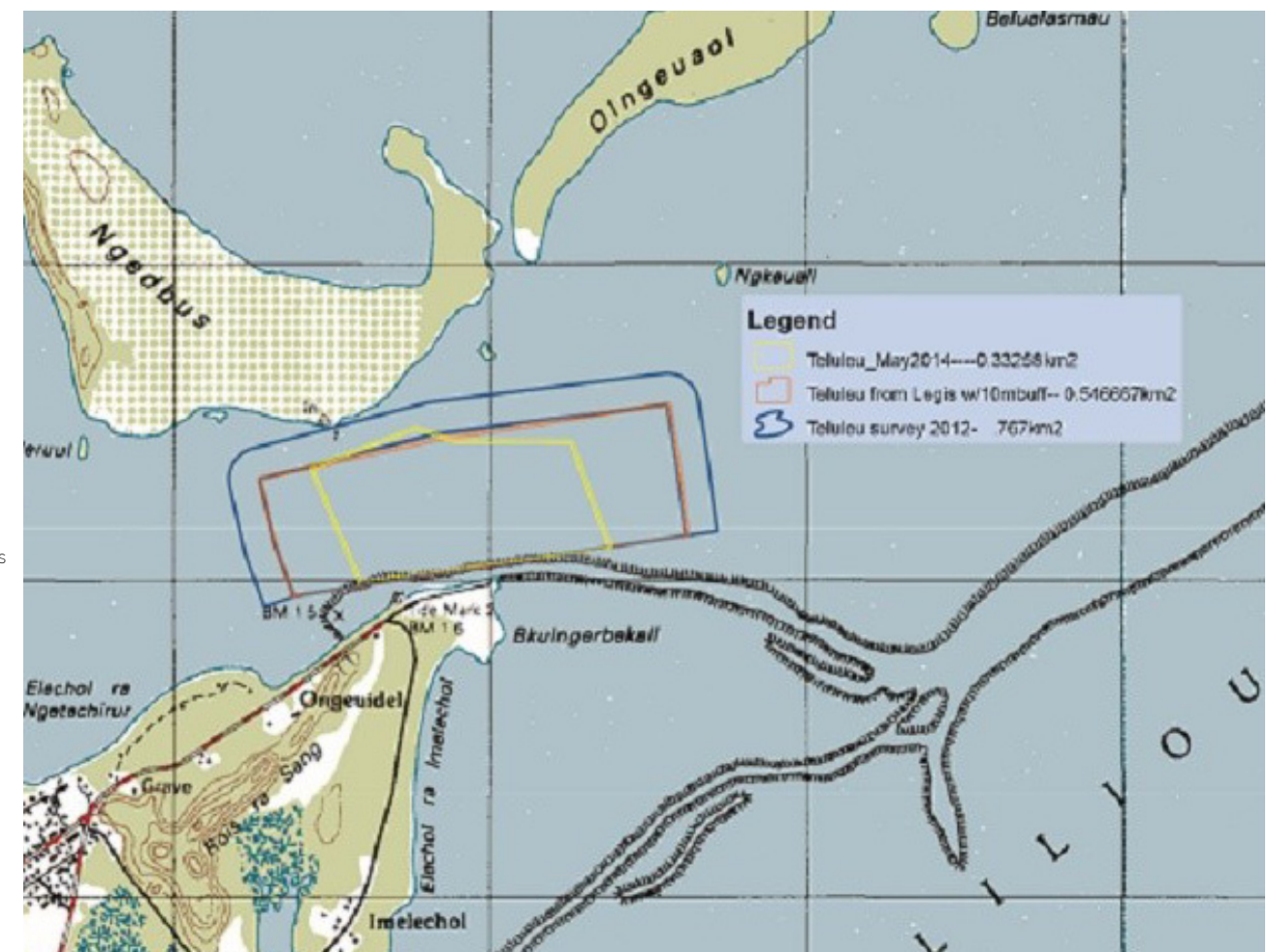
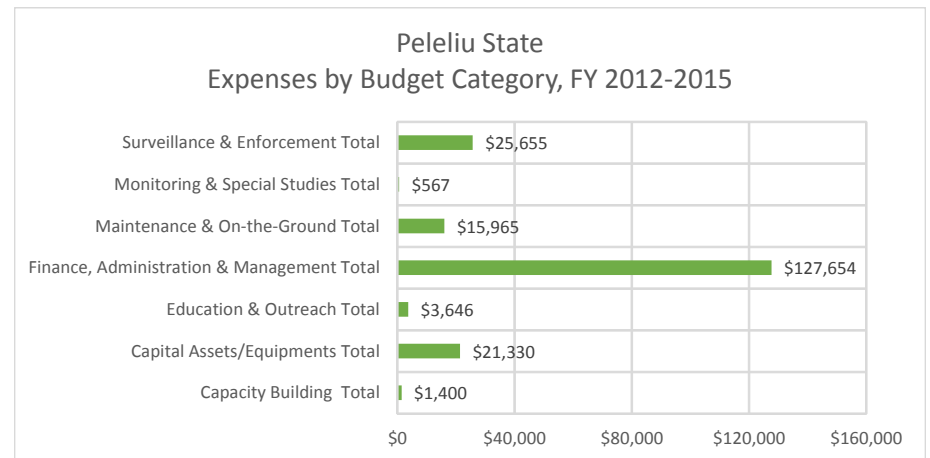
The Socioeconomic category rated “Poor” because there is no socioeconomic monitoring and socioeconomic data was not used during establishment. The site scored “Poor” for Traditional Knowledge because it was not a traditionally managed area in the past.

Recommended actions - Community Effects

- Develop and integrate socioeconomic monitoring
- Explore avenues for Traditional leaders and communities to be more involved in management.

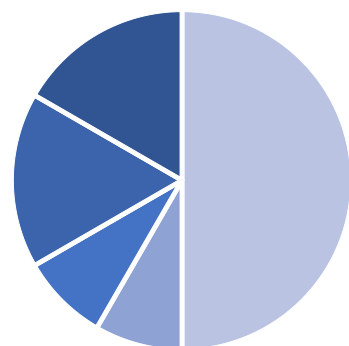
	Teluleu Conservation Area
Year became PAN Site	2012
Year Established	2001
Total size (km ²)	0.8
Percent Marine/Terrestrial	100% Marine

Features: Seagrass bed and sandy bottom surrounded by a reef crest. Important nursery area for juvenile fish and home to a wide diversity of invertebrates; especially those important for subsistence and commercial purposes. Close to known fish and invertebrate spawning grounds and possible link as a safe harbor. Feeding ground for sea turtles. **Management:** No-entry, no-take.



Field assessments carried out in tandem with the PAME assessments identified discrepancies between the legislated boundary, field markers, and an earlier measurement of the boundary. There is need to survey and delineate borders across the PAN Network.

Peleliu State Overview of Average PAME Scores



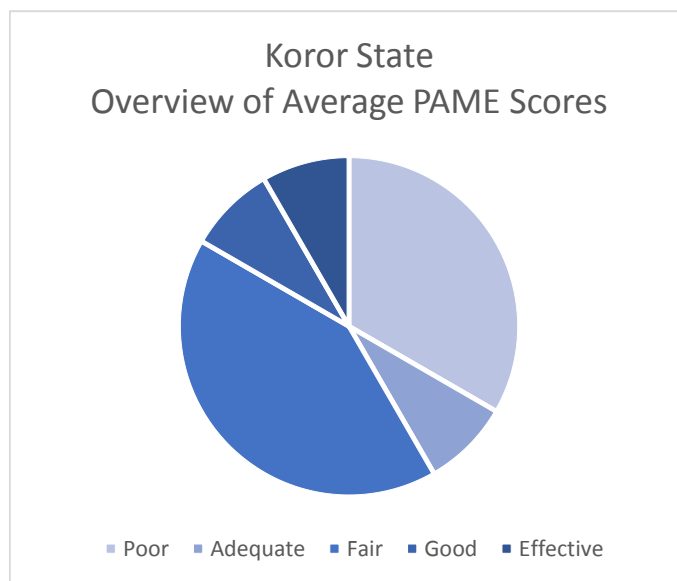
■ Poor ■ Adequate ■ Fair ■ Good ■ Effective



KOROR STATE

	Average PAME Score	Rank
PAME categories assessing Natural Resources		
Biophysical	83%	Fair
Conservation effect	36%*	Poor
Ecosystem services	0%	Poor
PAME categories assessing Infrastructure		
Enforcement	74%	Adequate
Finance	77%	Fair
Infrastructure/equip	33%	Poor
Legal	94%	Good
Planning	89%	Good
Staffing	83%	Fair
PAME categories assessing Community Effects		
Socio-economic	50%	Poor
Stakeholder engagement	83%	Fair
Traditional knowledge	100%	Effective
Overall Average	73%	Adequate

* Inadequate data for Ngerumekaol. Need to define Conservation Targets for Ngerumekaol, access existing data, and reassess PAME.



Although Koror has only two sites in the PAN, it manages all sites in the Rock Islands Southern Lagoon jointly. Socioeconomic monitoring and assessment is missing and impacts multiple PAME Categories.

Natural Resource PAME Categories

For the site to rate “Effective” in the Biophysical category, modifications or additions to existing monitoring programs should align with management needs. The “Poor” rating for Conservation Effect arises from missing data. At Ngerukewid, all 5 conservation targets were listed as Stable, threats abated by 75% and management goals met by 75%. Ngerumekaol, however, had only one conservation target defined and missing data analysis for all other questions, despite a note that data exists for the site. As in other sites, there has been no analysis of Ecosystem Services.

Recommended actions - Natural Resources

- Access data for Ngerumekaol and redo PAME for Biophysical and Conservation Effect

Infrastructure PAME Assessment Categories

The sites rated only “Adequate” for Enforcement because there are extractive activities still ongoing in both no-take sites, there is room for additional capacity improvement, and Ngerukewid has no boundary markers. For Finance to move to “Effective,” the budget needs improvement to be sufficient, and additional work is needed on identifying the economic contributions of the site. This work is ongoing. Enforcement could move to “Effective” with additional capacity building. The site scored poorly in all but one Finance criteria (site has been assessed in relation to the local economy) and infrastructure and equipment is inadequate. In Legal criteria, continued development of mechanisms and procedures to support operations would move the rating to “Effective.” The Planning category would be “Effective” if regular socioeconomic monitoring data was incorporated into adaptive management and if more management plan activities (most or all) were being actively implemented. Staffing is below optimum and training and skills capacity could be improved to move this category to “Effective.”

Recommended actions - Infrastructure

- **Priority:** Address illegal extractive activities.
- **Priority:** Seek assistance to invest in facilities and

- equipment
- Improve socioeconomic monitoring and feedback

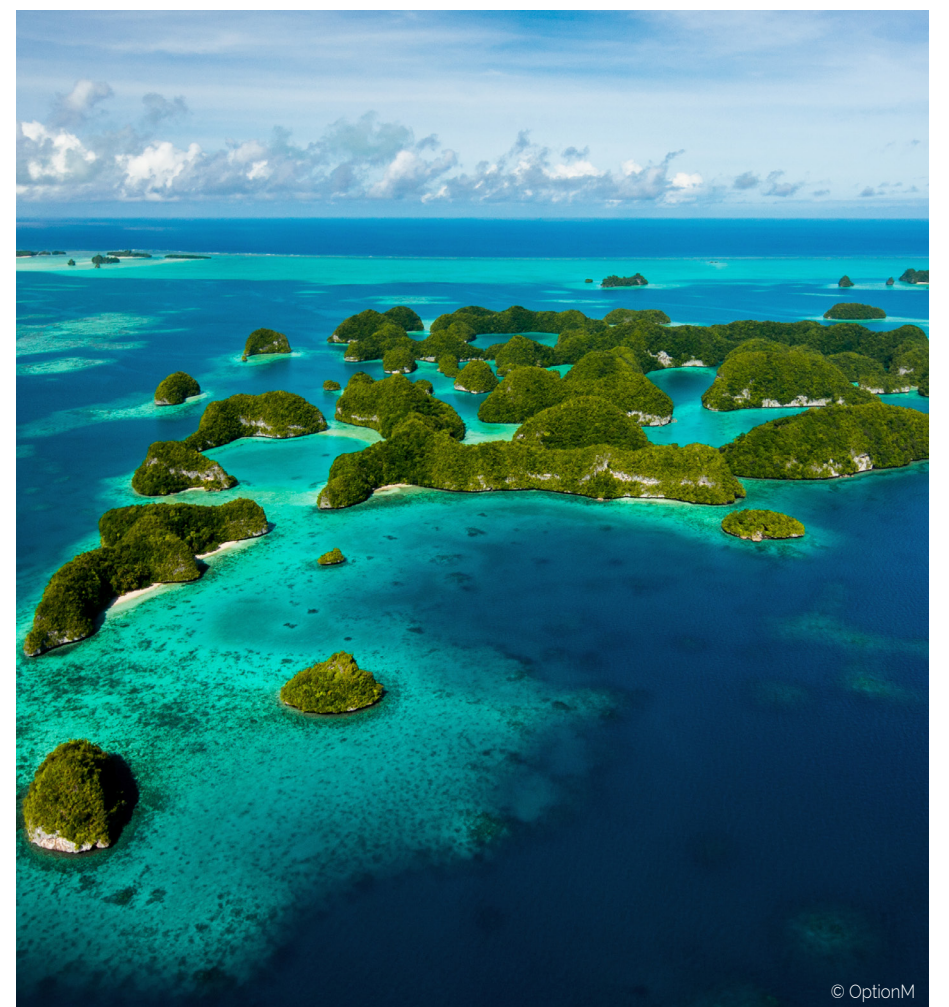
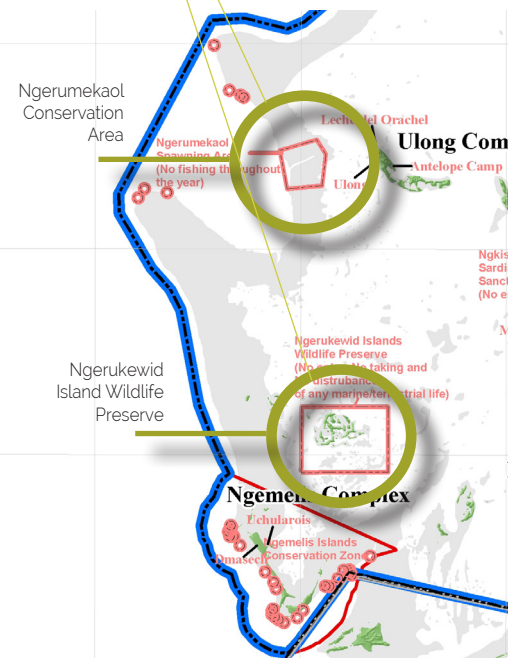
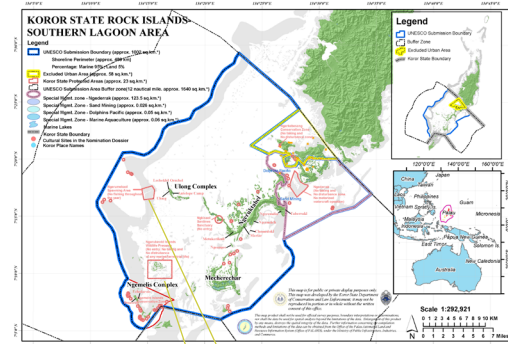
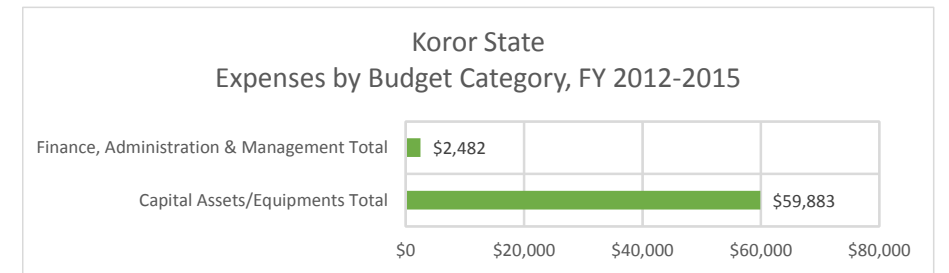
Community Effects PAME Assessment Categories

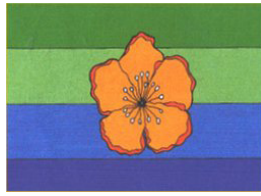
The Socioeconomic category rated “Poor” because there is no socioeconomic monitoring and socioeconomic data was not used during establishment. The sites scored only “Fair” for Stakeholder Engagement because there are insufficient mechanisms for stakeholder participation and decisionmaking, less than 75% of stakeholders are aware and concerned about resource conditions and threats, there are gaps in the existing education and outreach program, and Ngerukewid’s boundaries are unmarked and not well known.

Recommended actions - Community Effects

- Develop and integrate socioeconomic monitoring
- Improve stakeholder involvement and education

	Ngerukewid Islands Wildlife Preserve	Ngerumekaol Conservation Area
Year became PAN Site	2013	2013
Year Established	1956	1976
Total size (km ²)	11.0	2.1
Percent Marine/ Terrestrial	30% Marine/70% Terrestrial	100% Marine
Features	Part of World Heritage Site. Limestone rock islands and rock island ecosystem; Marine and terrestrial biodiversity, endangered species; Species abundance; Cultural sites	Part of World Heritage Site. Spawning and Aggregation Site; Marine biodiversity and abundance
Management	No-entry, no-take.	No-take.





ANGAUR STATE

	Angaur Conservation Area
Year became PAN Site	2015
Year Established	2006
Total size (km ²)	0.7
Percent Marine/Terrestrial	100% Marine
Features	Seagrass, Reef flat



Angaur joined the PAN in 2015 with its one protected area. It has not yet been assessed for Protected Area Management Effectiveness (PAME).

The Angaur Conservation Area is a stunning coastal site with seagrass beds and reef flats important to subsistence fisheries.

Angaur's terrestrial environment, though unique, has been heavily negatively impacted by invasive species. The marine site, however, is healthy because of the State's low population and because of its location outside of Palau's main lagoon and barrier reef. There is low runoff and pollution from Angaur, which is one of Palau's two low coralline platform islands.

Angaur has been through an island-wide Conservation Action Planning (CAP) Process, which will feed into the site's management plan.



NGATPANG STATE

Ngatpang joined the PAN in 2015 and its three sites have not yet been assessed for Protected Area Management Effectiveness (PAME).

Ngatpang's marine environments are dominated by Nger-meduu Bay, and thus has rich and diverse resources. Mangroves in the Bay are important nurseries and producers of mangrove crab, clams, sea cucumbers, and rabbitfish.

Ngatpang's three sites protect species that are important both to subsistence and commercial livelihoods. The three sites also protect diverse habitats, including inner mangroves, outer mangroves, and outer reef.

Ngatpang received a small grant from the PAN Fund in FY2014 to prepare its PAN Nomination and begin the process of management planning for the sites.



	Oreuaol Ibuchel Protected Area	Iuul Conservation Area (Clam)	Crab Conservation Area
Year became PAN Site	2015	2015	2015
Year Established	2003	2003	2003
Total size (km ²)	0.8	0.4	0.3
Percent Marine/Terrestrial	100% Marine	100% Marine	100% Marine
Features	Reef	Reef; Clams	Mangrove; Crabs



SONSOROL STATE

Sonsorol State is the only one of Palau's 16 States that does not have a PAN site, and thus is the subject of innovative thinking and brainstorming. The current PAN model, which funds sites that are owned by State governments, will not apply in Sonsorol. Land in Sonsorol State is fully privately owned, prompting exploration of private-public conservation partnerships that will expand the capacity and flexibility of the PAN. Of particular interest is Fana Island, an Important Bird Area that is home to thousands of nesting Red-footed Boobies, abundant coconut crabs, and nesting sea turtles. Merir Island is also known as a nesting beach for many sea turtles.



LOOKING FORWARD

In the first decade of the PAN, States went from struggling to protect their natural resources to working in partnership to improve management of sites. The creation of the PAN spurred the creation of many new protected areas, and improved management in all sites. Perhaps the most notable achievement of the PAN is that it created this sense of community in a way that is uniquely Palauan: by celebrating both community and individualism; by encouraging standardization while also celebrating uniqueness. The next decade of the **PAN will surely be a showcase for Effective Conservation**, with Palau's States, communities, individuals, and partners all working to capitalize on these gains and ensure that resources are used sustainably and protected in perpetuity for future generations.



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A fisherman with knowledge of size limits stands ready at a community-organized Fishing Derby © Ann Singeo.

Photos without credits provided courtesy of the Palau Conservation Society.

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