



Food and Agriculture  
Organization of the  
United Nations



## **Delineating Municipal Waters and Establishing Managed Access Areas in the Philippines: A Case of the Municipality of Mercedes**



By Dennis Calvan  
Rare

# Agenda

1. **Background**
2. **Case of the Municipality of Mercedes**
3. **Lessons and Moving Forward**



# Agenda

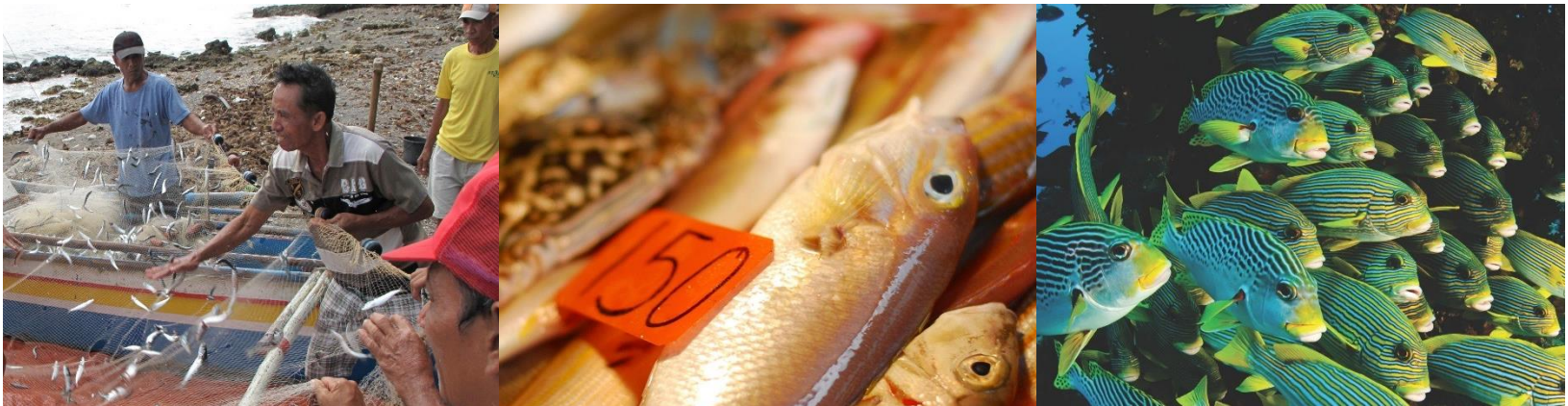
1. **Background**
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# Preferential Rights of Municipal Fishers in the Philippines

## LEGAL BASIS

- 1987 Philippine Constitution (Article XIII, Section 7)
- Republic Act No. 8550, as amended by R.A. No. 10654
- Republic Act No. 7160 or the Local Government Code



# Municipal and Commercial Fishers

99% of Filipino fishers are local, municipal fishers and they land 49% of total catch.



1.9 million municipal fishers vs 16,500 commercial fishers

• Source: Rare analysis based on FishstatJ; FAO fisheries country profiles 2014



**Current Interventions**  
Municipal Water Delineation  
Managed Access Areas

# MUNICIPAL WATER DELINEATION

## WHY IT'S IMPORTANT



### MANDATE

LGUs are mandated by RA 7160 or the Local Government Code and RA 10654 or the amended Philippine Fisheries Code to delineate their 15-kilometer municipal waters.

Municipal waters are under the management jurisdiction of the local government units. By law, only fishing boats weighing less than 3 gross tons are allowed to operate within the 15-kilometer municipal waters.



### POVERTY REDUCTION

Municipal waters are considered to be an important natural assets of the 1.8 million registered fisherfolk in the country. Access to municipal waters is critical in poverty reduction.

Based on the Philippine Statistics Authority in 2015, poverty incidence in the fisheries sector is 34% as compared to the national poverty incidence of 26.1%. High poverty incidence in the fisheries sector is primarily attributed to lower fish catch and lower income from fishing.



### RESOURCE SHARING

Municipal water delineation is necessary to grant preferential use of municipal fisherfolk over nearshore fisheries and to facilitate coastal water zoning including demarcation of managed access areas and marine reserves and granting resources users with territorial use rights over these resources.

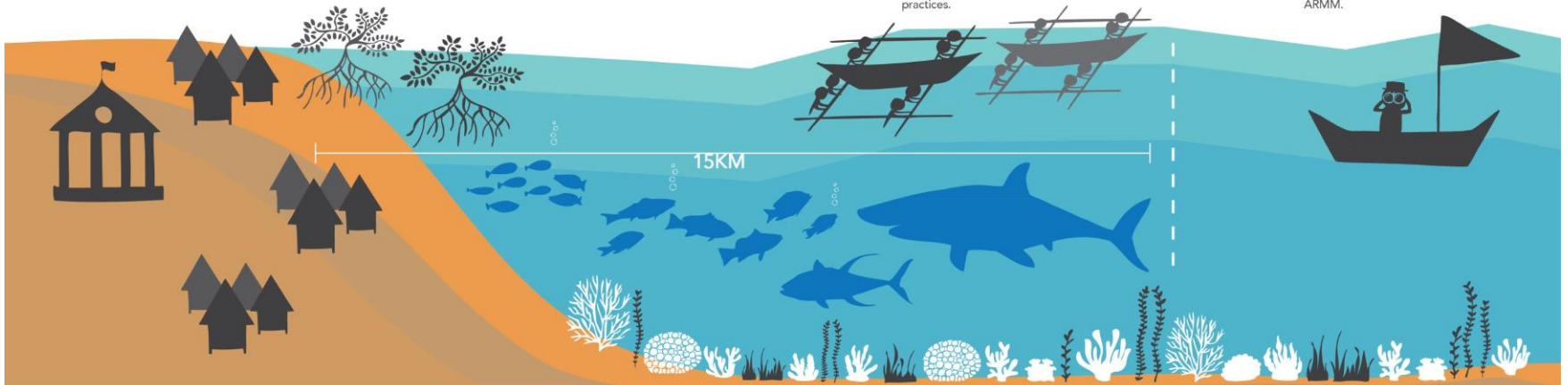
Managed access areas and territorial use rights in fisheries (TURFs) are management approaches that designate exclusive fishing areas for certain groups of registered fisherfolk in exchange for compliance to sustainable fishing gears and practices.



### COASTAL ENFORCEMENT

Delineated municipal waters make it easier for law enforcers to apprehend illegal fishers.

- Degree of Commercial Fishing Vessel (CFVs) Intrusion is highest in MIMAROPA, Region 11 and Region 13.
- Degree of MDS Operations is most rampant in Region 5, while Regions 4,6,8,9, and 13 rank second.
- Degree of Blast/Electro/Cyanide Fishing is highest in Region 1 and 3.
- The regions that are most prone to poaching are Region 1, 2, 3, MIMAROPA and ARMM.



## THE STEPS

### 1. PRELIMINARY MAPPING

LGU requests NAMRIA-HB to delineate.

LGU submits geographic coordinates of the land boundary points at the coast common to adjacent LGUs and list of islands belonging to or under the jurisdiction of LGU.



### 2. VALIDATION

NAMRIA-HB conducts table delineation and sends to LGU the preliminary technical description (TD) and map for validation.

LGU evaluates preliminary TD and map with neighboring LGU/s.



### 3. REVISION

If contentious TD/map is observed, LGU initiates a dialogue with its neighboring LGU's and negotiate.

NAMRIA-HB revises the TD as agreed upon by the concerned LGU's.

LGU submits to NAMRIA-HB the verified TD with the confirmation of affected LGU/s



### 4. CERTIFICATION

NAMRIA-HB certifies the TD and sends it to the LGU concerned.

Pay NAMRIA-HB the MW Delineation Fee of Php 5,000 plus Php 50 per km of coastline.

LGU enacts an ordinance and provides copies to NAMRIA-HB, BFAR, PNP and other relevant entities.



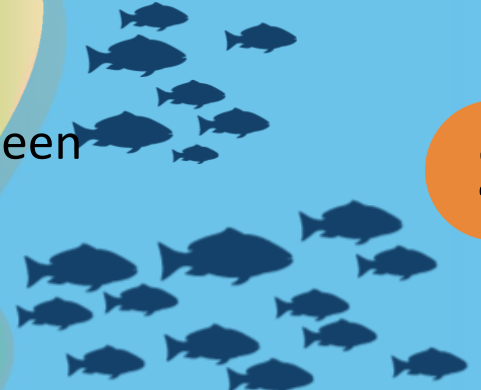
# Managed Access Areas + Sanctuaries

Exclusive rights to fish within designated areas in exchange for sustainable fishing behaviors

Co-management between fishers and the LGU



1  
Exclusive fishing rights for community



2  
Fish sanctuary



3  
Local Enforcement



# Philippine Development Plan 2017-2022



Efforts on disaster risk reduction (DRR) and climate change adaptation (CCA) remain inadequate. Measures that help prevent and mitigate the impact of disasters and prepare for these events have come in various forms, including: (a) mainstreaming CCA and DRR into policies, plans, and programs; (b) strengthening institutional and financial mechanisms; (c) strengthening institutional and financial mechanisms; (d) improving early warning systems; and (e) continuing information, education and communication (IEC) campaigns. However, not all LGUs have mainstreamed CCA and DRR measures in their comprehensive land use and development plans (CLUP and CDP) due to: (a) lack of capacity to use the available geospatial information; (b) unavailability of appropriately-scaled probabilistic multi-hazard maps; and (c) coarse spatial resolutions of available maps. Moreover, available funds are used primarily for relief and recovery activities and not for adaptation and mitigation measures. There is also a lack of IEC campaigns to increase adaptive capacity of communities, especially vulnerable groups (e.g. women, children, and the elderly).

## territorial use rights in fisheries

## sanctuaries and managed access areas

The existing protocols for relief and rehabilitation are not appropriate for long-gestating events such as El Niño. For instance, the quick response fund is intended for repair of infrastructure damaged due to a calamity, but El Niño does not result in damage in infrastructure but rather, loss of livelihood.

The socio-economic and environmental landscape is changing. Between 2017 and 2022 there will be additional 8.3 million Filipinos. In fact, Metro Manila will remain as the densest region, further exceeding the national population density average. More people translate to higher demand for food and houses that can put more pressure on ENR. Increasing concentration of people in urban areas will also likely increase demand for food, social services, infrastructure, and energy. This could exacerbate air and water pollution and generate more waste. Together with the proliferation of inefficient industries, this could hasten the conversion of prime lands in urban fringes, and increase greenhouse gas (GHG) emissions, thus further aggravating the impact of CC.

## sustainable financing mechanisms

Impact of climate extremes and variability are felt with increased intensity and frequency. With CC, Philippines is already experiencing increased intensity and frequency of extreme weather events. Adapting to CC, which now defines the new normal, and mitigating its impact, is a big challenge and efforts have to be heightened to a level that would safeguard not only lives but also economic gains. Transitioning to a low carbon pathway by adhering to the Paris Agreement is a key strategy to address the impact of CC.

## motivating behavioral change at the national, community and individual levels is the most effective strategy

pollutants such as household and industrial wastes fall under the mandate of LGUs or other agencies.



## Fish Forever Program

- MAA+S have been legally established in 21 coastal municipalities across the Philippines.
- Worked with over 90 Local Government Units and key National Government Agencies



# Agenda

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Rehistrado ka na ba  
at ang iyong bangka?

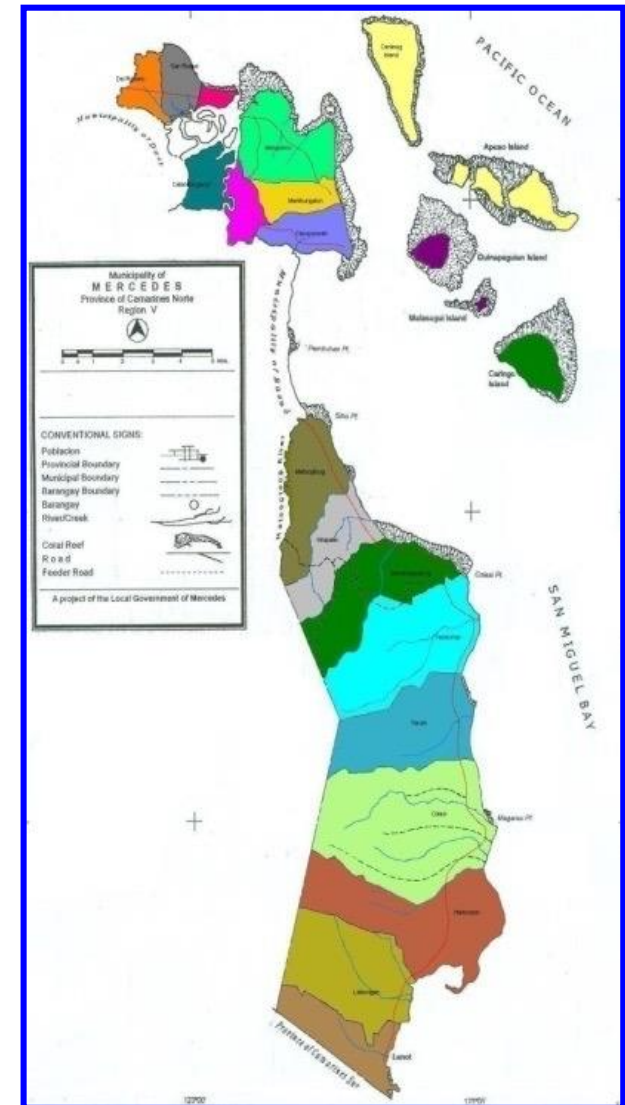


Mangingisda,  
anoong magpalista!  
ayan at Kinabukasan  
ayak na gaganda!

14 Municipal Agriculture Office



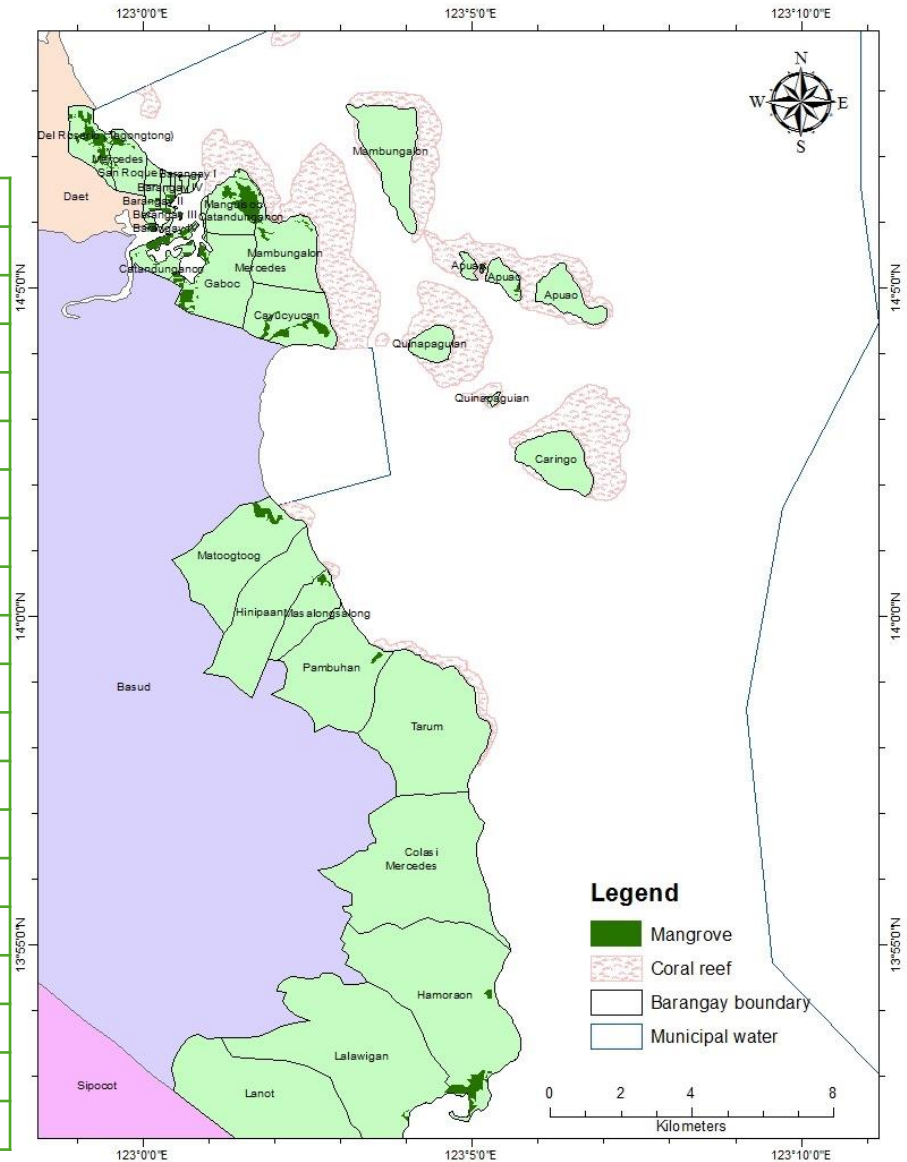
- † Mercedes is a **2<sup>nd</sup> Class Municipality** and belongs to the **2<sup>nd</sup> District** Of the Province of Camarines Norte
- † Consist of **26 barangays**; **3 are island barangays**; **9 mainland and others are coastal barangays**
- † Has a total Population of **48,320** and **Households Population of 10,610 (CBMS-2012)**
- † Total Land Area : 17,369 has.
- † Municipal Water Area:53,850.731 hectares
- † Total Managed Access Area and sanctuaries: 50.625 hectares
- † Total length of coastline: 95,074.307 meters
- † Total Number of Registered Municipal Fisherfolk:**4,000**
- † Total Number of Registered Municipal Fishing Boats: **966**
- † Price of Fishing License: Php300.00 (**US\$6 @ US\$1=Php50.00**)
- † Price of Fishing Boat (less than 3 gross tonnage): Php500 (**US\$10 @US\$1=Php50**)



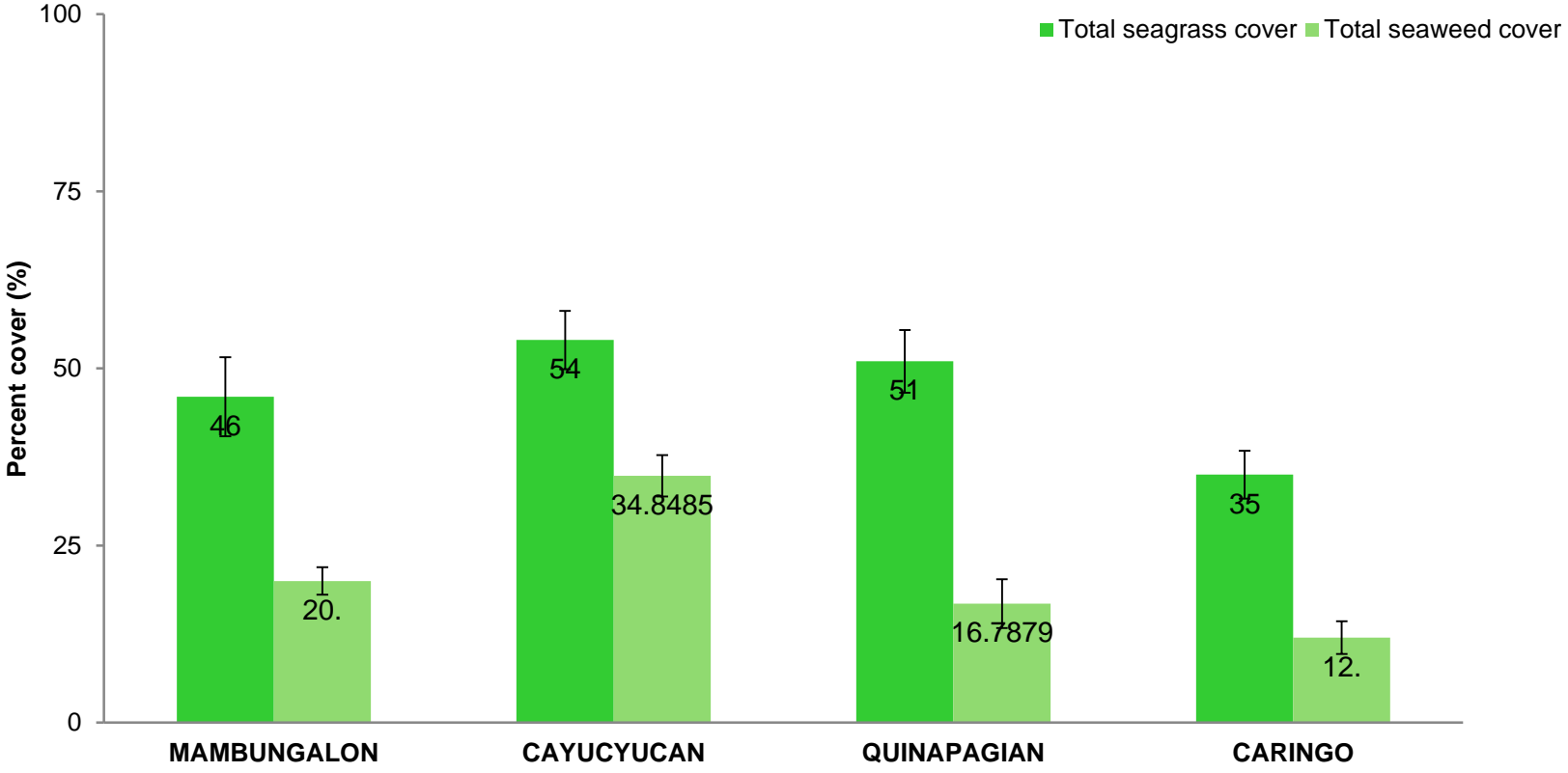


# Coral reef mangrove area

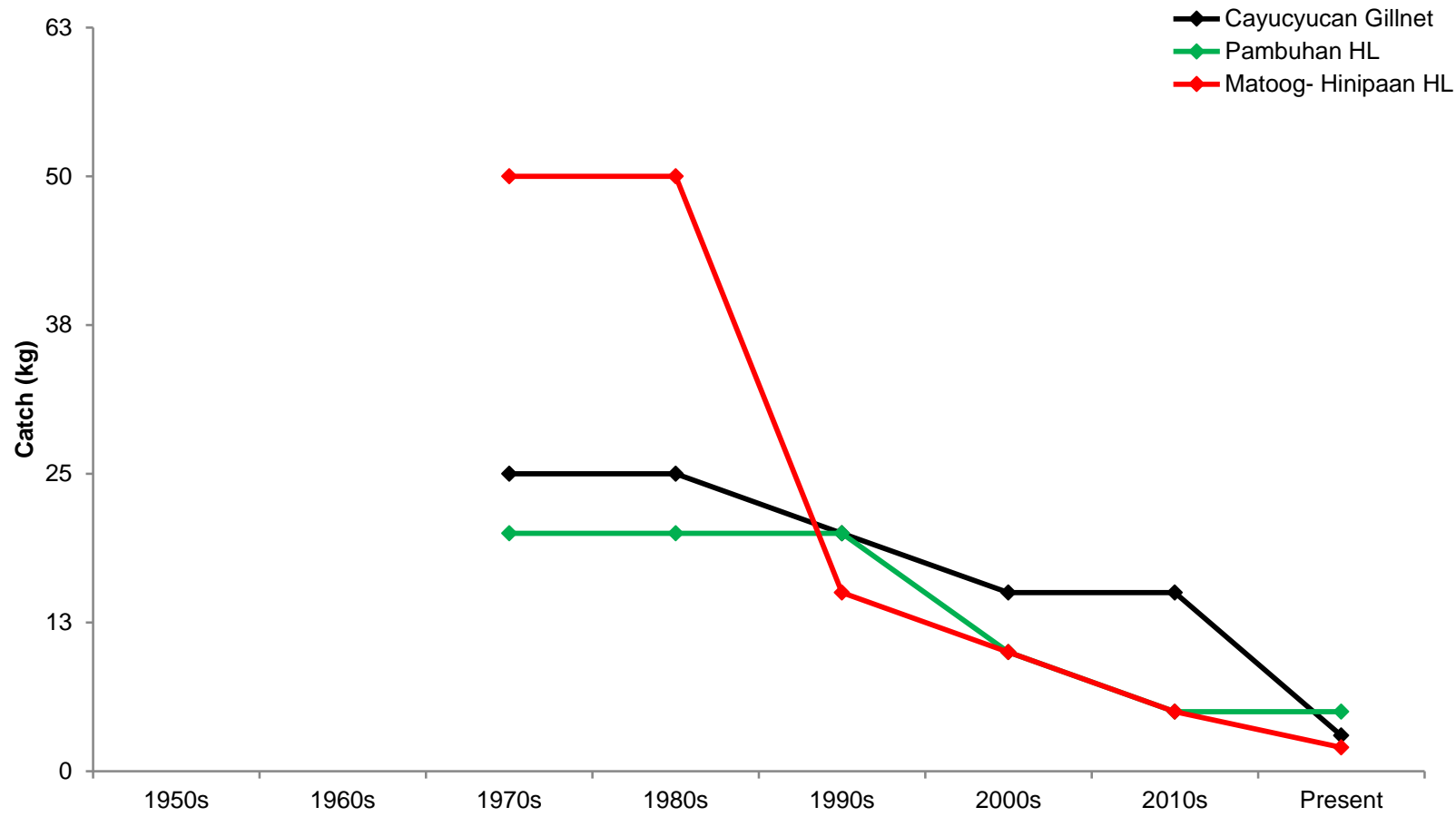
| Barangay                 | Est Area (ha) |
|--------------------------|---------------|
| Apuao                    | 4.8           |
| Barangay II              | 4.5           |
| Barangay III             | 2.2           |
| Barangay IV              | 5.4           |
| Barangay V               | 1.7           |
| Catandunganon            | 40.5          |
| Cayucyucan               | 32.5          |
| Del Rosario (Tagongtong) | 47.9          |
| Gaboc                    | 28.2          |
| Hamoraon                 | 43.1          |
| Hinipaan                 | 0.2           |
| Lalawigan                | 5.1           |
| Mambungalon              | 11.3          |
| Manguisoc                | 58.3          |
| Masalongsalong           | 6.5           |
| Matoogtoog               | 20.0          |
| Pambuhan                 | 4.4           |
| San Roque                | 7.9           |
| <b>TOTAL</b>             | <b>324.5</b>  |



# Seagrass and seaweed cover of the sites sampled in Mercedes, Camarines Norte



# Catch trend lines for small scale fisheries gears from 1970s up to present

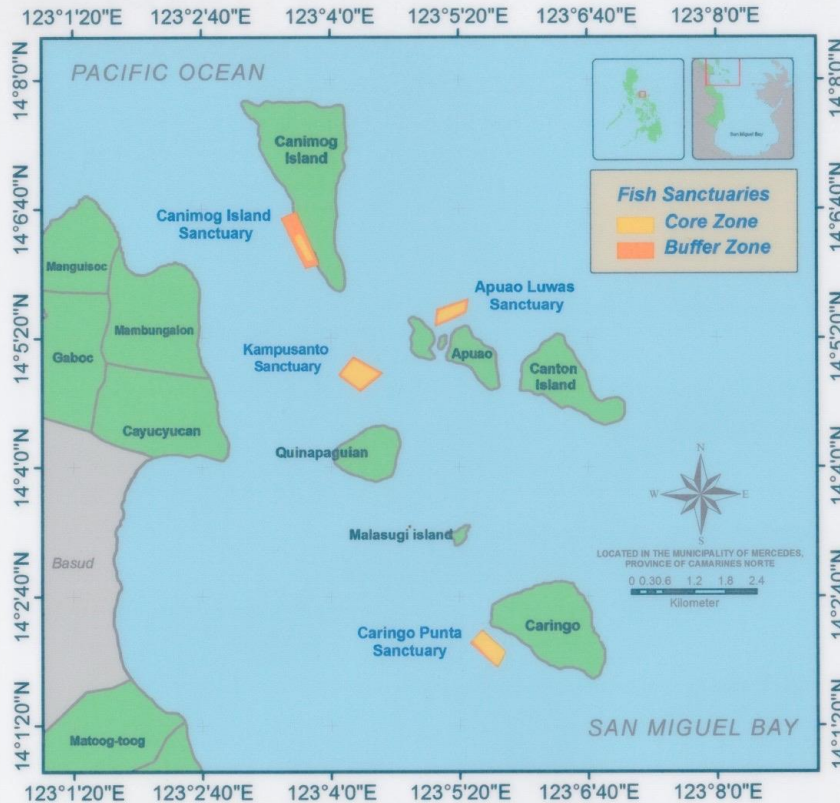




| <b>Legal Framework</b>                         | <b>Title</b>                                                                                                                                                                              | <b>Description</b>                                        |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Resolution No. 102-2002<br>(September 4, 2002) | Resolution Adopting Municipal Ordinance No. 100-2002 'An Ordinance Establishing Fish Sanctuary at Barangay Apuao, Caringo, Quinapaguian and Malasugui Island in Mercedes, Camarines Norte | Apuao-8.76 hectares<br>Caringo-6.59<br>Quinapaguian-18.27 |
| Municipal Ordinance 111-2004<br>(July 7, 2004) | Comprehensive Municipal Fishery Ordinance of Mercedes, Camarines Norte                                                                                                                    | Municipal Water Area:<br>53,850.731                       |

| Legal Framework                                 | Title                                                                                                                                                                                                                                                                                       | Description                                                                                                                                                                                                                    |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Municipal Ordinance No. 308-2017 (June 8, 2017) | An Ordinance Declaring the Marine Waters Around the Mercedes Group of Islands as Managed-Access Plus Sanctuary (MAA+S), Creating a governing body and defining its powers and functions, institutionalising an implementation mechanism, providing sanctions thereof and for other purposes | <p>MAA+S including core zones and buffer zones=50.62 hectares</p> <p>Users for registered fisherfolk and with fishing permits</p> <p>Allowed fishing gears: hook and line, net, traps</p> <p>Inter-Island Management Board</p> |
|                                                 |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                |
|                                                 |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                |

# MAP OF ESTABLISHED FISH SANCTUARIES IN MERCEDES, CAMARINES NORTE



- Users noting errors in this map are requested to notify the Institute of Social Order.
- Shapefiles on political boundaries were obtained from PhilGIS.org
- The fish sanctuaries in this map were derived from the coordinates indicated in M.O.#186-2010, which uses the coordinate systems PRS-92 for Quinapaguian and Apuao sanctuaries (as confirmed by PAFID); and Luzon Datum of 1911 for Caringo and Canimog Island sanctuaries. For consistency, ISO converted all previous coordinate systems into WGS-84, as reflected in the map.
- This map is part of the ISO's program in San Miguel Bay entitled "Strengthening Local Partnerships for Integrated Coastal Resource Management and Sustainable Livelihood Development."

In cooperation with:



With support from:



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 www.iso.org.ph  
 June, 2012

EXCERPT FROM: **MUNICIPAL ORDINANCE No. 186-2010**

"AN ORDINANCE AMENDING SECTION 4, 6 AND 7 OF MUNICIPAL ORDINANCE NO. 100-2002, OTHERWISE KNOWN AS FISH SANCTUARY ORDINANCE, AND DECLARING CANIMOG ISLAND AS ADDITIONAL REFUGE/ SANCTUARY"

**SECTION 4.** The fish sanctuaries of the area in Mercedes are included within the following geographical coordinates:

| LOCATION      | CORE ZONE    |               | BUFFER ZONE  |               | AREA (HA) | LOCATION               | CORE ZONE    |               | BUFFER ZONE  |               | AREA (HA) |
|---------------|--------------|---------------|--------------|---------------|-----------|------------------------|--------------|---------------|--------------|---------------|-----------|
|               | Latitude     | Longitude     | Latitude     | Longitude     |           |                        | Latitude     | Longitude     | Latitude     | Longitude     |           |
| APUAO LUWAS   | 14°05' 41.42 | 123°05' 02.53 | 14°05' 31.87 | 123°04' 59.84 | 8.780     | QUINAPAGUAN KAMPUSANTO | 14°05' 02.63 | 123°04' 01.85 | 14°05' 02.35 | 123°04' 59.55 | 18.270    |
|               | 14°05' 47.36 | 123°05' 18.77 | 14°05' 42.69 | 123°05' 03.04 |           |                        | 14°05' 11.52 | 123°04' 09.85 | 14°05' 13.59 | 123°04' 08.77 |           |
|               | 14°05' 41.66 | 123°05' 18.00 | 14°05' 49.57 | 123°05' 20.85 |           |                        | 14°05' 03.10 | 123°04' 24.35 | 14°05' 03.39 | 123°04' 27.21 |           |
|               | 14°05' 34.80 | 123°05' 01.76 | 14°05' 40.55 | 123°05' 19.15 |           |                        | 14°04' 53.99 | 123°04' 13.09 | 14°04' 51.84 | 123°04' 13.15 |           |
| CARINGO PUNTA | 14°02' 23.53 | 123°05' 28.69 | 14°02' 24.56 | 123°05' 28.61 | 17.708    | CANIMOG ISLAND         | 14°06' 30.05 | 123°03' 36.06 | 14°06' 43.25 | 123°03' 53.84 | 5.887     |
|               | 14°02' 11.17 | 123°05' 42.71 | 14°02' 10.81 | 123°05' 43.10 |           |                        | 14°06' 14.37 | 123°03' 43.80 | 14°06' 10.83 | 123°03' 47.70 |           |
|               | 14°02' 02.48 | 123°05' 37.81 | 14°02' 01.33 | 123°05' 37.91 |           |                        | 14°06' 13.23 | 123°03' 40.56 | 14°06' 08.37 | 123°03' 38.36 |           |
|               | 14°02' 18.04 | 123°05' 22.57 | 14°02' 16.45 | 123°05' 20.99 |           |                        | 14°06' 28.65 | 123°03' 52.58 | 14°06' 39.75 | 123°03' 23.94 |           |

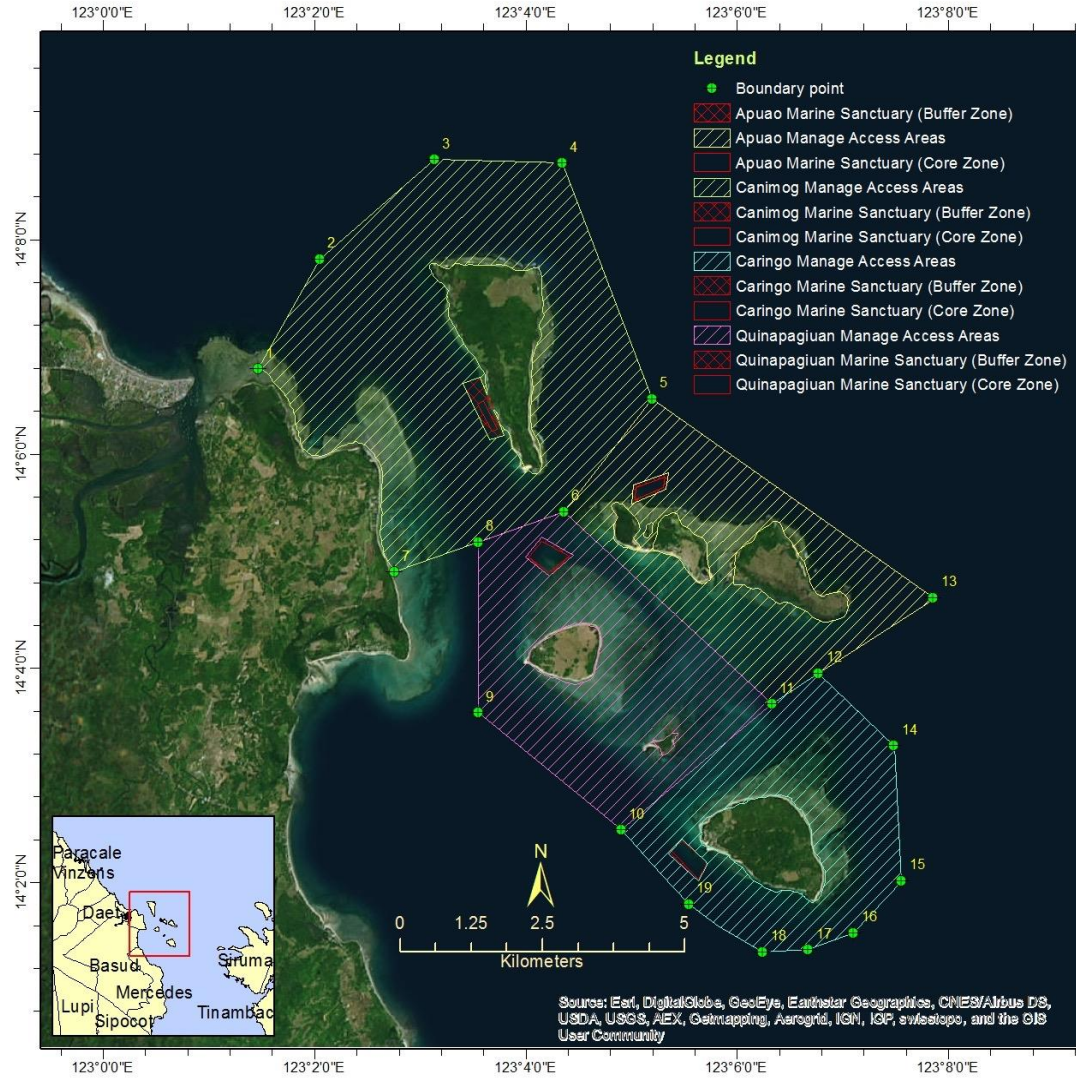
Provided that the Sangguniang Bayan may, by appropriate ordinances and upon recommendation of and consultation with the MFARMC, establish additional fish sanctuaries as may be necessary.

- SECTION 5.** All fishing activities are prohibited within the fish refuges/ sanctuaries. No license shall be interpreted to justify any form of fishing activity within the designated fish refuges/ sanctuaries.
- SECTION 6.** The **Inter-Island Management Council (IIMC)** is hereby designated as the caretaker of the municipal sanctuaries established within the municipal waters of Mercedes, Camarines Norte. As such, they are responsible for the monitoring, surveillance and maintenance of the said marine habitat, including the task of marking the designated fish sanctuaries with buoys. The LGU shall allocate funds for this purpose.
- SECTION 8. PENALTY CLAUSE: FISHING IN MARINE SANCTUARIES**  
 It shall be unlawful to fish inside a marine sanctuary. Violators of this section shall pay the fine of Php2,500 per person or imprisonment of 6 months to 1 year or both upon the discretion of the court.
- SECTION 9. DISPOSITION OF PENALTY**  
 The apprehending barangay is entitled to 50% of the amount paid by the offender, while the remaining 50% shall accrue to the LGU. If the apprehension is made by deputized fish wardens, 50% of the amount shall be given to them, while the remaining 50% shall accrue to the LGU.
- SECTION 10. CONFISCATION OF FISHING PARAPHERNALIA**  
 Fishing paraphernalia of violators of this ordinance shall be confiscated in favor of the government.

**EFFECTIVE MAY, 2010**

# Mercedes Managed Access Areas and Sanctuary

Municipality of Mercedes, Camarines Norte



Municipality of Mercedes  
Province of Camarines Norte

## Mercedes Manage Access Areas and Marine Sanctuaries

Point Latitude (N) Longitude (E)

**Canimog Manage Access Areas**

|   |            |             |
|---|------------|-------------|
| 1 | 14° 6' 48" | 123° 1' 28" |
| 2 | 14° 7' 49" | 123° 2' 3"  |
| 3 | 14° 8' 45" | 123° 3' 8"  |
| 4 | 14° 8' 43" | 123° 4' 20" |
| 5 | 14° 6' 31" | 123° 5' 12" |
| 6 | 14° 5' 28" | 123° 4' 22" |
| 7 | 14° 4' 54" | 123° 2' 45" |
| 8 | 14° 5' 11" | 123° 3' 33" |

**Quinapaguan Manage Access Areas**

|    |            |             |
|----|------------|-------------|
| 9  | 14° 3' 36" | 123° 3' 33" |
| 10 | 14° 2' 30" | 123° 4' 54" |

**Apuao Manage Access Areas**

|    |            |             |
|----|------------|-------------|
| 11 | 14° 3' 40" | 123° 6' 20" |
| 12 | 14° 3' 58" | 123° 6' 46" |
| 13 | 14° 4' 40" | 123° 7' 51" |

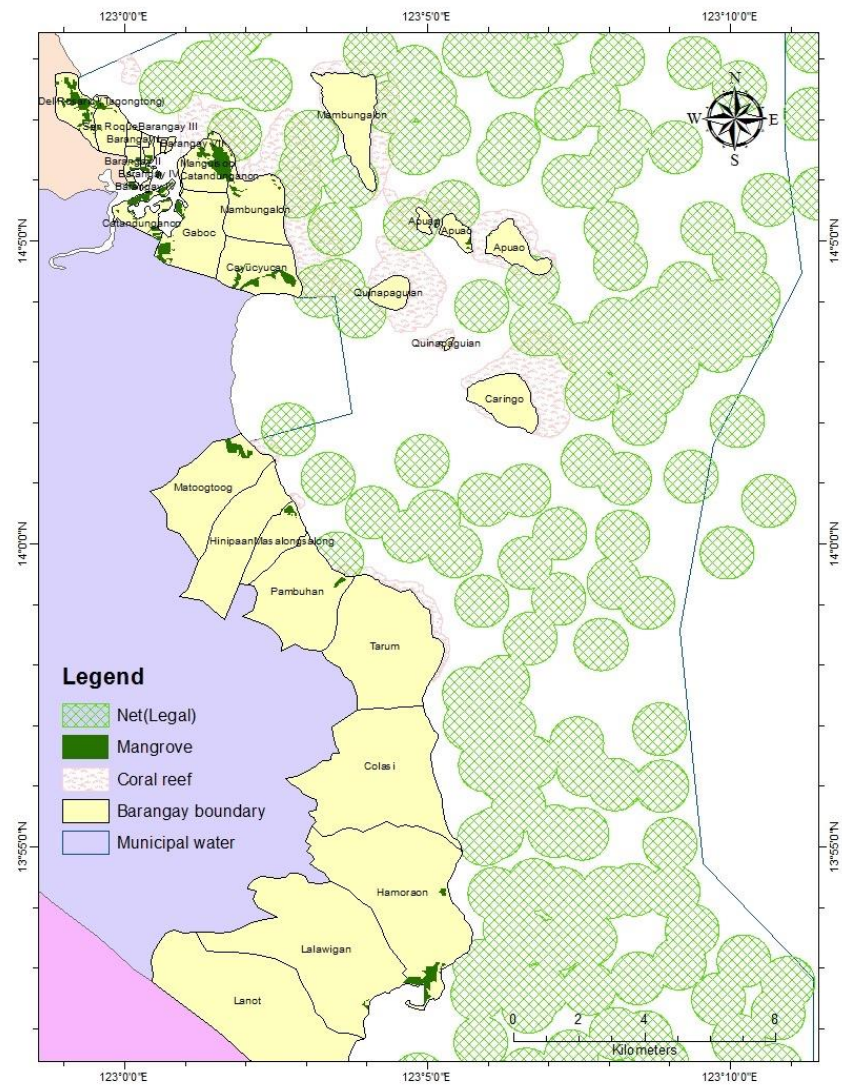
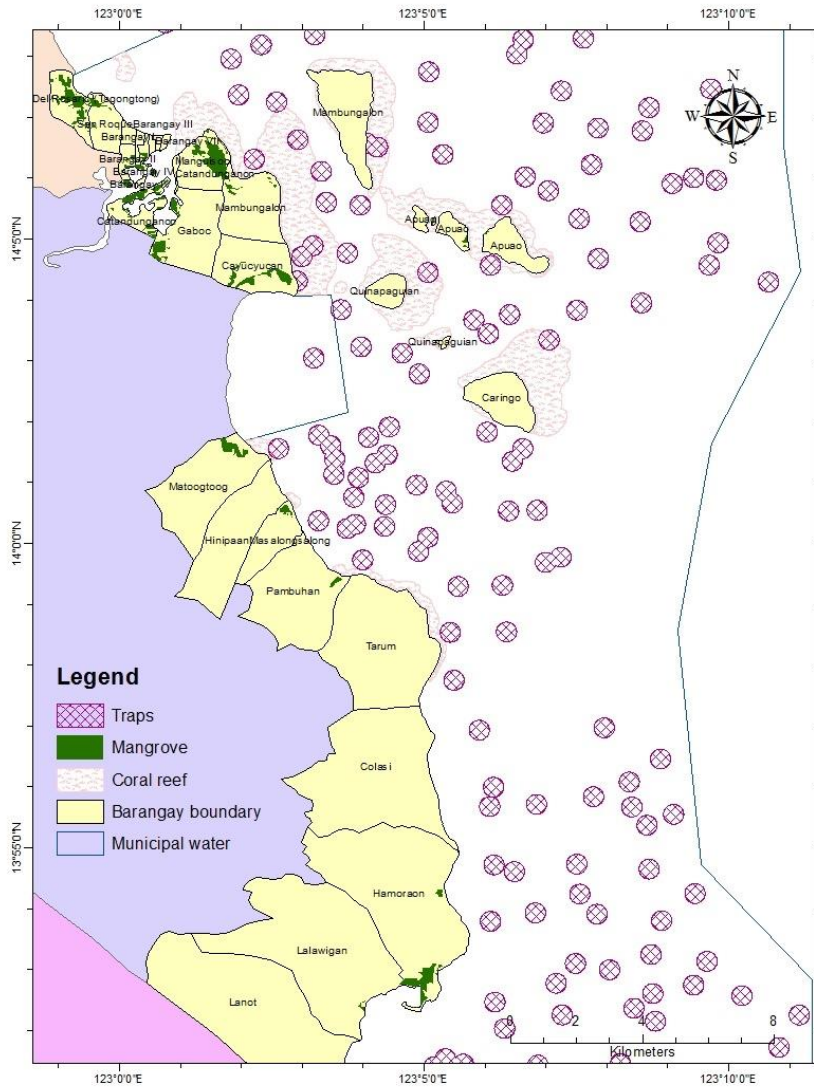
**Caringo Manage Access Areas**

|    |            |             |
|----|------------|-------------|
| 14 | 14° 3' 17" | 123° 7' 29" |
| 15 | 14° 2' 1"  | 123° 7' 33" |
| 16 | 14° 1' 32" | 123° 7' 6"  |
| 17 | 14° 1' 23" | 123° 6' 40" |
| 18 | 14° 1' 22" | 123° 6' 14" |
| 19 | 14° 1' 48" | 123° 5' 32" |

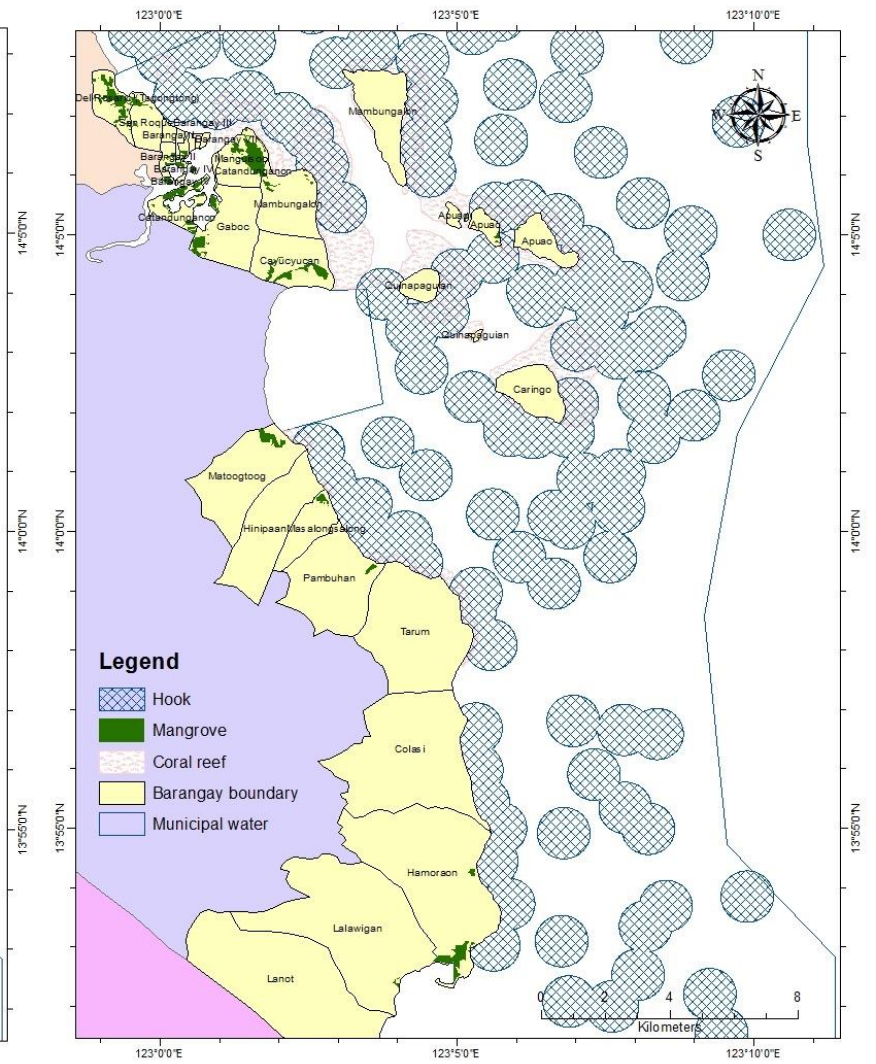
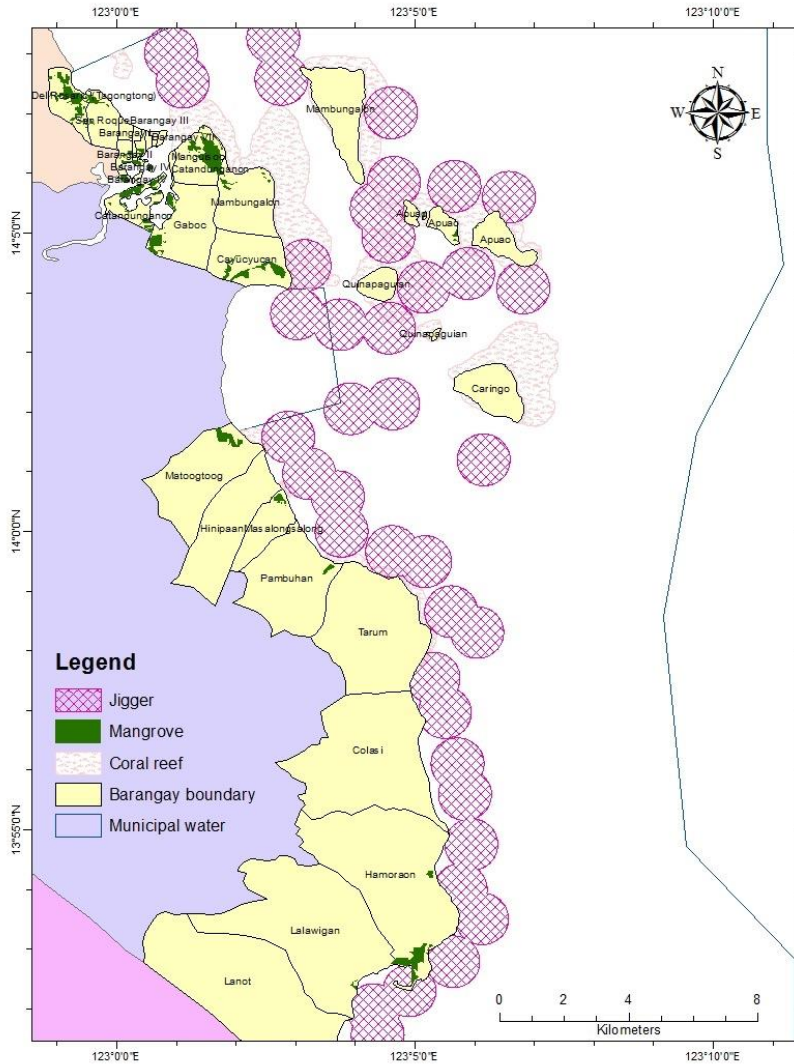
This map is produce for informationa purposes. It was prepared not suitable for navigational, engineering and surveying purposes.

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, DeLorme, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

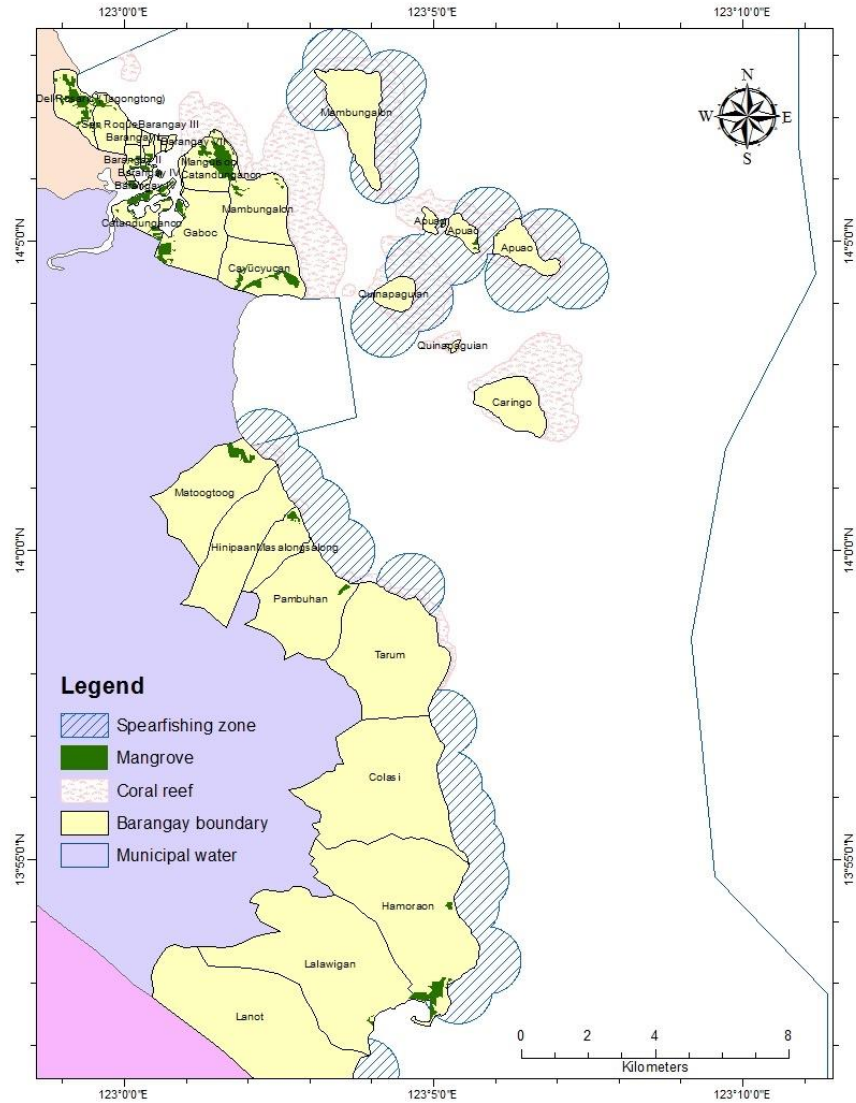
# Fishing ground (Traps and Nets)



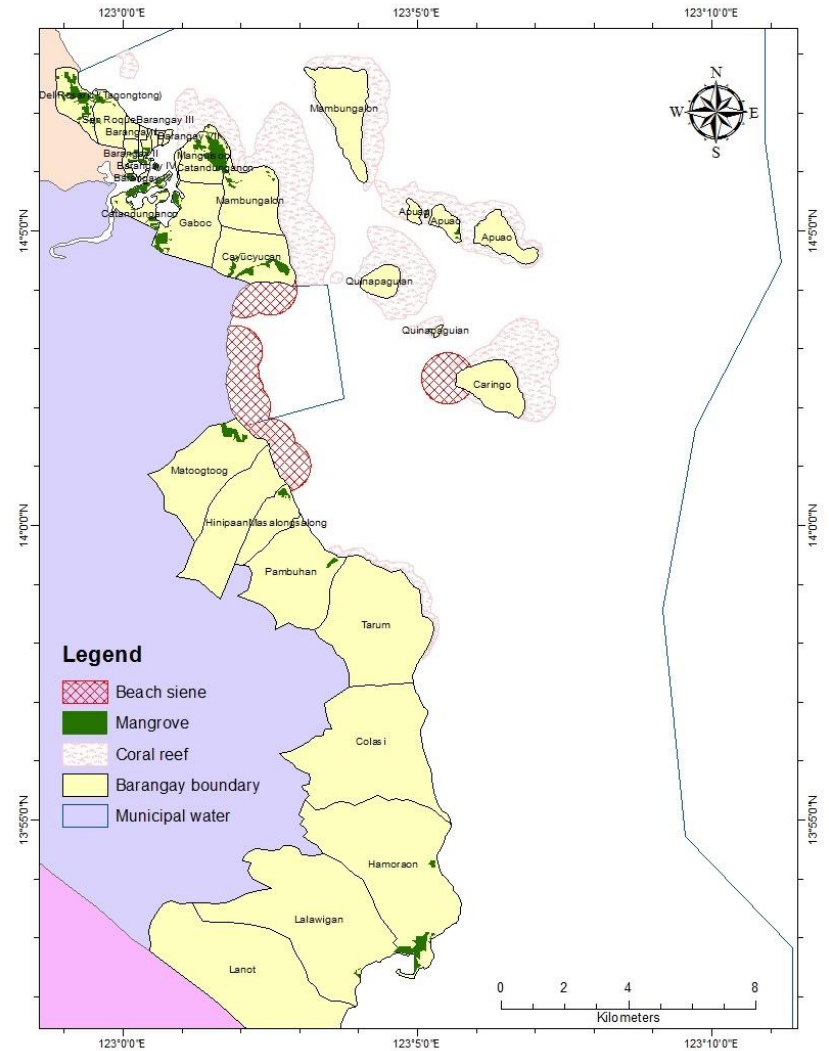
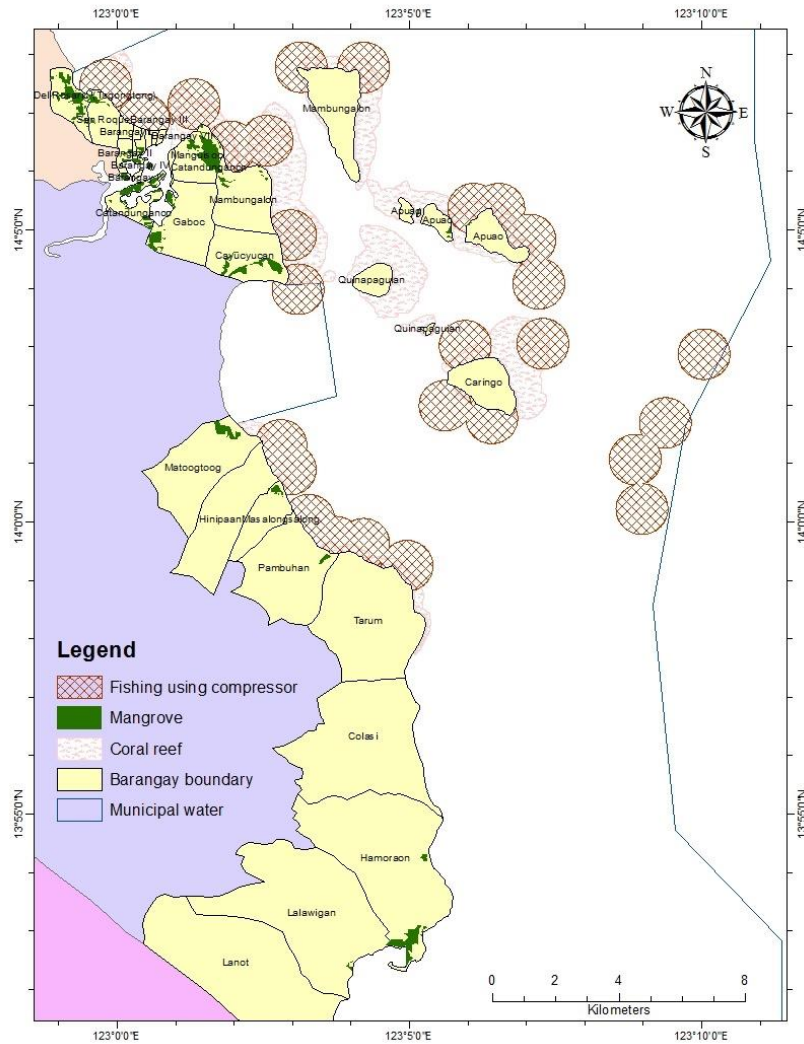
# Fishing ground (Hook & Line, Jiggers)



# Fishing ground (Spearfishing)

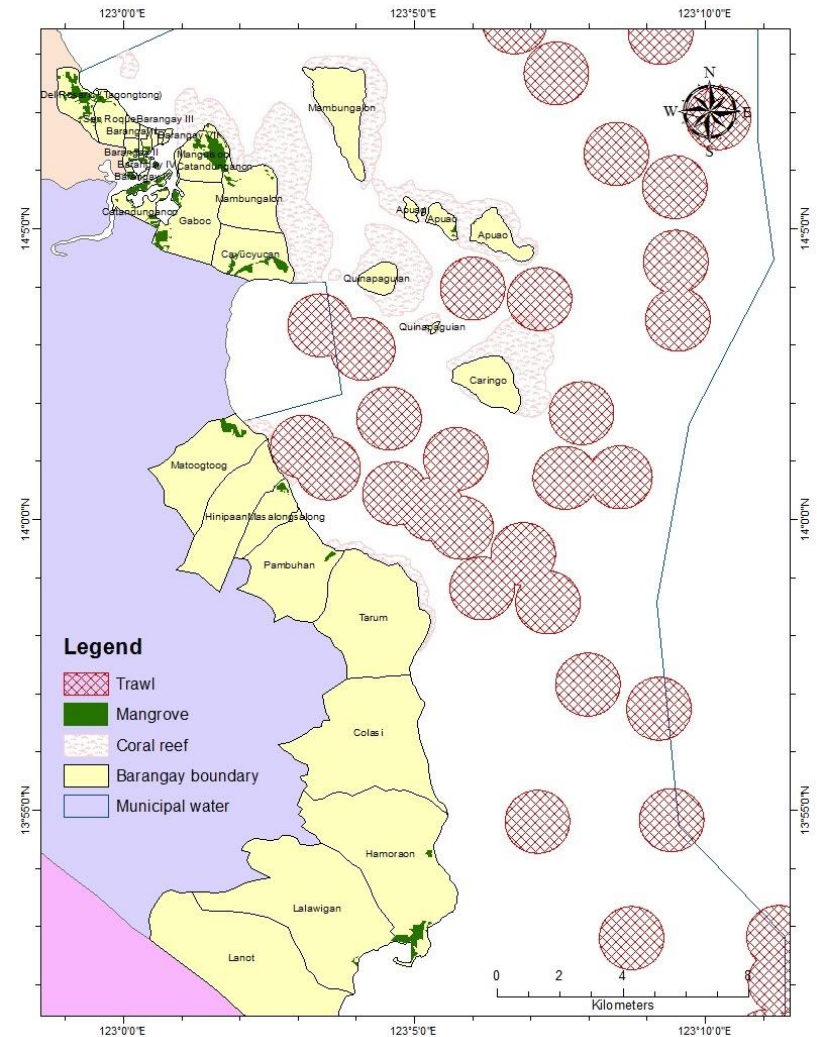
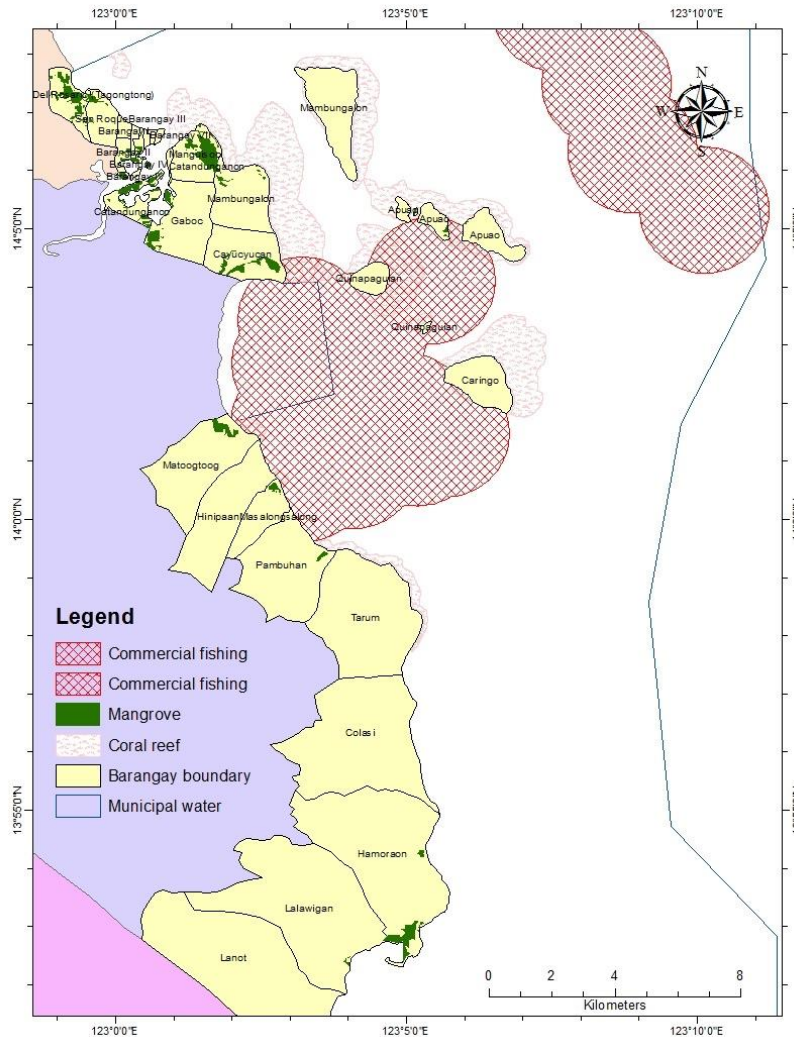


# Destructive fishing gear (beach siene, compressor fishing)





# Destructive fishing gear (commercial fishing, trawl)



# Sustained the management of municipal waters

## Strategies

1. Strict implementation of Municipal Ordinance No. 100-2002 and 186-2010 on prohibiting any fishing activity within the sanctuary

## Outcome

- Increased size of fish and reappearance in volume of long lost species of damus, kabase and pompano as testified by fishermen and fish brokers in the fish port



| Strategies                                                                        | Outcome                                                                                                                                                                      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Intense patrolling and monitoring activities of Bantay Sanctuaryo law enforcer | <ul style="list-style-type: none"> <li>Improvement of coral cover (REA 2011-2012)</li> <li>Numbers of tourist are noted making visits to the fish sanctuary sites</li> </ul> |

| Sanctuary    | 2009   | 2012   | Coral Health |
|--------------|--------|--------|--------------|
| Caringo      | 41%    | 48.10% | Fair         |
| Quinapaguian | 42%    | 67.81% | Good         |
| Apuao        | 63%    | 51.1%  | Good         |
| Canimog      | 51%    | 65.95% | Good         |
| TOTAL        | 49.25% | 58.24% | Good         |

## Strategies

2. Municipal Catch Documentation and Traceability System

## Outcome

- Updated data available for fisheries management measures



## Strategies

### 2. Sustained fisherfolk registration and licensing

## Outcome

- Updated data available for fisheries management measures
- Secured preferential rights of registered fisherfolk over the use of municipal waters



# Agenda

1. Background
2. Case of the Municipality of Mercedes
3. **Lessons and Moving Forward**




A man with dark hair, wearing a white t-shirt with blue sleeves and a logo, is speaking into a microphone. The t-shirt logo features a fisherman and the text 'FISHFOREVER' and 'Tayo'y Magsisi'. In the background, there is a banner with the text 'Rehistrado ka na ba' and another banner with 'Mangingisda, noong magpalista!'.

**Lessons:**

**Resource use conflicts intensify in an open access fisheries;**

**Managed Access Areas and sanctuaries prove to reduce conflict and improve fisheries**

**While there are enabling laws for managing access, governments still need to create incentives for municipal fisherfolk**

A man with dark hair, wearing a white t-shirt with blue sleeves and a logo, is speaking into a microphone. The t-shirt logo features a fisherman and the text 'para Sa Ating Kinabukasan Tayo'y Magtutulungan' and 'FISHFOREVER'. In the background, there are banners with text in Filipino. One banner at the top left says 'Rehistrado ka na ba at ang iyong bangka?'. Another banner at the bottom left says 'Mangingisda, anoong magpalista! Maging ayon at Kinabukasan ng mga bangka na gaganda!'.

Rehistrado ka na ba  
at ang iyong bangka?

## **Ways Forward:**

**Rights-based fisheries management through municipal water delineation and MAAS;**

**Ensure preferential rights of municipal fisherfolk over the use of municipal waters**

Mangingisda,  
anoong magpalista!  
Maging ayon at Kinabukasan  
ng mga bangka na gaganda!



