

# Marine Spatial Planning

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&  
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# AGENDA

- 9:05 - 9:15 am WELCOME & REVIEW MEETING MINUTES RECAP
- 9:15 - 9:35 am INTRODUCTION TO MSP
- 9:35 - 9:50 am MPAS AND EXAMPLES OF SYSTEMATIC PLANNING IN MALDIVES
- 9:50 - 10:00am DISCUSSION & NEXT MEETING TIME



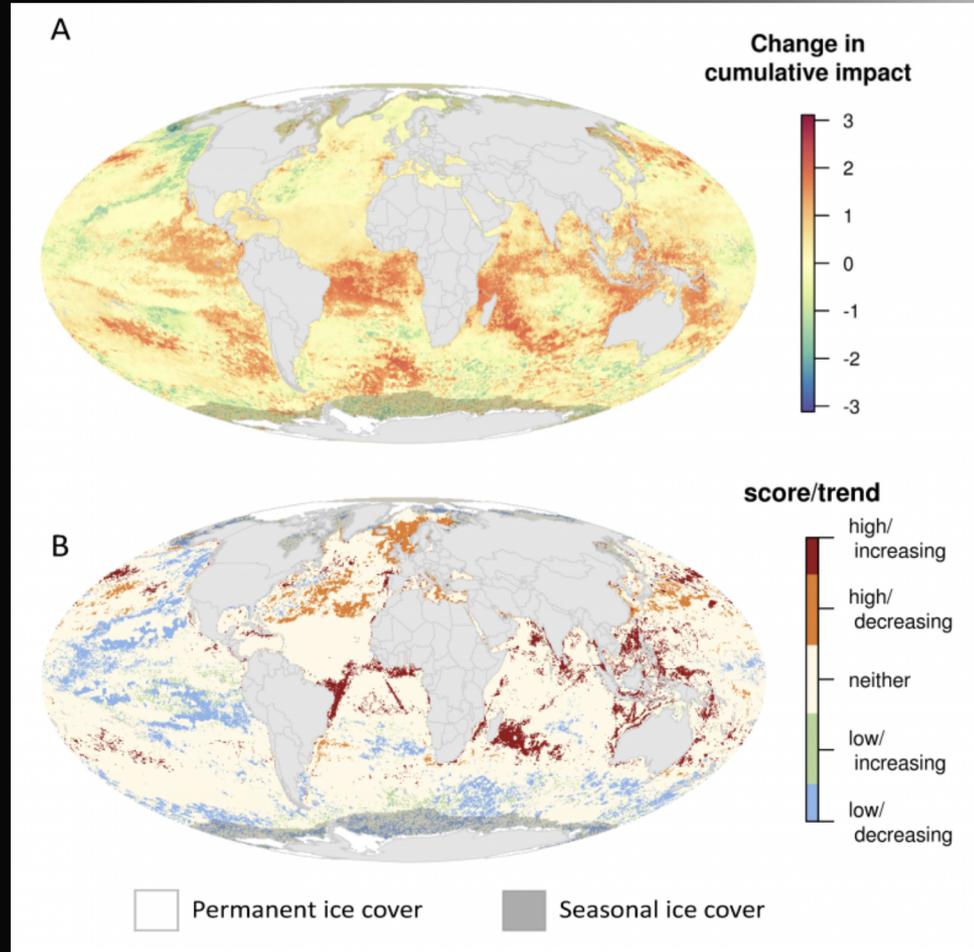
# Oceans and People



# Impacts

These maps depict changes in global cumulative human impacts on the ocean from 2008 to 2013. The top map shows the absolute change in cumulative impact scores for every single patch of ocean. The highest score in either period was 11.1, so increases of two to three points represent substantial changes. The bottom map classifies patches of ocean as scoring high or low in its current cumulative impact and indicates the trend as strongly increasing or strongly decreasing. Each scenario presents different conservation priorities, challenges, and strategies.

Halpern et al. (2015)



# Marine Spatial Planning

*Maximizing ocean health & resources through collaborative planning*



## KEY PRINCIPLES

- Best Available Science
- Participatory Process & Stakeholder Engagement
- Cross-Sector Planning
- Transparent Decision Making
- Balance Economy & Environment



### Comprehensive Planning

Potential zone categories include fishing, tourism, SCUBA diving, snorkeling, offshore energy, aquaculture, recreation, shipping, boat moorings, etc.



### Marine Protected Areas

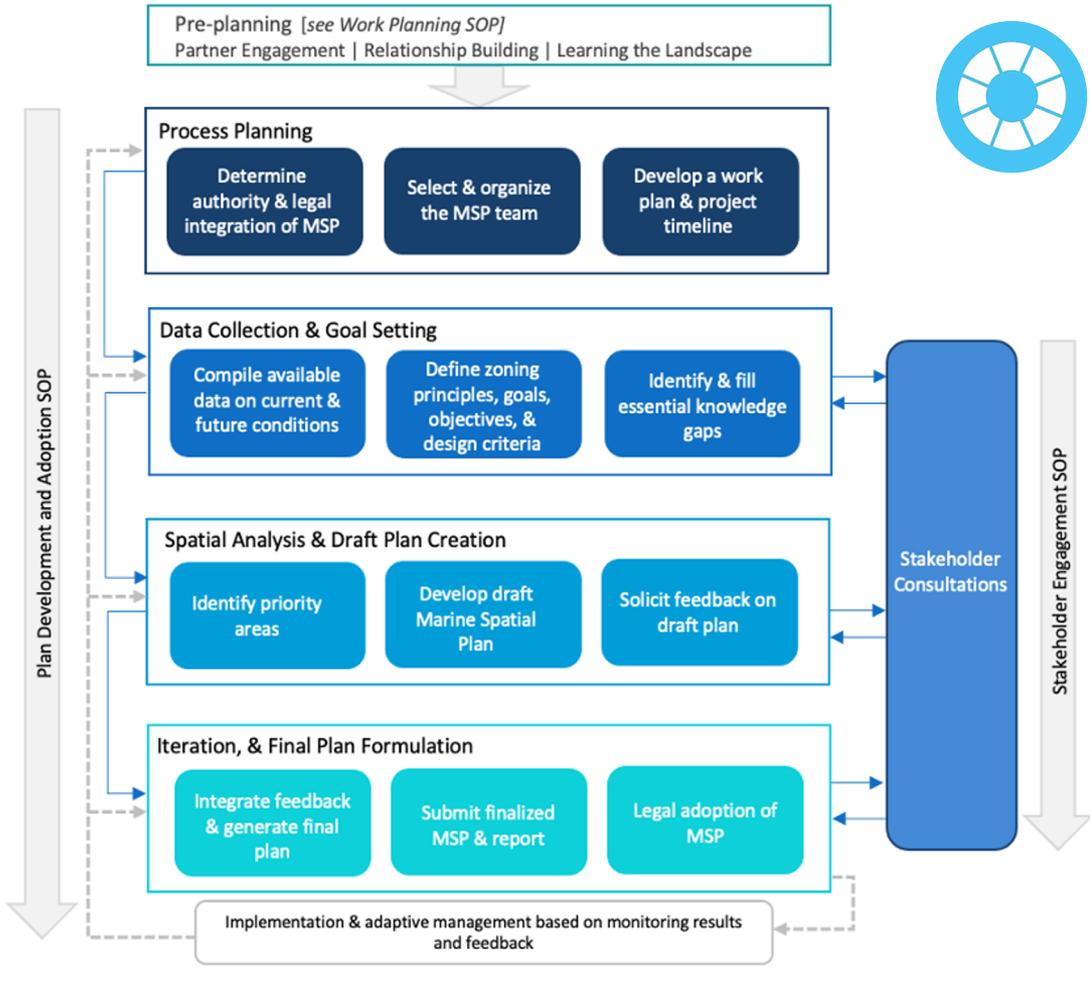
No-take zones where all species and habitats are completely protected so ecosystems can be restored, and fisheries can be replenished.

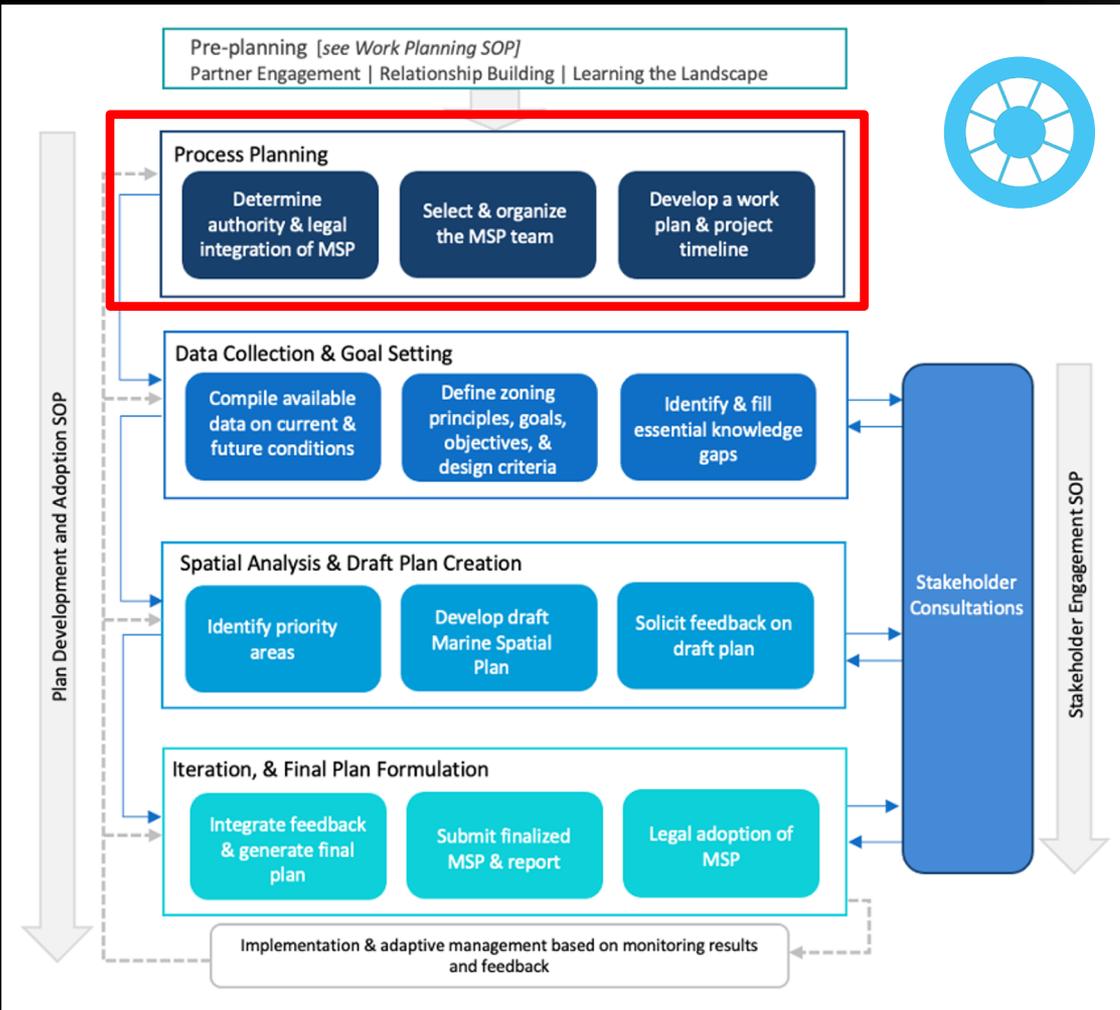
## BENEFITS

- Improves livelihoods
- Reduces user conflict
- Improves ecosystem health
- Establishes regulatory certainty
- Sustainably develops

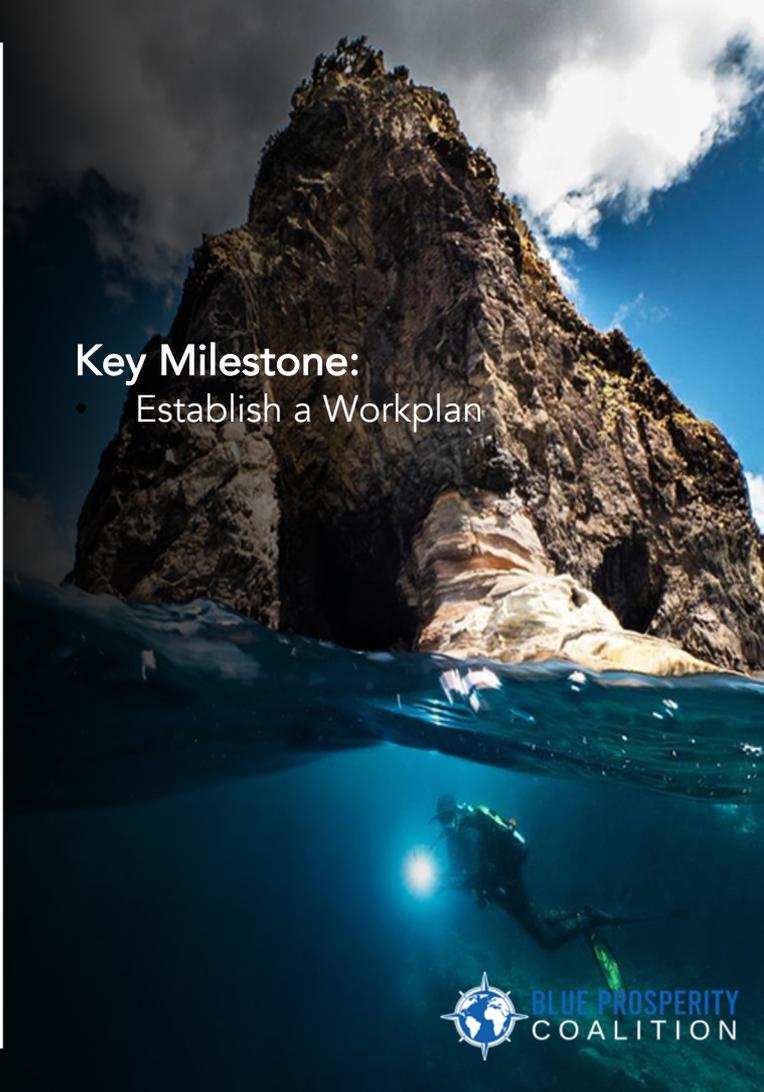


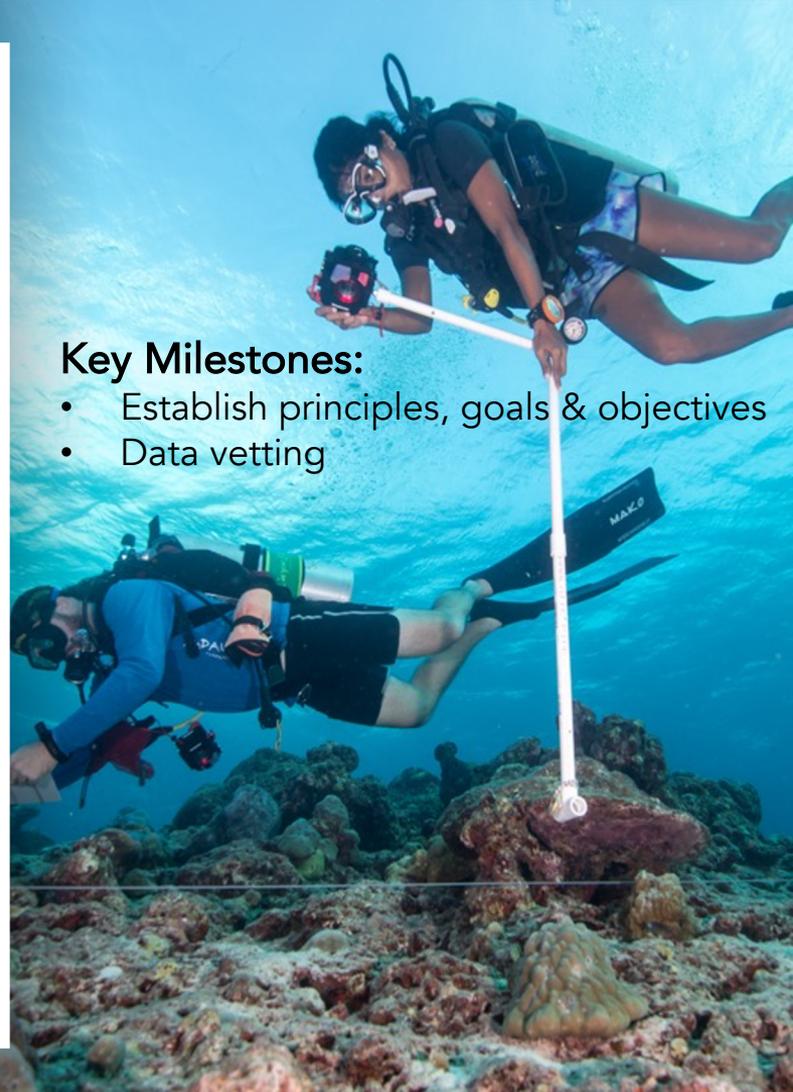
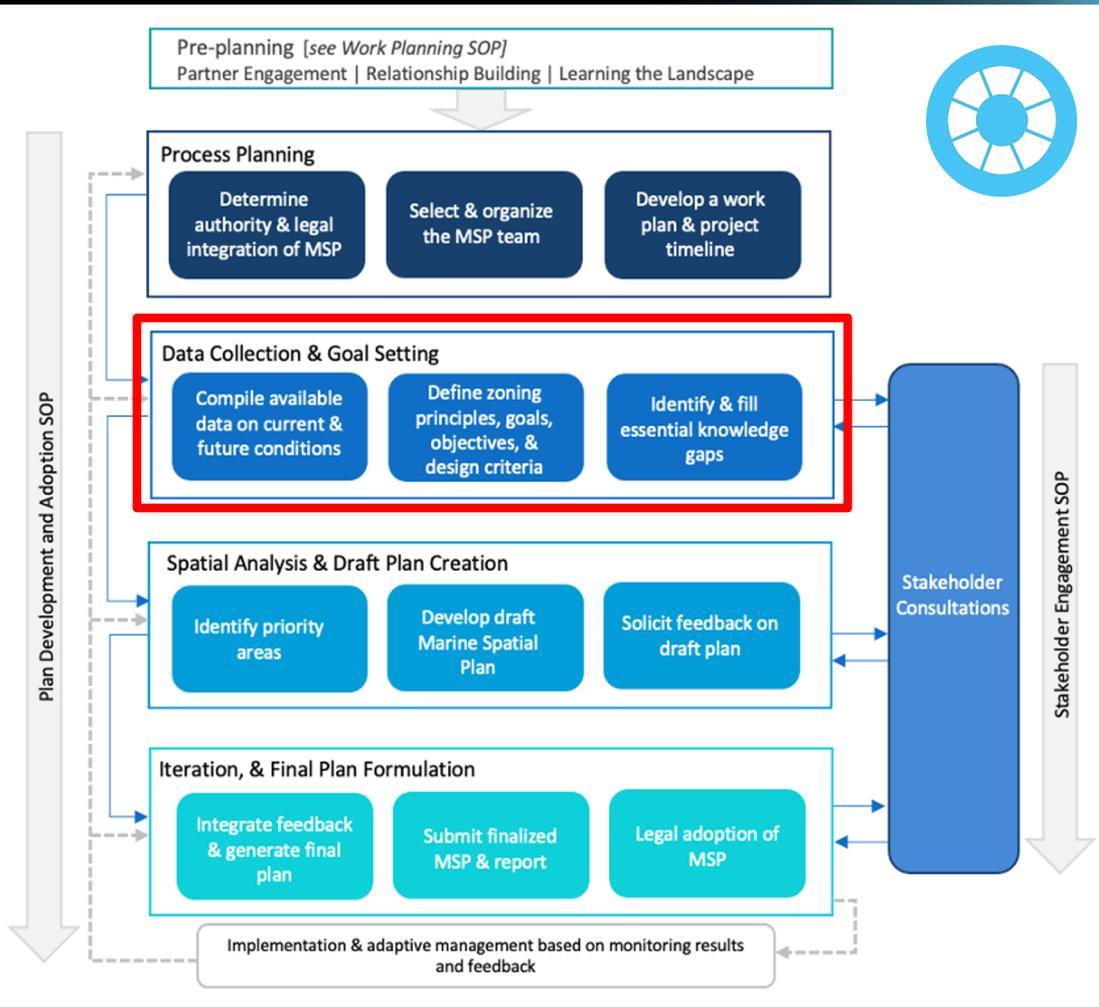
# MSP Process





**Key Milestone:**  
Establish a Workplan





## Key Milestones:

- Establish principles, goals & objectives
- Data vetting



## Data Layers

## My Plans

## Participate

Data Layers

Basemap

Legend & Ordering

Search layers by name or keyword

- Maldives EEZ
- Maldives Resorts
- Mapping Ocean Wealth
  - From The Nature Conservancy
  - Global Datasets
    - Tourism & Recreation
      - Modelled Total Dollar Value of Reef Tourism (per km2)
      - Modelled Total Visitation Value of Coral Reefs (per km2)
      - Global Mangrove Tourism (Number of reviews up to end of 2015)
    - Coastal Protection
  - Fisheries
    - Modeled Mangrove Commercial Finfish Enhancement
    - Modeled Mangrove Commercial Invertebrate Enhancement
    - Modeled Coral Reef Fisheries Catch
  - Carbon Storage and Sequestration
    - Above Ground Biomass
      - Mangroves
    - Soil Organic Carbon
- Reference Data
  - Habitat
  - Environmental
  - Socioeconomic

[← Tips →](#)

Layer metadata, order, and opacity settings are found in the legend

# Ocean Use Survey

Maldives Marine Spatial Planning  
A Blue Prosperity Initiative  admin

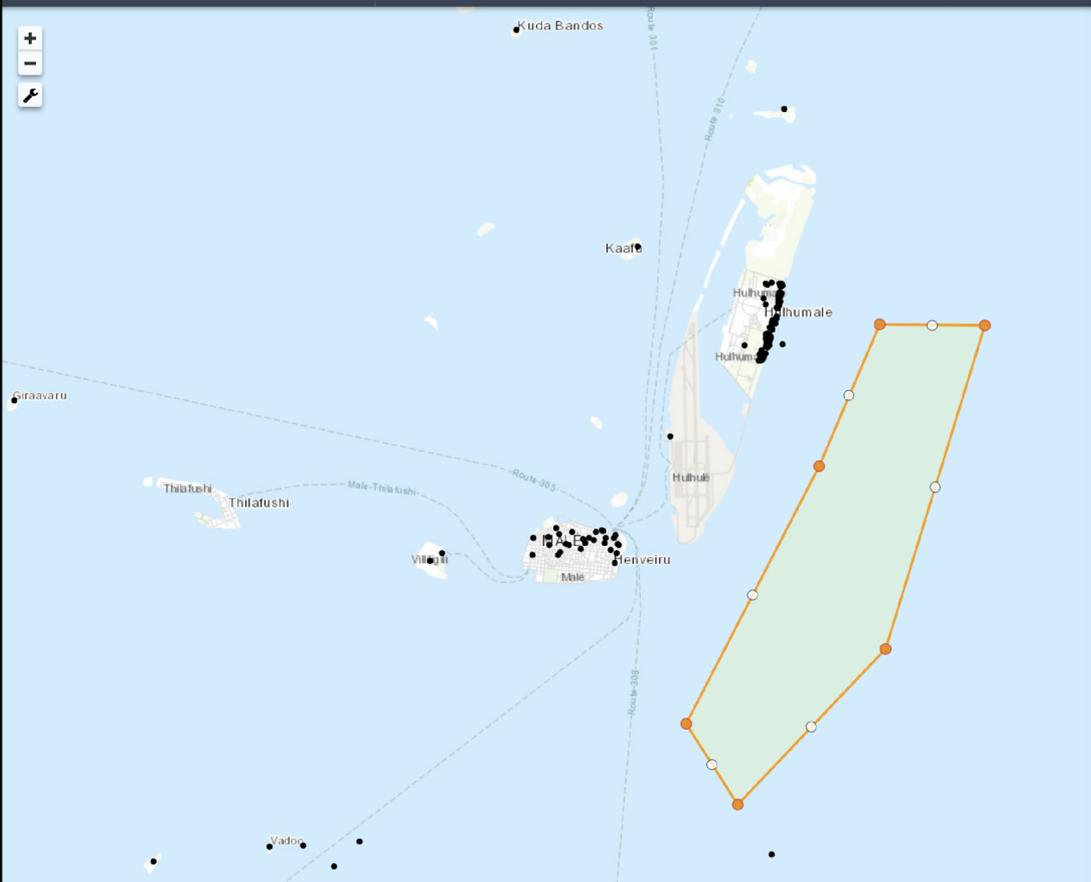


English

take a tour

help

 Will McClintock



## Create a new Commercial Fishing Area



Drag orange and grey points to modify this shape. Right-click points to remove them. When finished, [click here](#) and we'll ensure your point is saved. You can also [upload a shapefile](#).

Location Name \*

Commercial Fishing Area A

What type of fishing do you do here?

Hand-lining x

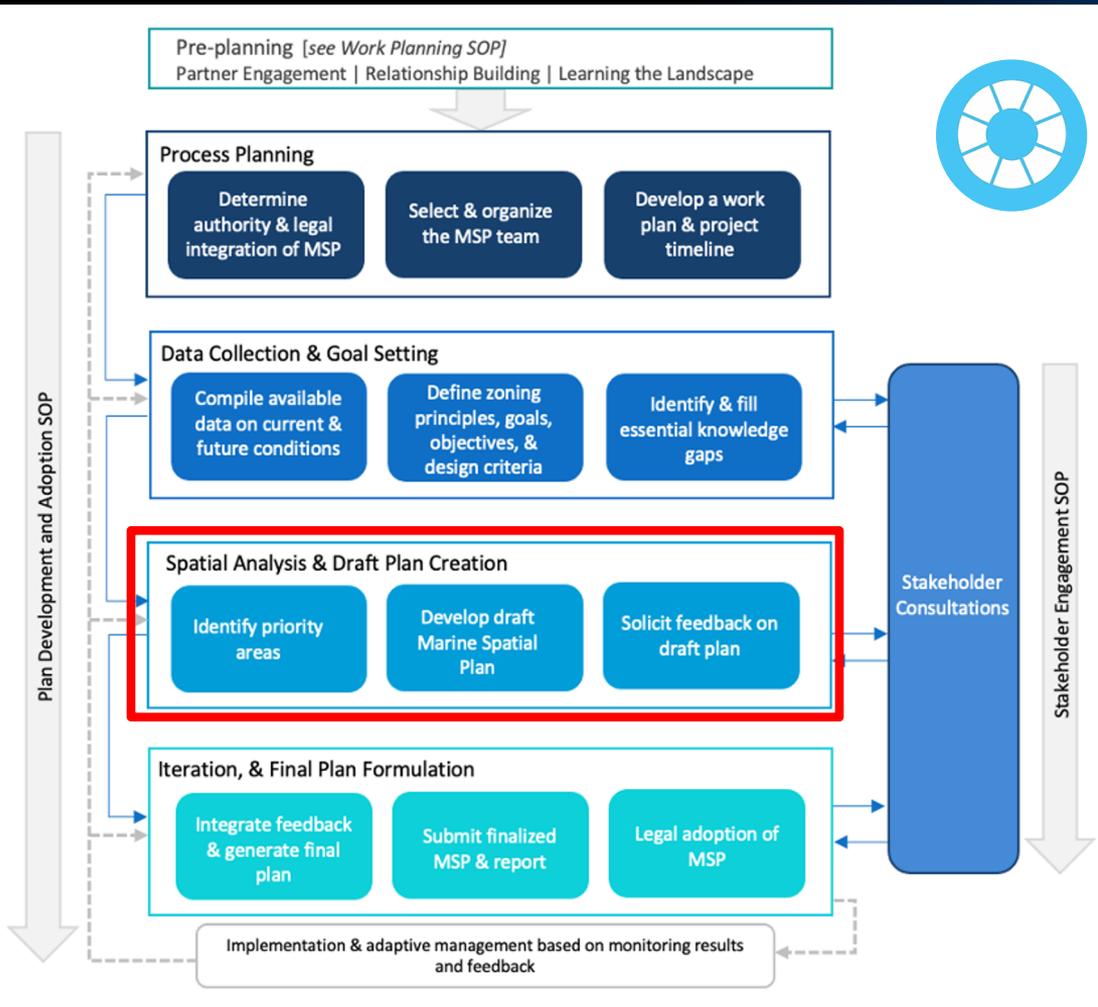
Trolling x

General Comments

Demonstration

cancel

Save and Continue Survey



## Key Milestones:

- Prioritization modeling
- Draft plan creation, iteration with stakeholders and decision-makers.

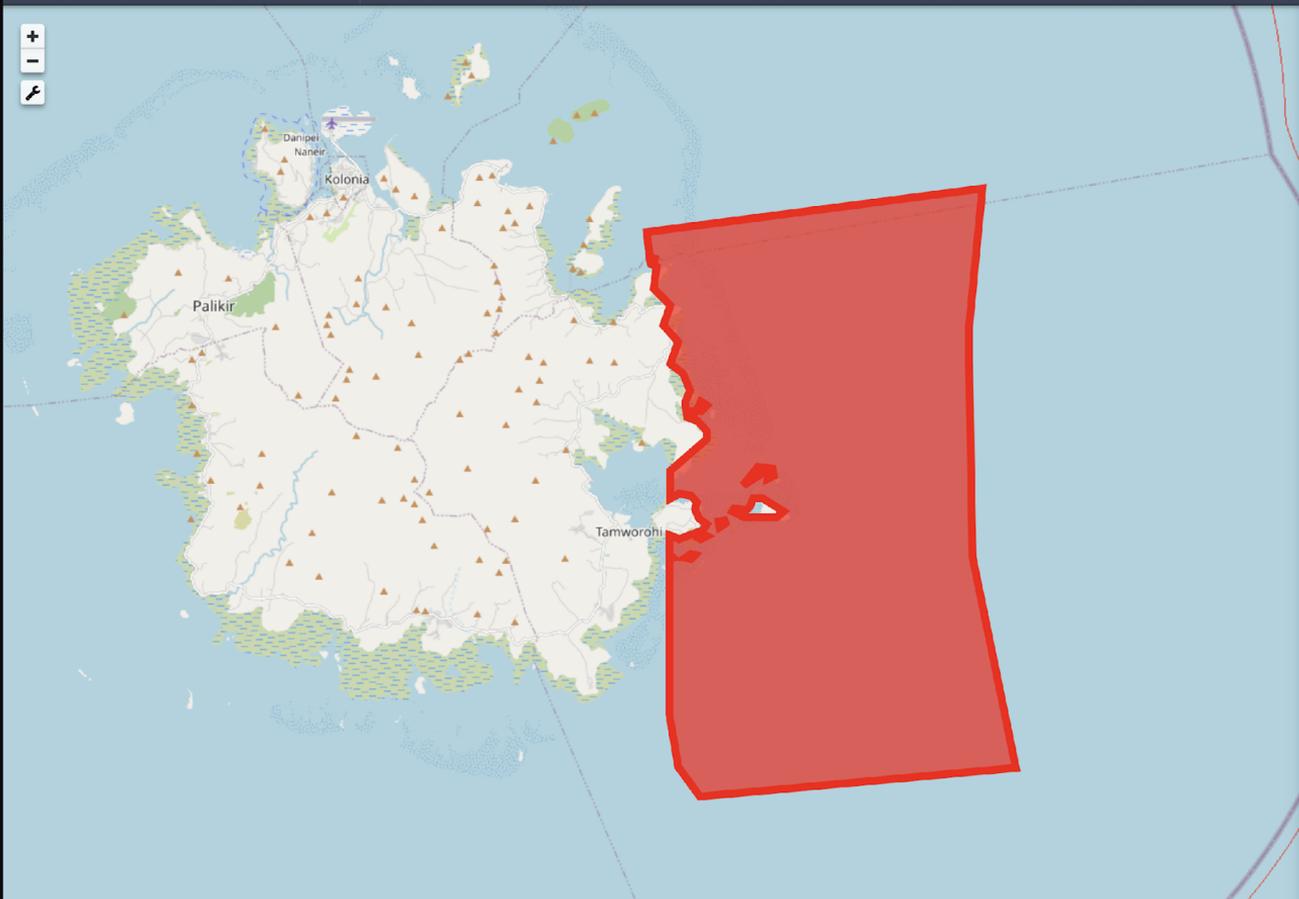


# Sketching and evaluating maps

Federated States of Micronesia  
Marine Spatial Planning admin

seasketch

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Will's Zone

Overview Habitat

Attributes

Level of Protection 5

Zone Size

This feature is 259 square kilometers.

Overlaps with Undersea Cables

This feature **does not overlap** with existing undersea cables.

Overlap with Coral

This feature overlaps with 24.2 km<sup>2</sup> of coral area within the study region, which is 0.8% of the EEZ.

Coral Area within State Waters

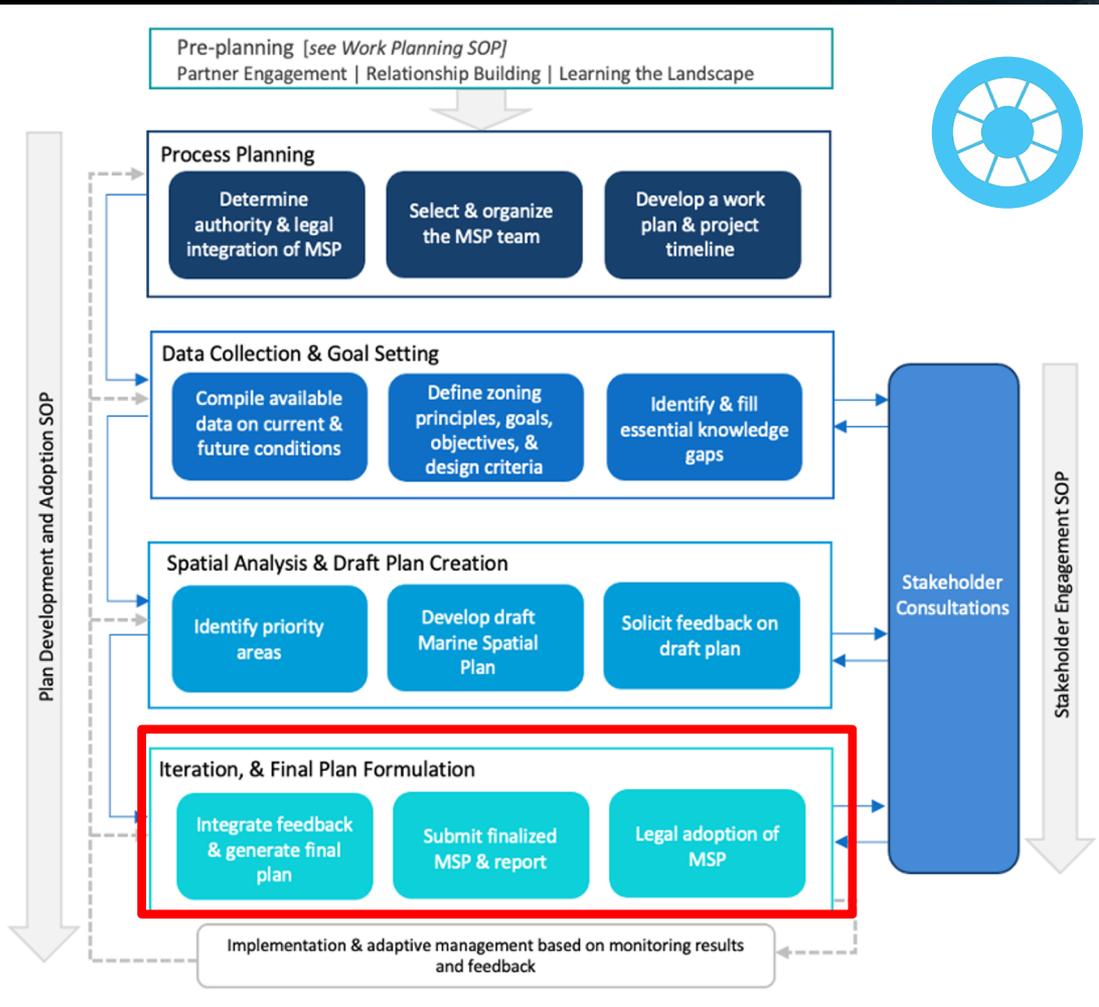
Name	Area (sq. km.)	Percent
Pohnpei	24.2	7.0
Chuuk	0.0	0.0
Yap	0.0	0.0
Kosrae	0.0	0.0

Coral Area within Territorial Waters of the States

Name	Area (sq. km.)	Percent
Pohnpei	0.6	5.1
Chuuk	0.0	0.0
Yap	0.0	0.0
Kosrae	0.0	0.0

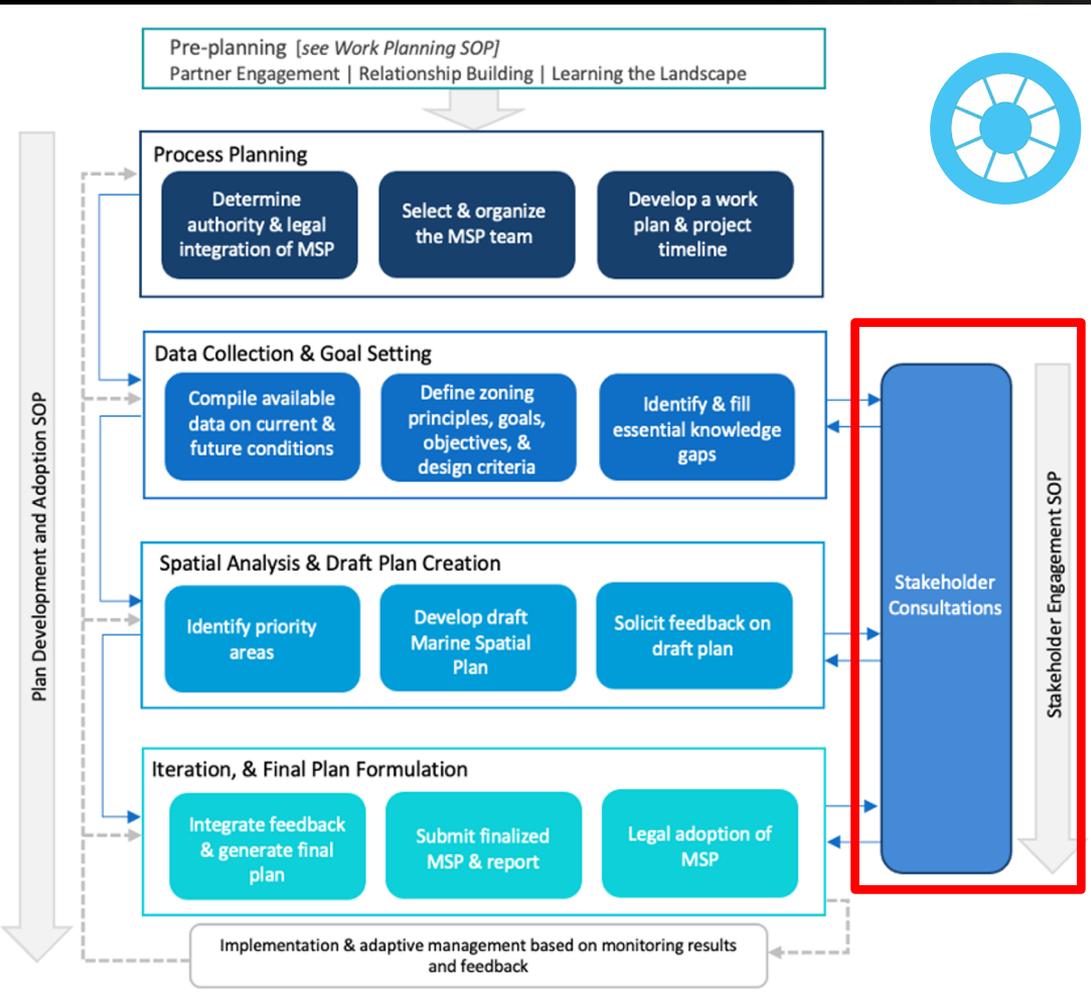
Overlap with Biologically Significant Areas

[Within the EEZ](#)



Key Milestone:

- Submission of plan to legislation



# Demonstrating Participation

Blue Halo Barbuda  
Comprehensive Ocean Zoning and Sustainable Fishing admin

seasketch

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Data Layers My Plans **Participate**

Forums / Fishermen's Forum /

**October 3rd Fishermen's Meeting**

**Will McClintock** 10/03/2013 4:17 PM  
supports the attached Palastar Sanctuary proposal - the one that goes out to 3 nm. Allows spear fishing and fishing on a line.

Attached Plans  
 Palastar Sanctuary  
right-click on plans to view attributes and reports  
[There are 237 other sketches nearby](#)

**Chad Burt** 10/03/2013 4:19 PM  
proposed this alternate for Palastar Reef.

Attached Plans  
 Alternate Palastar Reef Proposal  
right-click on plans to view attributes and reports  
[There are 237 other sketches nearby](#)

**Will McClintock** 10/03/2013 4:23 PM  
supports the attached proposal for Palastar.

show map bookmark

Attached Plans  
 Palastar Sanctuary  
right-click on plans to view attributes and reports  
[There are 237 other sketches nearby](#)

**Will McClintock** 10/03/2013 4:24 PM  
supports the attached proposal for Palastar.

show map bookmark

Attached Plans

The map displays the island of Barbuda with several designated areas: Goot Point Sanctuary (top), Low Bay Sanctuary (left), Codrington Lagoon Reserve (center), Two Foot Bay Sanctuary (right), and a proposed Palastar Sanctuary area (bottom right) outlined in blue with a grid pattern. Labels include 'Barbuda', 'Codrington Lagoon Reserve', 'Barbuda Codrington Airport', and 'Columington'. A scale bar is visible in the bottom left corner.

Will McClintock, UCSB | Sam Purkis, Nova Southeastern University. | Map data © OpenStreetMap contributors, CC-BY-SA | Powered by Esri and SeaSketch

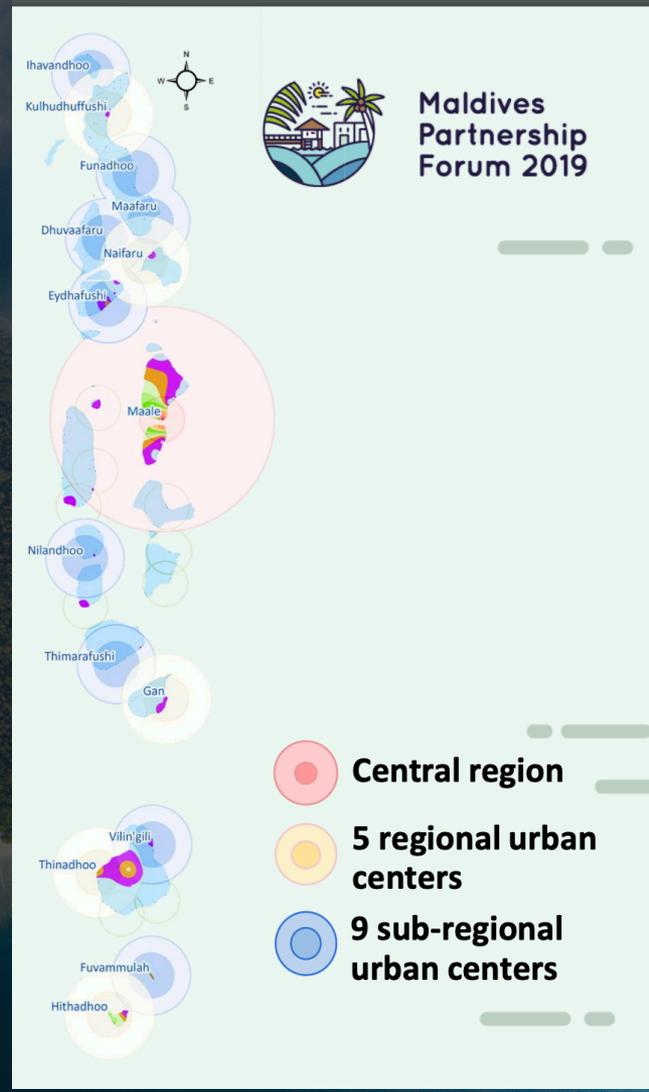
# Major MSP Milestones

- Establishing a work plan
- Data vetting process
- Establishing principles, goals, objectives,
- Prioritization modelling
- Draft plan creation and iterative cycle of stakeholder consultation and decision-makers
- Submission of the plan to legislation



# MPAs in the Maldives

- 71 Protected Areas of Maldives and sensitive areas - with 54 MPAs
- Rationale for MPAs – driven by tourism industry as popular dive sites
- First Area with a management plan – Maldives Baa Atoll UNESCO Biosphere Reserve's Hanifaru Bay
- National Development Plan - National Spatial Plan being formulated by GoM



# Systematic Conservation Planning

## *Site Example: Maldives*

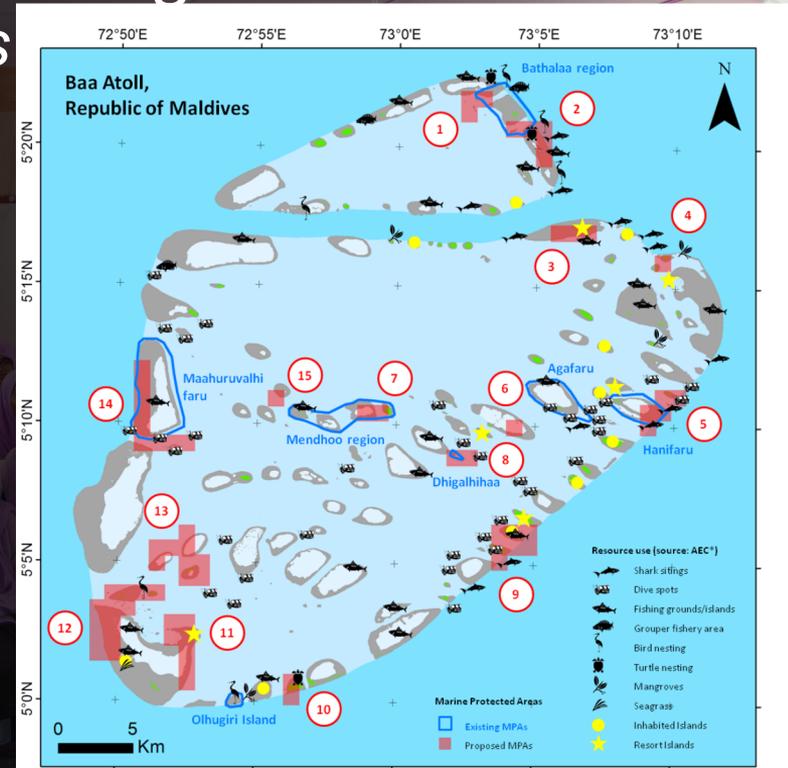
- Baa Atoll Biosphere Reserve
- Olhugiri
- Mendhoo
- Rasdhoo - Madivaru
- Fuvahmulah Nature Park
- Addu Nature Park
- South Ari Marine Protected Area (SAMPA)



# Systematic Conservation Planning

## Site Example: Baa Atoll, Maldives

- Compiling data on the biodiversity
- Identify conservation goals
- Review existing conservation areas
- Select additional conservation areas
- Implement conservation actions
- Maintain required values of conservation areas



# Systematic Conservation Planning

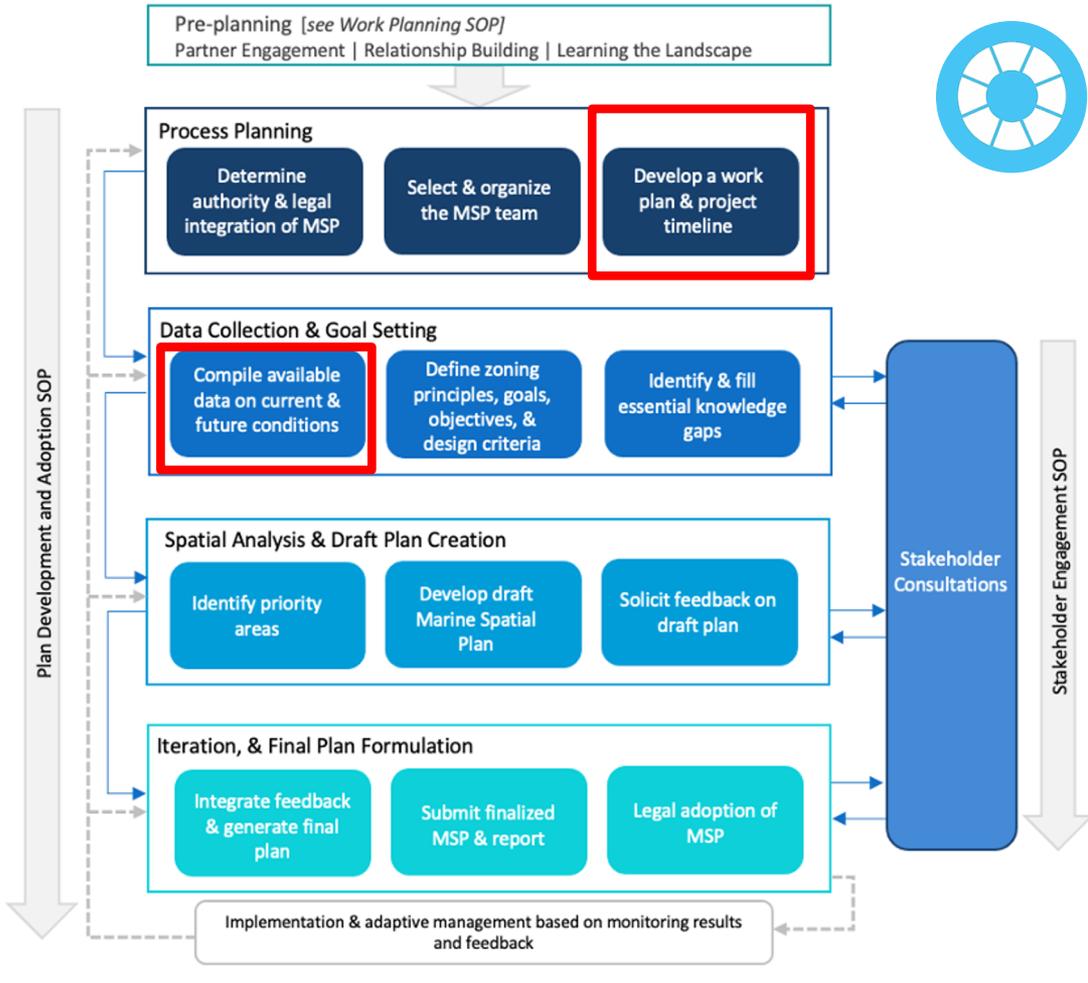
## Site Example: Baa Atoll

- Activities in Core, Buffer and transition zones managed by Baa Atoll Biosphere Reserve Office
- Values on Baa Atoll ecosystems defined – Coastal Protection, Storm Protection, Fishery, Tourism, Biodiversity Support, Habitats, Species, Aesthetic values.
- Threats – Pollution of fresh water lens, erosion, climate change, cutting down trees, waste disposal

Activity	Transition Zone	Buffer Zone	Core Area
Tourism/Recreational use Marine: diving, snorkelling	√	√	√
Tourism/Recreational use Terrestrial: picnic, Site seeing	√	√	√
Fishing - trolling pelagic	√	√	X
Fishing tourism - trolling pelagic	√	X	X
Fishing Bottom Line (reef fish)	√	X	X
Fishing - tourism bottom line (reef fish)	√	X	X
Traditional Bait fish collection- Pole and Line – (*Baa atoll boats only)	√	√ * restrictions	X
Fishing gill nets	X	X	X
Fishing finfish breeding aggregation sites	X	X	X
Spears fishing	X	X	X
Destructive fishing (dynamite, chlorine, cyanide)	X	X	X
Anchoring (all boats)	√ * restrictions	√ * restrictions	X
Shell collection – commercial/artisanal	X	X	X
Shell collection – subsistence	√	X	X
Sea cucumber fishery	X	X	X
Shark fishery	X	X	X
Live fish collection – commercial	√ * restrictions	X	X
Aquarium trade (vertebrate and invertebrate) commercial	√ * restrictions	X	X
Lobster fishery – commercial/artisanal/subsistence	√ * restrictions	X	X
Turtle egg/adult harvest - Commercial	X	X	X
Turtle egg/adult harvest - Subsistence	X	X	X



# Where we are today in the MSP Process



DISCUSSION: NEXT MEETING?



# Thank You!

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