PIMPAC Adaptive Management Guidance

Background

This document was developed in response to the Pacific Islands Managed and Protected Area Community (PIMPAC) 2016-2020 Strategic Plan. Building capacity for the development of comprehensive site based management plans has been a topic of focus since 2006 for PIMPAC as it sets the foundation for all further management activities (monitoring, enforcement, financing, etc). Management plans have been developed for many sites in all PIMPAC jurisdictions and implementation of activities is taking place. Additionally biological and socio-economic assessments have occurred in many sites and in some cases monitoring is on-going.

PIMPACs 2016-2020 strategic plan is now focused on supporting the adaptive management process in each jurisdiction. The adaptive management process will help jurisdictional teams identify how they will work with communities to monitor success of their existing actions, and how they will modify or adapt their management activities and plans based on their monitoring results to address gaps or further progress successes. This guide was designed to help support the adaptive management process, specifically through updating plans and adapting management.

Introduction

What is Adaptive Management?

Adaptive management is a widely used term in natural resource management today and is considered to be part of good management practice. As defined by Salafsky et. al (2001) "Adaptive management incorporates research into conservation action. Specifically, it is the integration of design, management, and monitoring to systematically test assumptions in order to adapt and learn." Stated another way, adaptive management is a process. It is done when managers discuss and capture their thought process for deciding on specific management actions and the results they expect to see. They then assess their progress or gaps toward those expected results. Finally they modify actions based on what they've learned.

Components of Adaptive Management

While the adaptive management process is not always completed in this exact sequence, it generally includes these five components:

1. **Assessing targets threats and Developing Management Plans** - During the planning process, the management team and other stakeholders will review their target resources, threats to those resources, and the actions they will take to reduce those threats and conserve the targets. During this step, the group will complete a conceptual model, which helps to visualize their assumptions about how taking certain actions will reduce the root

causes of threats to achieve protection of resources. Management plans also typically include monitoring plans that explain how the management team will measure their progress toward achieving the desired results (or objectives) they set out to complete. One of the key aspects do carry out adaptive management, is to plan your actions with associated ways to monitor progress. For this reason, the inclusion indicators of success in plans and methods to monitor those indicators is a key factor to being able to adapt over time. Management plans usually cover a 3-5 year period of actions.

2. **Implementing Actions in Your Plan** - The next step is to implement the actions in the plan. For the most part management should follow the actions described in the plan. However, new issues or challenges may arise, or new information may be presented that may change the original assumptions of the group. Part of adaptive management includes regular times to review and update progress throughout implementation process.   This can be a simplified review but should be defined periods of time (e.g. every six months) for the management team to review what's working as planned, what's not working, and any new information or changes to the situation that should be considered. Based on this information small modifications may need to be made to management actions to achieve the desired results.

3. **Monitoring Effectiveness toward Achieving your Objectives –** Part of implementation also includes monitoring.   Monitoring can be done formally through assessments such as biological or socio-economic monitoring. These approaches include quantitative surveys to understand baseline conditions of the natural environment, and social systems (knowledge, attitudes, and perceptions). Over time, monitoring will measure changes in these systems to help the management team understand their progress in achieving the biological and social results they expected to achieve.   Other information can also used measure management capacity and effectiveness over time. This can include changes to policies, financial reports, enforcement logbooks, etc. One of the key aspects of adaptive management is to review and utilize these different sets of measures to understand progress toward your objectives and modify management based on their findings.

4. **Communicating Results to Stakeholders –** Just as with planning, part of adaptive management includes sharing and collecting information from stakeholders.   As the management team learns new information over time from monitoring and other assessments, this information should be shared with stakeholders.   Keeping stakeholders informed can ensure they know about management successes and also potentially help with management challenges.   Before major modifications are made to management objectives or actions, it's encouraged that these updates are shared with key stakeholders through a process that allows them to provide input.   How this occurs will depend on the social and governance structure but is a key component in adaptive management.

5. **Updating your Plan and Adapting your Management –** The final component in adaptive management is updating your management plan to reflect the lessons you've learned.   This guidance is focused on this component.   It provides a simple process for updating your

management plan that includes collecting, reviewing, and discussing information from the other four components.   Through an in-depth review of what you've learned, what's working and what's not, you will be ready to make strategic updates to your management objectives and actions. This can be done every 3-5 years.

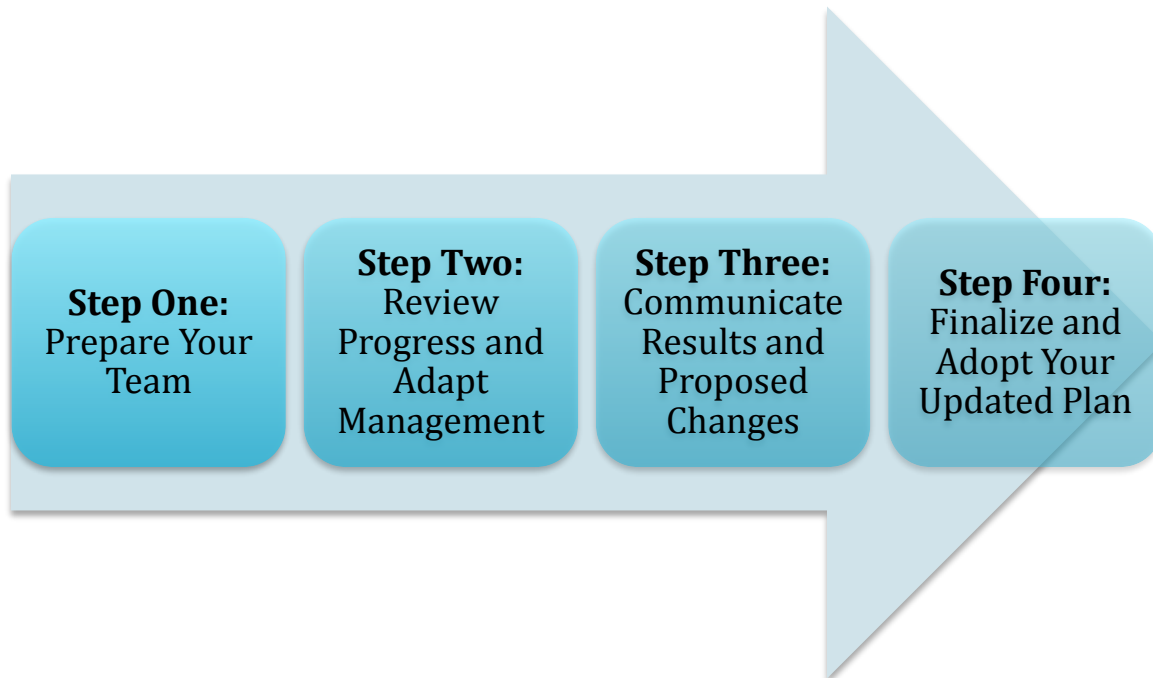## PIMPAC Support for Adaptive Management Cycle

The adaptive management cycle requires capacity at each step of the way to foster effective site based management.   The Pacific Islands Managed and Protected Area Community aims to support capacity within each component through training and technical assistance, learning exchanges, partnership building, coordination and communications, and leveraging funds. Table 1 lists the various training and technical support topics that PIMPAC offers direct support.

Table 1: PIMPAC Support for Adaptive Management Components

Adaptive Management Steps	PIMPAC Capacity Development Support
1. Assessing targets threats and Developing Management Plans	- Management Planning - Climate Change Outreach and Planning - Understanding and Planning for Coastal Change - Developing Zones and Rules for Long Term Community Benefit
2. Implementing Actions in Your Plan	- Compliance and Enforcement - Terrestrial Resource Management and Food Security ○ Sustaining Island Piggeries ○ Sustaining Soil Health - Sustaining Farms and Food Forests - Social Marketing/ Behavior Change Campaign
3. Monitoring Effectiveness toward Achieving your Objectives	- Socio-economic Monitoring - Marine Resource Monitoring - Terrestrial Resource Monitoring - Micronesia Protected Area Management Effectiveness Tool
4. Communicating Results to Stakeholders	Social Marketing/ Behavior Change Campaign Guidance
5. Updating your Plan and Adapting your Management	Adaptive Management Guidance *(this document)*

Steps to Update Your Plan and Adapt Mangement

The rest of this document provides guidance for updating your management plan that includes collection, review, and discussion of the other adaptive management components.   The core management planning team that developed the original plan should carry out this process. Additionally, there may be stakeholders, technical experts, or partners that the team would like to include in various steps of the process.   The steps outlined in this plan are:

Step One:
Prepare Your Team

Step Two:
Review Progress and Adapt Management

Step Three:
Communicate Results and Proposed Changes

Step Four:
Finalize and Adopt Your Updated Plan

Step One: Prepare Your Team

This step consists of three sessions to get your planning team ready to update your management plan. These are:

- Session One: Completing the Getting Organized Checklist
- Session Two: Review Your Management Plan
- Session Three: Collect Monitoring Results

Session One: Completing the Getting Organized Checklist

Purpose:
Just like your original management planning process it is important to begin updating your plan by ensuring that you have a team of people who are committed to the process and that your team has adequate information to be effective.

Exercise – *with lead planning team members only* ** Revised from Local Early Action Planning Guidance

1. To make sure the core team is organized and prepared to be successful, review the statements in the worksheet below. Check the boxes YES or NO for all statements and fill in the blanks for those that apply to your situation. It is recommended that all of the getting organized activities at least be discussed and ideally be completed before moving forward.

2. After reviewing the statements in the checklist, your team should decide if you are prepared with the right information and if now is the right time to initiate the management plan update OR if you need to carry out more activities before you are ready to start the planning process.

Worksheet One: Preparing Your Team Checklist

	Question	YES/ NO	Answer
1.	We have identified a core planning team who are capable of and committed to facilitating the management plan update.		List all members of the team the their role:
2.	We have identified a strong team of local leaders and experts that have agreed to participate in the management plan update? Consider experts in you may want to consult in this process.		List additional team members and their role in awareness and/or planning:
3.	We have identified key stakeholder groups and how to engage them in the management plan update?		List stakeholders
4.	We have the authority or have support from the appropriate leaders/agencies to make management decisions for the area?		Please Explain?
5.	We have a target date for finishing management plan update?		Target Date for Completion:
6.	We know how the final plan will be approved and who has authority to approve it?		How?
7.	We have collected existing information about the area (e.g. management plans, maps, historical photos, social or biological studies, information on climate)?		This includes:

Session Two: Review Big Picture Progress

Purpose: The purpose of this session is to start your management update process with a big picture discussion with your core management team about what's working well and what's not. This will provide the foundation for further more detailed discussions and allows the group to provide initial thoughts and gut reactions about management progress that can foster interest and engagement for going deeper.

Exercise – *with core planning team only*

This session will be carried out through facilitated discussion during the first meeting of your core team. Ample time should be given for this session to allow the group to thoroughly discuss their perceptions about their progress.   Capture information on flip chart paper to be used for future discussions.

1. Explain to the group that their honesty is critical throughout this process. Successes should be acknowledged, discussed, and celebrated to help management maintain these aspects and to share with others. Challenges, gaps, and failures should also be discussed with an understanding that management is complex and evolving. It's only by exploring what's not working and why, that management can be adapted to move toward success.

1. Break the group into smaller groups of 2-3 people each. Have each group discuss the following questions and capture notes.

   - Why did the community originally create the protected area?
   - What results did the community want to get from the protected area?
   - How are you doing toward these achieving these results? Did you accomplish what you set out to?
   - What's working well? Why?
   - What's not working well? Why?

2. Bring the small groups back together and review the answers collectively.   Capture the information on flipchart paper to be used later on in the process.

## Session Three: Review Your Management Plan Details

Purpose: The purpose of the this Session is to ensure the core team is familiar with the details of your existing plan including the assumptions that were made to decide on the objectives and actions you included in the plan.   This information will provide the group with the foundation

for good discussions in the next step which will explores the progress in meeting the objectives and reasons some objectives may have not been met.

Exercise – *with core planning team only*

1. **Baseline Conditions** - Begin with your existing management plan and completing a review of the baseline conditions that you developed your plan around. This will be found in the background section of your management plan. This information should describe the condition of the targets at the beginning of the management plan process and is often the reason why your group took management action. For example, fish populations were declining.

2. **Conceptual Model** - Next review your conceptual model. If you have a picture of this, it is ideal to re-create a large conceptual model on flipcharts or a sticky wall. If you don't have a conceptual model from your management planning process, you can develop a simple one using information from your plan and use this to help update the plan. See Appendix A for guidance on developing a conceptual model. Be sure to include Targets, Threats, Causes of Threats, and Actions to Reduce Threats. Discuss the following and capture the answers:

   a. Does this conceptual model still stand true?

   b. Are there any big picture changes that need to be considered before moving forward? For example, maybe a policy was put in place that changes some of the model that said "Lack of laws". Capture any big changes on a on the conceptual model but be sure to note that they are new for this management cycle.

Example: Nimpal Conceptual Model – Targets, Threats, Causes of Threats, and Actions
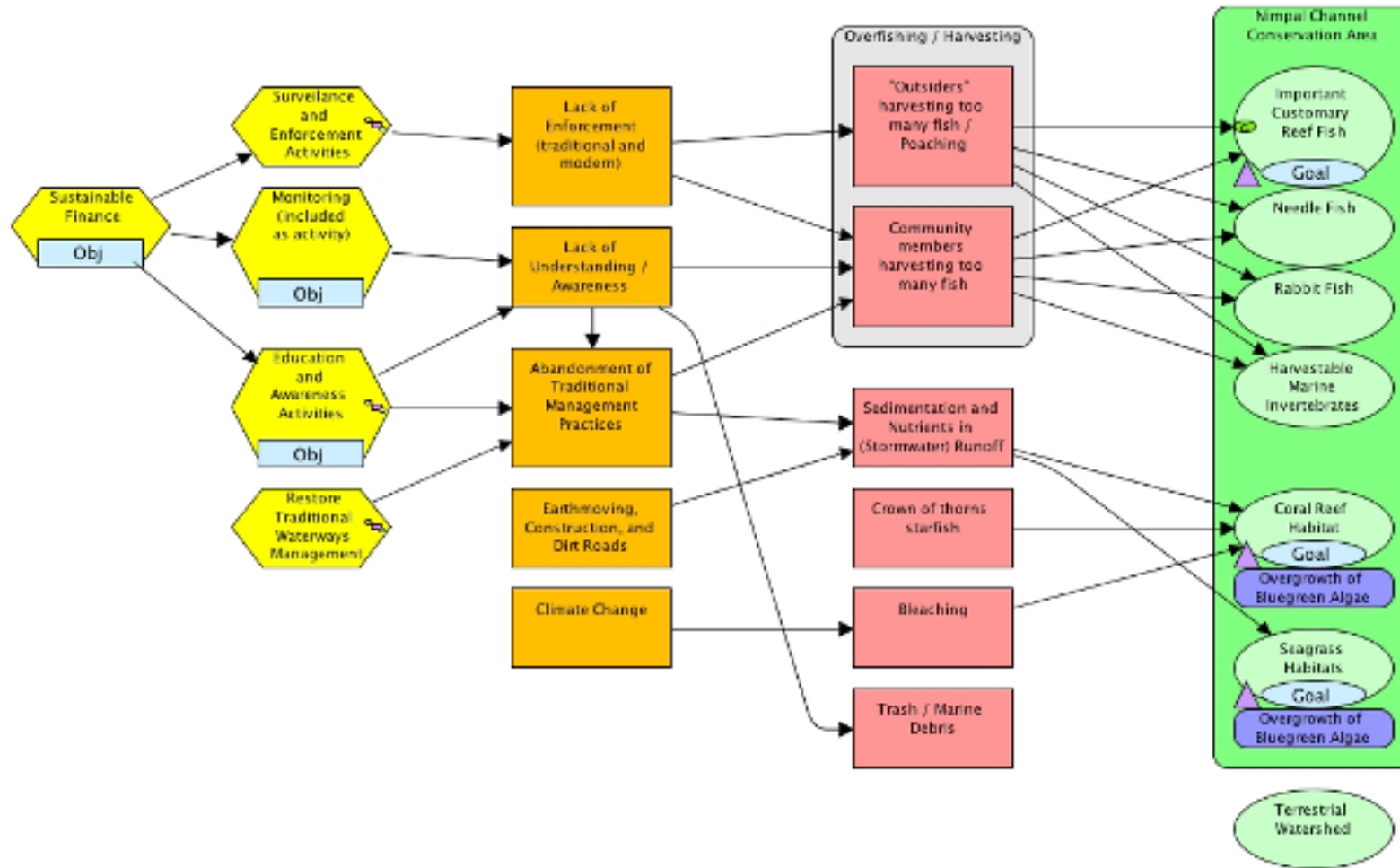
3. **Objectives, Actions, Assumptions, and Modifications** - Now that you've reviewed your conceptual model and the logic you used to develop your actions. List the following on flipchart paper or a sticky wall next to your conceptual model. Use Worksheet Two below to capture your results.

   a. **Objectives** - List the objectives from your management plan. It's also good to include statements that describe desired results from management that are mentioned in the plan but not written as objectives. For example, you may have discussed in your planning process that conservation efforts would result in maintaining traditional practices but not have written an objective for this. You may have also completed actions to help achieve this result such as a camp for kids to learn traditional practices. These additional results and actions are important to also review.

   b. **Actions Taken to Meet the Objective –** List the actions you developed to meet each objective or result.

   c. **Modifications & Assumptions Made –** Finally, describe any modifications that were made to the actions once you began implementation. Also describe any assumptions the team made about how the actions would help achieve the objectives (e.g. result chains). For example, we assumed the main reason for declining fish stocks was too much fishing pressure so we created a no take zone. Discussing the assumptions you made will help you better understand why or why not some of your actions achieved your objectives.

Worksheet Two: Objective, Actions, Modifications & Assumptions

Objectives	Actions Taken to Meet the Objective	Modifications & Assumptions
Objective 1:		
Objective 2:		
Objective 3:		
Objective 4:		

Session Four: Collect Monitoring Results

Purpose: The purpose of this Session is to collect all the information you have that can help your team understand progress toward meeting your objectives. This information is usually found in monitoring report (biological or socio-economic). It may also include meeting notes, financial reports, and/or programmatic information (e.g. citation books). Use Worksheet Three to capture the information collected in this session.

Exercise – *this task can be completed with the core planning team or a subset of core team members who are familiar with the various sources of information.*

1. Post the objectives and/or result you collected in session two on the wall.

2. Go through each objective one by one. List on a separate piece of flipchart paper the sources of the information you can use to understand progress to objectives and actions (biological report, SEM report, core group, etc). Be as specific as possible. For example, refer to page #, graph #, question #, etc, that provides information about that objective. You might have several sources for each objective.

Worksheet Three: Sources of Information

Objectives	Source of Information - List the source of the information you can use to understand progress to objectives and actions (biological report, SEM report, core group, etc). Be specific (e.g. refer to page #, graph #, question #, etc that provides the information)
Objective 1:	
Objective 2:	
Objective 3:	
Objective 4:	

Step Two: Review Progress & Adapt Management

This step consists of three sessions to get help your planning team review your progress, discuss on-going or new challenges, and modify your objectives, actions, and other management plan components. These are:

- Session Four: Progress towards Objectives & Make Updates
- Session Five: Update Additional Sections of the Management Plan
- Session Six: Management Capacity and Effectiveness & Updates
- Session Seven:

Session Five: Progress towards Objectives & Make Updates

Purpose: To review progress made for each of your plan objectives and why or why not your objectives have been met. This information will be used to help your group decide to either, maintain, modify, or develop new objectives for your next management cycle. You will also review other parts of your plan to determine if changes are needed. This step will also help you organize your thoughts to be used later when your group develops communications materials to present to stakeholders.   Use Worksheet Four to capture the information collected during this Session.

Exercise – with core planning team only

To complete this session, you will go through each objective one by one and discuss and capture the following information on flipchart paper or a sticky wall with the following information:

1. **Objective** – Use the information collected in exercise XX for #1

2. **Actions Taken to Meet Objectives** – Use the information collected in exercise XX for #2

3. **Assumptions/Modifications** – Use the information collected in exercise XX for #3

4. **Indicator** – What indicator was used to measure success. (This information should be in a monitoring plan) If you don't have a monitoring plan, describe the way you measured progress or could measure progress.

5. **Progress toward Objective** – Circle one
   a. ***C = Complete***

b. *P = Partially Complete*
c. *U = Unknown/ Not Measured*

6. **Description of Measured Results** - describe results from biological or SE monitoring, or other references that helps you understand progress toward your objectives. Be as specific as possible. For example, Target X fish populations improved by X% from year X to year X.

   If the indicators were not measured, why not. Are they too difficult to monitor and do they need to be changed?

7. Use your conceptual model to discuss the next two questions. The conceptual model can help you understand why or why not you are achieving your objectives and ultimately what might need to change. *Make changes to your conceptual model as needed as you complete this process.*

7a. **What's working well** toward achieving the objectives?
   a. What actions identified in your conceptual model and plan are proving to help you achieve your objectives?
   b. Highlight these actions in your conceptual model

7b. **What are the current or ongoing challenges** toward achieving your objectives?
Consider:
   c. Were there flaws in the conceptual model? Wrong assumptions?
   d. Was the action not appropriate or sufficient? If we did all the activities perfectly we will definitely going to meet the objectives
   e. Was the objective too ambitious?
   f. Are there new factors that changed the situation?
   g. Was your monitoring faulty?
   h. Are your rules and zones sufficient to achieve your objectives?

8. **Changes to Management:** Based on your progress, and lessons about what's working well and on-going challenges, discuss changes that need to be made for the next 5 years.
   a. Start with changes needed on your conceptual model. Are there new threats, root causes, or assumptions that need to change?
   b. How should your objectives change? Are there new objectives?
   c. What actions need to change or new actions are needed based on your updated conceptual model to address your threats and protect targets?

9. **Monitoring:** Do current monitoring efforts provide the information you need to understand progress toward this modified or new objective?
   a. Did the monitoring work? What worked and what didn't?
   b. What questions remain unanswered and why?

      c.   Should monitoring change for this objective? If so, how?

10. **Document**: Capture the information collected on flipchart paper or on the sticky wall and put into the table below.   This information can be used to update your management plan.

After you've gone through all of the existing objectives - If there is a complete new threat or target – go through conceptual model process and develop new objectives and actions.

Types of other objectives?   E.g. Satisfaction with the MPA? Benefits from MPA? Building off the o

May have objectives that are not just about Nimpal – ie. Sharing story around the region. Are there any objectives you want….Statewide (LMAN) or Regional?

Review all of the objectives for SMARTness

Worksheet 4: Management Progress and Updates

1. Objective				
2. Actions Taken to Meet the Objective		**3. Assumptions & Modifications Made**		
4. Indicator	**5. Progress toward Objective**	**6. Description of Measured Results**	**7a. Working Well**	**7b. Challenges**
	C P U			
8. Continue, Modify, Changes to Objective/Actions for Next 5 Years				
9. Monitoring Changes for the Next 5 Years				

Session Six: Update Additional Sections of the Management Plan

Purpose: This session will ensure your team has reviewed other sections of the management plan to discuss other information that may need to be updated. These sections could include roles and responsibilities, core team members, monitoring plans, etc. Some sections may not need to be updated and can be left as is.

Exercise –*with the core planning team only*

1. All management plans will be slightly different and incorporate different sections therefore specific instructions are not possible.
2. Each core planning team should go through the additional sections of the management plan not already discussed and answer the following questions:
   a. Does the information in this section still apply to the current situation?
   b. Did we learn any lessons in our management activities that apply to this section?
   c. What changes should be made to this section (if any) to improve management?
   d. Capture these changes in Worksheet 5 to be used to finalize your management plan

Worksheet Five: Other Management Plan Section Updates

Management Plan Section Name	Updates
Section	
Section	

Session Seven: Micronesia Protected Area Management Effectiveness (MPAME) Assessment

Purpose: The purpose of this session to review your management capacity and effectiveness to help you determine capacity development objectives and actions that might need to be included in your updated plan.   This is different than reviewing if you were successful in meeting your specific objectives. This will review if you have different levels of your management program needed to effectively manage and the capacity to carry them out. These different components of effective management include management planning, monitoring and use of the results to update your management, stakeholder engagement, sustainable financing, etc.   Understanding gaps in management capacity can help your team develop objectives and actions to fill these gaps.

Exercise –*with the core planning team and other stakeholders as appropriate.*

1. If your team has completed an Micronesia Protected Area Management Effectiveness (MPAME) tool assessment within the past year, please use the results of the survey to complete this session.
2. If your team has not completed the MPAME assessment, please go to ==XXX== to download the tool and complete it. Instructions are provided on the tool. It will take about 2-3 hours to complete and should be done with the core planning team. For the most part, your team will be able to answer the questions. You may also want to have assistance from other stakeholders such as organizational partners, technical experts, and local stakeholders.

   If you do not have time to complete the MPAME assessment, you can use Worksheet Six below to review your strengths and weaknesses for management capacity and effectiveness for this session and the next.

3. If appropriate, insert the results of your MPAME Assessment in your updated plan in an Appendix

Session Eight: Management Capacity and Effectiveness Plan Updates

Purpose: The purpose of this session is to utilize the results of the MPAME Assessment to update or develop new objectives and actions that improve your management capacity and effectiveness

Exercise – *with the core planning team and other stakeholders as appropriate*

Upon completing the MPAME assessment, your core team can answer the following questions:

1. **Strengths –** Use Worksheet Six to check the categories of management that your program achieved high scores. Consider maintaining these components for future planning

2. **Challenges/Gaps -** What categories of management did your program achieve low scores? Discuss and Capture the reasons for these low scores.

3. **Objective/Actions –** Based on your strengths, challenges, and gaps, discuss if there are any new objectives or actions you would like to include in your management plan to improve management capacity and effectiveness.

Worksheet Six – Management Capacity Strengths, Challenges, and Gaps

Strengths

Management Categories	Check all that are working well	Notes
Biophysical		
Conservation effect		
Enforcement		
Finance		
Infrastructure/equip		
Legal		
Planning		
Socio-economic		
Staffing		
Stakeholder engagement		
Traditional knowledge		

Challenges & Gaps

Management Categories	Check all that are working well	Reasons for Challenge/ Gap
Biophysical		
Conservation effect		
Enforcement		
Finance		
Infrastructure/equip		
Legal		
Planning		
Socio-economic		
Staffing		
Stakeholder engagement		
Traditional knowledge		

Updated Objectives or Actions

Management Capacity Objectives and Actions

Step Three: Communicate Your Results & Proposed Changes

Session Nine: Communicating Results and Changes to Stakeholders

Purpose: The purpose of this session is to communicate the progress you've made, lessoned learned, and updated management objectives and actions.

Exercise – *with the core planning team and other stakeholders as appropriate*

Capture the following information from Worksheet Six on flipchart paper:

1. **Key Audiences:** Begin by listing the key audiences that you would like to share the information you've collected during the adaptive management process. Consider all stakeholder including community groups, donors, government agencies, and NGOs. You may have different reasons for sharing this information with different audience.

2. **Purpose / Desired Outcome:** Define the purpose for communicating to each key audience. Also include specific outcomes you want from each audience. For example, you may want to share your proposed changes to management objectives and actions to community members as a form of outreach with the intended outcome of getting feedback and gaining support for updated actions before finalizing the plan. You may also want to share information from your updated plan to donors for the purpose of sharing new actions and accessing funds.

3. **Key Information:** Identify the key information that will be important to share. To begin this process your group can develop a bulleted list of key information for each audience.   Consider the purpose you are sharing the information with each audience and ask

   a. What information is important for them to know?
   b. What information will inspire them to support your desired outcome?"

   For example, you may want to share progress toward improving fish populations with fishers to seek feedback and support for further enforcement or sharing fishing data. You may want to share progress in improving coral health in the MPA and challenges in enforcing MPA boundaries to donors to access funding for marker buoys.

4. **Communication Approach:** Finally you team should identify the approach you will use to share this information.   This can include approaches such as community

meetings, posters, radio or newspaper articles, reports, videos, or other mechanisms that are relevant.

5. **Key Messages:** If your group plans to develop communication materials, you can build on the information you've collected to develop specific messages for each audience. To do this, the message box tool (Appendix A).   The tool will help your group define simple, clear statements that convey strategic information for achieving the outcomes you want from each audience.

Worksheet Seven: Communications Approach

Audience	Purpose/ Desired Outcome	Key Information to Share	Communication Approach

Step Four: Finalize Changes and Adopt Your Updated Plan

Purpose: The purpose of this step is to take all the information you've collected and update your management plan. Your plan should guide your activities over the next 3-5 year and can be shared with stakeholder, funders, and other partners to generate support

Exercise – *a small sub-set of the core planning team*

As mentioned in the introduction, this guidance does not provide instructions on how to complete a full management plan process. PIMPAC Guidance for management planning can be found at XX. Your core team or a sub-set of the team will have to decide how much information you want to add or change in the final document. The following outline was developed in the PIMPAC management planning guide (Atkinson, 2009) and provides suggested contents for a management plan. *This section provides some guidance in italics on how these sections could be modified to capture the information from your adaptive management process.*

I. CONTENTS OF AN EFFECTIVE MANAGEMENT PLAN

1. **TITLE PAGE –** *Modify names of lead group(s), date, and version*

2. **EXECUTIVE SUMMARY –** Key issues and decisions; summary aims, approach, and activities*. This section is important for your plan update as it presents and overview of the document including the lessons you've learned and changes you made. The executive summary is often what many people will read because it provides an overview of important information. As such, it's important to capture a summary of the history of the site and why it was developed, the original objectives, the accomplishments you've made to date, challenge you still face, and changes you made to management during the update process to overcome these challenges. Describe the new or modified objectives, and a summary of actions you will take over the next 3-5 years.*

3. **TABLE OF CONTENTS**

4. **INTRODUCTION** – Define the purpose and scope of the plan; explain the legislative or other basis and authority for the plan's development; summary timeline of plan development. *Much of the introduction can stay the same about the history of the site. Information should be added to provide background on the update process (when, why, and how).*

5. **SITE DESCRIPTION –**

   (a) Location and governance: *This section can stay the same unless there is new information.*

- Location and size of the area
- The purpose of the area (why was it created)
- The legal status of the area
- Who has the legal authority to manage the area
- The current management system

(b) Biophysical setting: *This section can stay the same unless there is new information.*

- The key physical features of the area (climate, geology, geomorphology, hydrology, soil characteristics)
- The key biological features of the area (communities, flora and fauna including any outstanding natural resource features) and the historical features of the area

(c) Socioeconomic and cultural setting: *This section can stay the same unless there is new information.*

- The cultural features (traditional communities, cultural practices)
- The socioeconomic features (occupancy, access, income, tenure, other basic data and trends among local communities and their dependence on managed areas)
- The stakeholder groups with an interest in the area

(d) Conservation status: *This section should be updated to include information you've captured through the adaptive management process.*

- The current uses of the area
- The threats to the area
- The history of management planning in the area
- *A summary of existing conservation objectives*
- *Summary of process used to update this management plan including a reference to monitoring information used in the process*
- *Summary of management successes toward existing objectives – include key biological, SEM, and MPAME findings*
- *Summary of management challenges and gaps toward objectives - – include key biological, SEM, and MPAME findings*

6. **THE MANAGEMENT APPROACH** – *This is one of the main sections that will change when you update your management plan*

 (a) Vision and Treat/Solution model – *modify this the threat/solution model*
 (b)   Threat Prioritization – *update as needed*
 (c)   Goal and Objectives – *update to capture new or revised goals, objectives, and general actions*

(d)   Zoning and regulations - *update as needed*

7. **OPTIONAL SECTIONS**

(g)   Roles and responsibilities of partners - *update as needed*
(h)   Enforcement plan - *update as needed*
(k)   MMA budget and financing plan- *update as needed*
(l)   Sustainability plan - *update as needed*
(m) Monitoring plan - *update as needed*

8. **APPENDICES (Suggested)**

- Management Activities in One Year Activity Plan – *be sure to develop a new one year activity plan based on the lessons you've learned, modified objectives and actions.*
- Habitat classifications
- Plant (flora) species lists if available
- Animal (fauna) species lists if available
- Special features at the site

Appendix One: Message Box*

MESSAGE BOXES (one per target audience)		
Audience: Community		
	Problem(s) •	
Benefits? •	**Issue:**	**So What?** •
	Solutions •	
MESSAGES:		

* Provided by TNC's Reef Resilience Program

Appendix Two: References

Atkinson, S. 2009. A Management Planning Guide for Marine Resource Managers. Honolulu, HI: Community Conservation Network.

Salafsky, N., R. Margoluis, and K. Redford. 2001. Adaptive management: A tool for conservation practitioners. Washington, D.C.: Biodiversity Support Program.