



Fisheries Management Area 11 Management Framework 2022-2027

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Fisheries Management Area 11 Management Framework 2022-2027

Part 1: Capture Fisheries Management

Covering the fishing grounds in the provinces and cities of:

Region V: Masbate

Region VI: Capiz, Guimaras, Iloilo, Negros Occidental, Bacolod City and Iloilo City

Region VII: Cebu, Negros Oriental

MARCH 2022

ILOILO CITY

Message from the Chairperson

FMA 11 Management Board



REMI A. APARRI

Regional Director, BFAR RFO VI

As our country continuously rolls-out the Fisheries Administrative Order 263 s. 2019, we in the Fisheries Management Area (FMA) 11 are proud to present the FMA 11 Management Framework 2022 – 2027 jointly crafted by various fisheries stakeholders after a series of workshops and planning processes for more than a year.

Collectively called FMA 11, the Visayan Sea, Tañon Strait, and Guimaras Strait remain to be significant contributors to fisheries production. Its vast and bountiful water is surrounded by the provinces of Masbate in Region V, Capiz, Iloilo, Guimaras, and Negros Occidental in Region VI, and Cebu and Negros Oriental in Region VII. FMA 11 also boasts of diverse mangrove forests, seagrass beds, coral reefs, mariculture parks, aquaculture ponds, and marine protected areas (MPA) which makes it a vital resource.

However, FMA 11 is faced with threats of habitat destruction (ecological), declining fish catch (socio-economic), and rampant illegal, unreported, and unregulated (IUU) fishing (governance) to name a few. We are optimistic that the FMA 11 will be able to address these problems as we are not starting from scratch but building on previous efforts.

Cognizant of these challenges to food fish security, FMA 11 hopes to be at the forefront in ensuring that there is fish on every table by sustaining a healthy ecosystem and providing equitable benefits, especially food and livelihood, for all stakeholders guided by the principles of Ecosystem Approach to Fisheries Management.

We are grateful to the FMA 11 Management Board, Scientific Advisory Group, Technical Working Group, and stakeholders from the different sectors - municipal fisheries, commercial fisheries, aquaculture, processors, traders and market organizers, academe, and local government units – for coming up with this framework to guide us in achieving our vision for the FMA 11.

Our concerted efforts made this framework possible and hand-in-hand we can make sustainable fisheries for the FMA 11 achievable.

Message from the Co-Chairperson FMA 11 Management Board



ESTEBAN EVAN B. CONTRERAS

Governor, Province of Capiz

Warmest greetings to our partner organizations, policymakers, and program implementors of the Fisheries Management Area 11.

Since the establishment of FMA under the Fisheries Administrative Order No. 263 issued by the Department of Agriculture – Bureau of Fisheries and Aquatic Resources, the Province of Capiz took on the shared responsibility for the conservation and sustainable management of fishery resources in the Visayan Sea under FMA 11. It is because the province believes in the essence of interconnectivity in our ecosystem and that science and people should be the center of successful management.

With the FMA 11, the Province of Capiz found its path in the conservation of the coastal ecosystem together with the LGUs within its jurisdiction, partners, and fisherfolks. With the growing numbers of citizen scientists and eco-warriors, it is no doubt that FMA 11 will be able to reach its goals.

With this, we reiterate our commitment to supporting the FMA 11 and its endeavors in promoting sustainable fisheries and growth for our beloved fishers, especially since Capiz is known for its seafood and that most of the livelihood of the Capisnon depends on it. We will continue to work together and collaborate for the protection, conservation, and growth of our shared natural resources.

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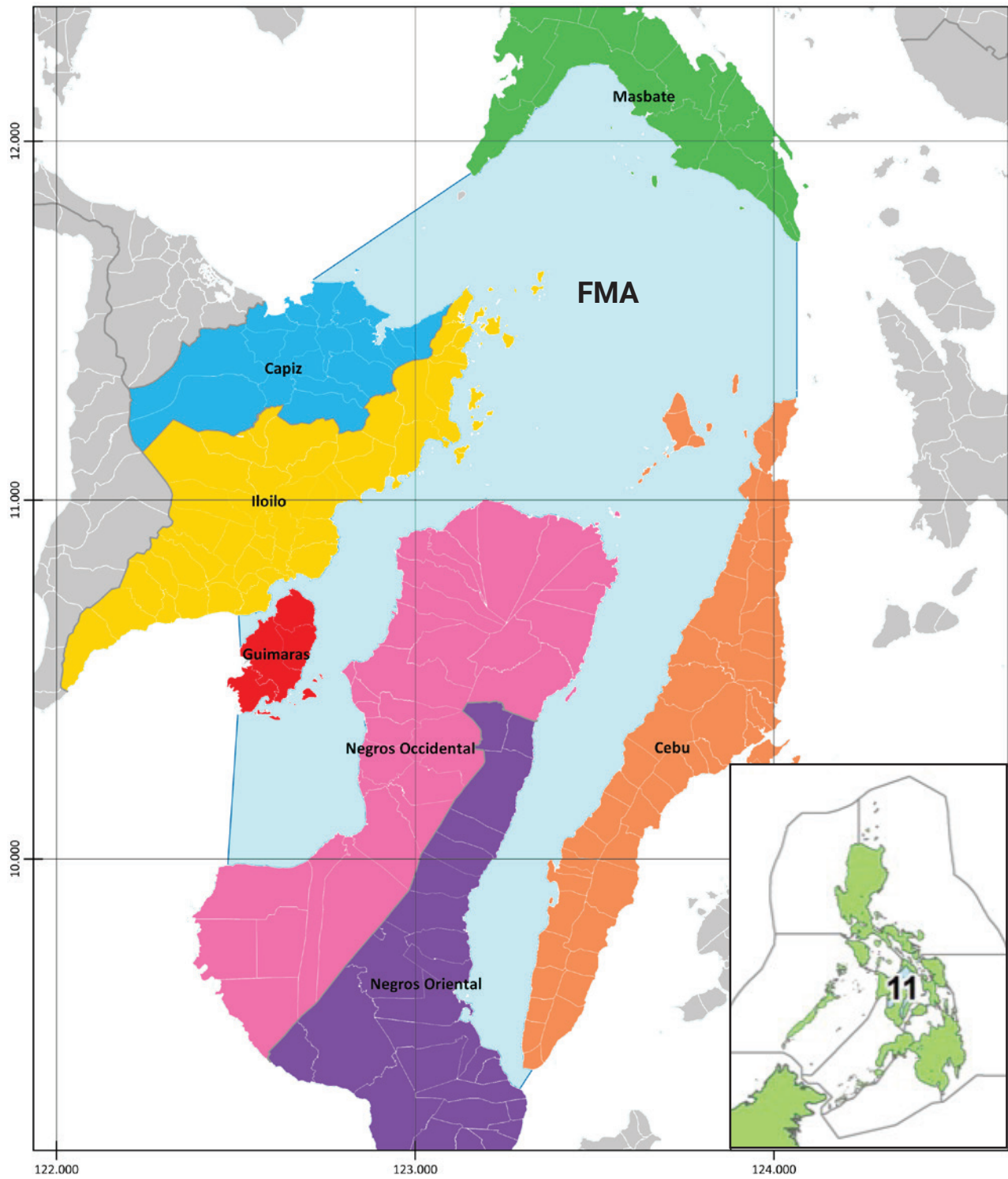


FRANCISCO TORRES, JR
National Fisheries Research and
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Figure 1. Fisheries Management Area 11



Executive Summary

The Fisheries Administrative Order No. 263 delineating Fisheries Management Areas (FMA) around the country also mandates the Management Board of each FMA to prepare an FMA Plan. This is the first iteration of the FMA 11 Plan, covering the period 2022-2027. It is formally titled as **FMA 11 Management Framework** to indicate that it is not prescriptive, but provides strategic guidance for all partners and stakeholders to work together towards achieving common goals.

FMA 11 planning process formally began in 2020, and is envisioned to be a continuing participatory process that builds on existing coastal and fisheries management plans of BFAR, Visayan Sea, Tañon Strait Protected Seascape, other NIPAS areas and inter-LGU alliances. It follows EAFM principles (good governance, appropriate scale, adaptive management, increased participation, cooperation and coordination, multiple objectives, precautionary approach), and also adheres to the subsidiarity principle that respects local autonomy.

The focus of this initial cycle is primarily on capture fisheries. However, the FMA 11 Management Board committed to initiate parallel processes to cover complementary topics needing special attention, including: (a) enhancing aquaculture production/ post-harvest management, (b) further developing a comprehensive program to address illegal, unreported and unregulated (IUU) fishing, and (c) enhancing public-private partnerships to expand livelihood options for marginal fishers.

The FMA 11 Management Framework seeks to address four priority issues considered to be transboundary in scale (across Regions V, VI and VII and the seven provinces) and require high-level coordination among national agencies, local governments and stakeholder groups. These issues include: (1) declining fish catch; (2) rampant IUU fishing, (3) lack of capacity for coordinated fisheries law enforcement, and (4) insufficient and unsustainable livelihoods for marginal fishers. The Framework also takes cognizance and supports actions to address twelve other local issues, such as waste management, quarrying, coastal habitat degradation, coastal industrial development, etc., that are area-specific and/or are the primary concern of local institutions.

The five goals of the FMA 11 Management Framework in this 5-year period are: (1) practical elimination of top IUU fishing practices (trawl, *hulbot-hulbot*, use of fine mesh gear, blast fishing and intrusion of commercial fishing in municipal waters); (2) establishment of capacitated and well-coordinated fisheries law enforcement; (3) regulation of fishing activities to restore and sustain priority fisheries stocks; (4) establishment of inter-agency program for livelihood support in partnership with the private sector; and (5) strengthening of the FMA institutions and management processes.

At the end of the 5-year management cycle, the expected key results include: (1) minimization of top IUU fishing practices through strategic compliance and enforcement program that includes incentives for compliant fishers; (2) improvement in status of priority fisheries stocks, evidenced by trends towards meeting agreed reference points; (3) working models for sustainable livelihood support for target sectors, including providing safety nets for fishers adversely affected by regulatory actions; and (4) functional FMA institutions that are able to develop and communicate harvest control rules that translate into enforceable regulatory measures.

Despite the challenges posed by the continuing pandemic conditions, the FMA 11 stakeholders are united and committed to implementing the agreed actions in the Management Framework towards the vision of *"A highly biodiverse and resilient FMA 11, co-managed sustainably based on science, with active participation of progressive communities and a proactive, responsive and adaptive government, to sustain a healthy ecosystem and provide equitable benefits (esp. food and livelihood) for all stakeholders."*

FMA 11 Profile

Scale and location

FMA 11 is located in central Philippines bounded by 90 municipalities and cities in seven provinces (Capiz, Cebu, Guimaras, Iloilo, Masbate, Negros Occidental and Negros Oriental) in three administrative regions (Region VI, VII and VIII).

Table 1. Cities and municipalities in FMA 11

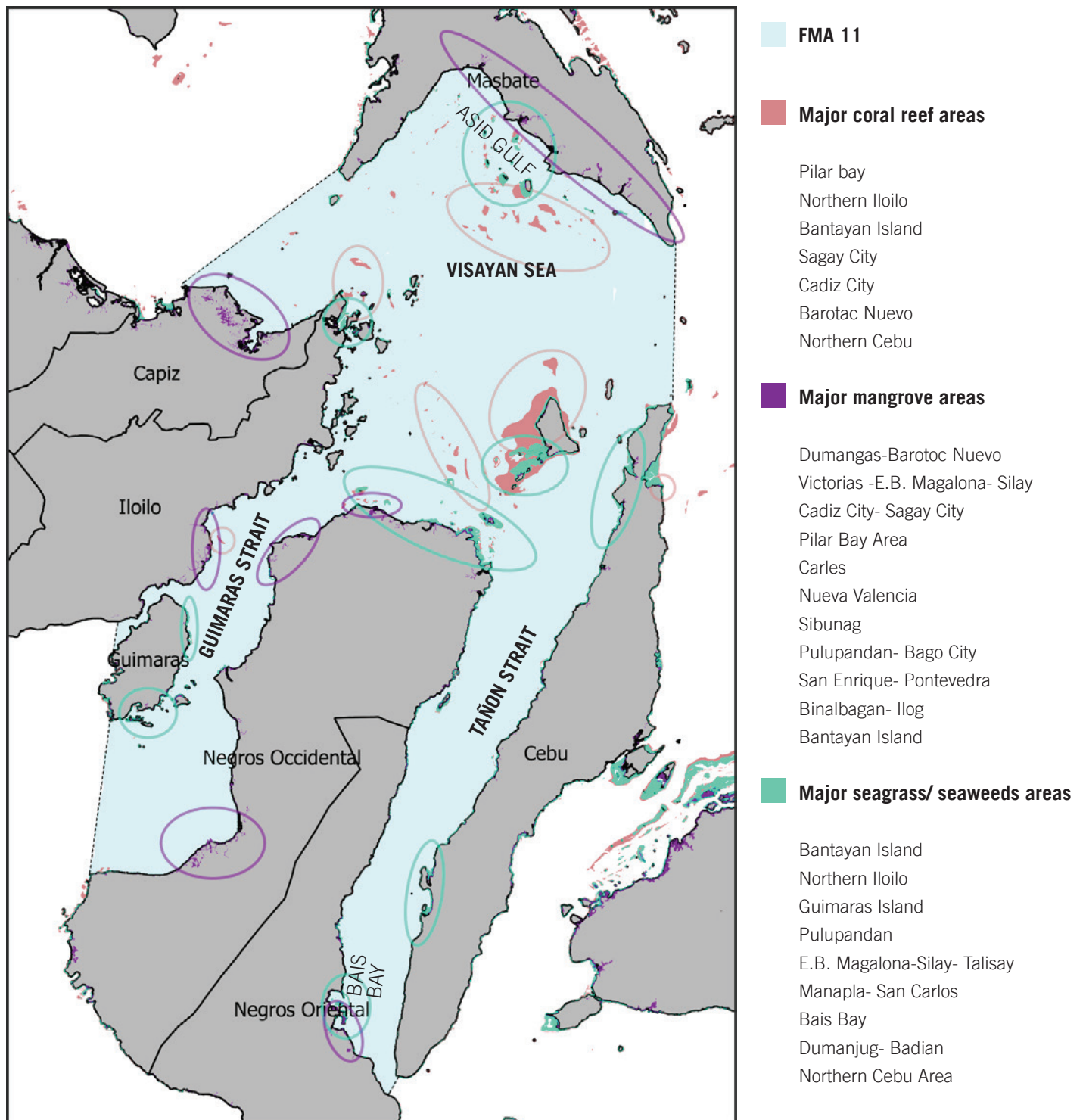
Region	Coastal City/Municipality	Region	Coastal City /Municipality	
Capiz (R6)	Panay (3538)	Iloilo (R6)	Leganes (158)	
	Pilar (1541)		San Dionisio (2978)	
	Pontevedra (2269)		Zarraga (313)	
	President Roxas (1515)		Balud* (4588)	
	Roxas City* (5128)		Cawayan (1572)	
Cebu (R7)	Alcantara (307)	Masbate (R5)	Esperanza** (1808)	
	Alegria (1121)		Milagros (2971)	
	Aloguinsan (555)		Placer (3070)	
	Asturias (3337)		Bago City (306)	
	Badian (892)		Binalbagan (1116)	
	Balamban (1483)	Cadiz City (4065)		
	Bantayan (8388)	Calatrava (454)		
	Barili (1714)	Cauayan*** (3359)		
	Daanbantayan** (8797)	City of Escalante (2856)		
	Dumanjug (343)	City of Himamaylan (3904)		
	Ginatilan (115)	City of Kabankalan (297)		
	Madrdejos (1535)	City of Talisay (786)		
	Malabuyoc (290)	City of Victorias (726)		
	Medellin** (1655)	Enrique B. Magalona (<i>Saravia</i>) (1468)		
	Moalboal (2240)	Hinigaran (829)		
	Pinamungahan (940)	Ilog (1262)		
	Ronda (577)	Manapla (1035)		
	Samboan (221)	Pontevedra (1142)		
	San Remigio (1842)	Pulupandan (2034)		
	Santa Fe (669)	Sagay City (4871)		
Santander** (240)	San Carlos City (1444)			
Tabuelan (1001)	San Enrique (1484)			
Toledo City (1607)	Silay City (1740)			
Tuburan (446)	Toboso (793)			
Guimaras (R6)	Buenavista (3213)	Negros Occidental (R6)	Valladolid (2984)	
	Jordan*** (1310)		Amlan (<i>Ayuqitan</i>) (658)	
	Nueva Valencia*** (4647)		Ayungon (1025)	
	San Lorenzo (1687)		Bais City (2482)	
Sibunag (1773)	Bindoy (Payabon) (925)			
Iloilo (R6)	Ajuy (2713)		Negros Oriental (R7)	City of Guihulngan (2415)
	Anilao (2194)			City of Tanjay (449)
	Balasan (443)			Jimalalud (688)
	Banate (3159)			La Libertad (392)
	Barotac Nuevo (1225)			Manjuyod (1397)
	Barotac Viejo (3757)			San Jose (309)
	Batad (797)			Sibulan (515)
	Carles (10451)			Tayasan (781)
	Concepcion (7699)			Vallehermoso (636)
	Dumangas (1785)			Bacolod City
	Estancia (3246)	Iloilo City	Iloilo City*** (1693)	

*Number of registered municipal fisherfolk (FishR) indicated in parenthesis

Fishing grounds and coastal habitats

The three major fishing grounds (Visayan Sea, Guimaras Strait, and Tañon Strait) cover 2,038,600 hectares and are among the most productive in the country. The highly biodiverse coastal habitats include 46,000 hectares of mangroves, 118,000 hectares of coral reefs and 20,000 hectares of seagrass beds.

Figure 2. Fishing grounds and coastal habitats



Fisheries stocks and the fishing sector

The major fisheries stocks in the FMA are mostly small pelagics, including: sardines, scads, mackerels and herrings. In addition, the FMA is a major producer of blue swimming crabs, shellfishes (scallop, nylon shells, angel wings) and mollusks (squid).

Figure 3. Major fisheries stocks in Guimaras Strait

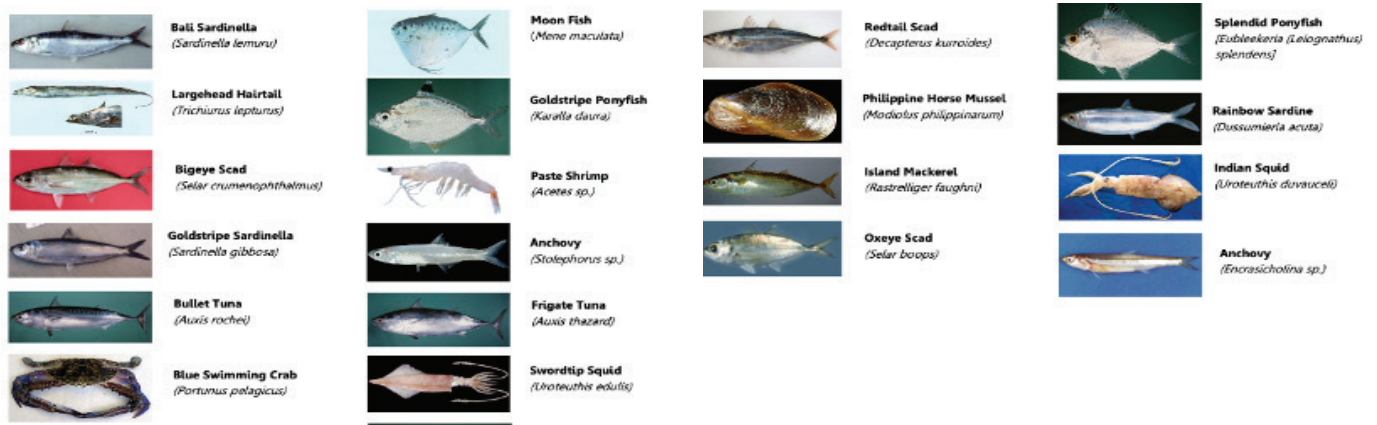
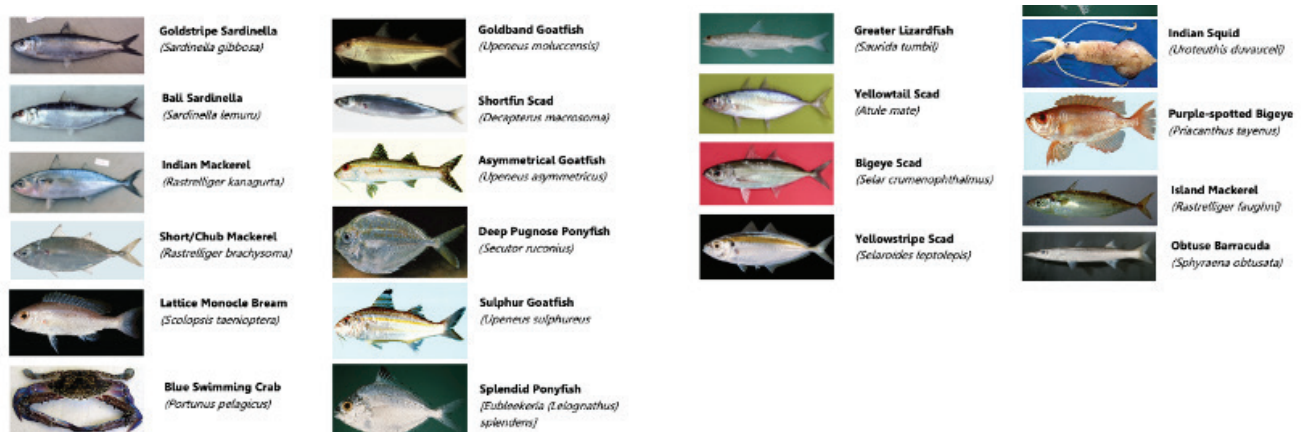


Figure 4. Major fisheries stocks in Visayan Sea



*Top species are determined based on percentage volume of monitored landed catch of both commercial and municipal fisheries in monitored landing centers of BFA/NFRDI National Stock Assessment Program. This is clustered information from 2015-2018 from the regional teams forming the FMA, unless date is otherwise specified.

Figure 5. Major fisheries stocks in Tañon Strait

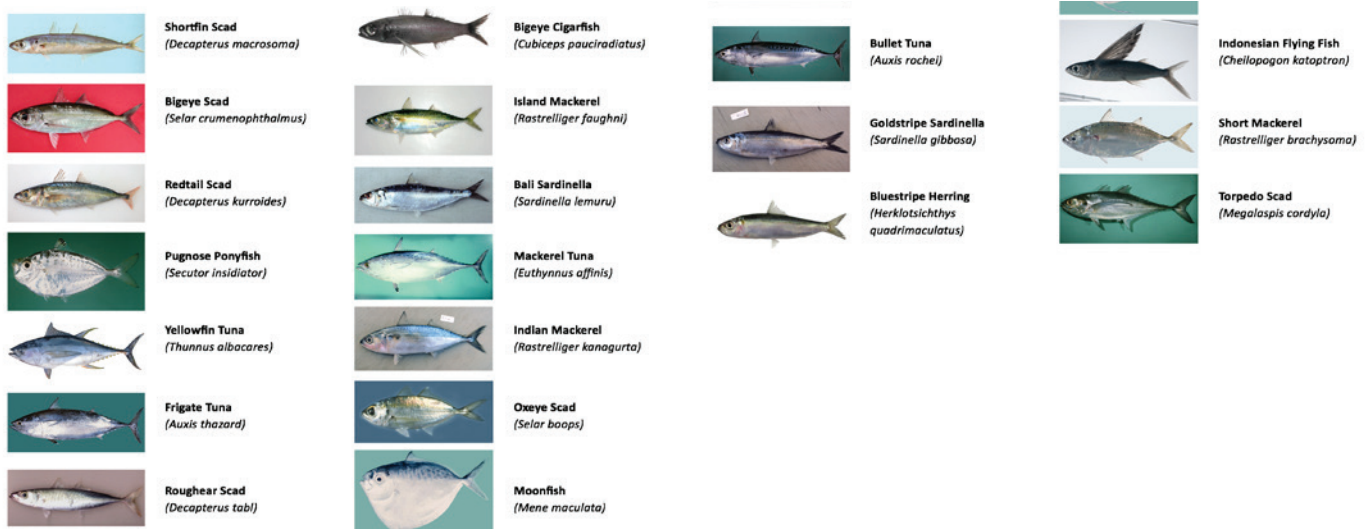
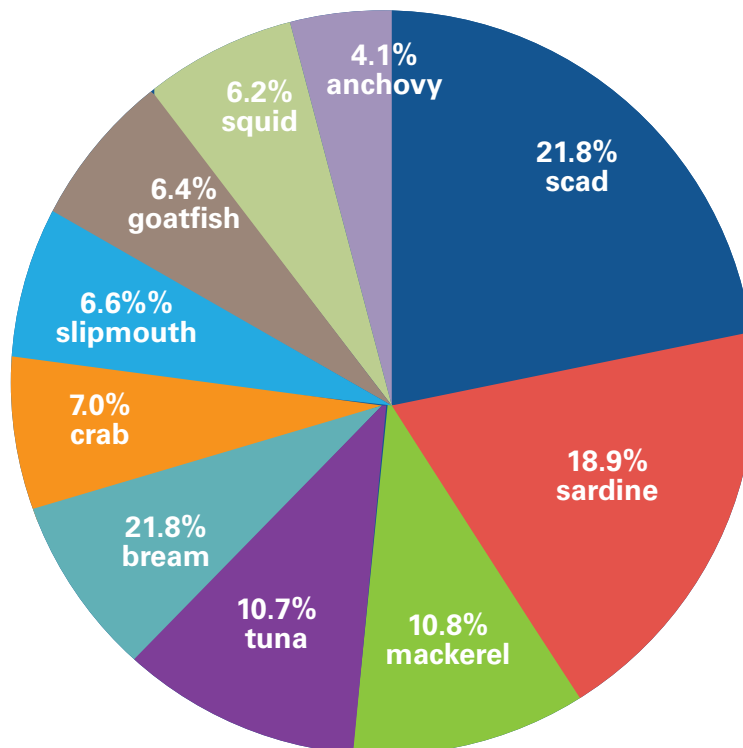


Figure 6. Top ten capture fisheries stocks in the seven provinces surrounding FMA 11



In addition to capture fisheries production, FMA 11 is a major aquaculture area for milkfish, shellfish, tilapia and shrimps.

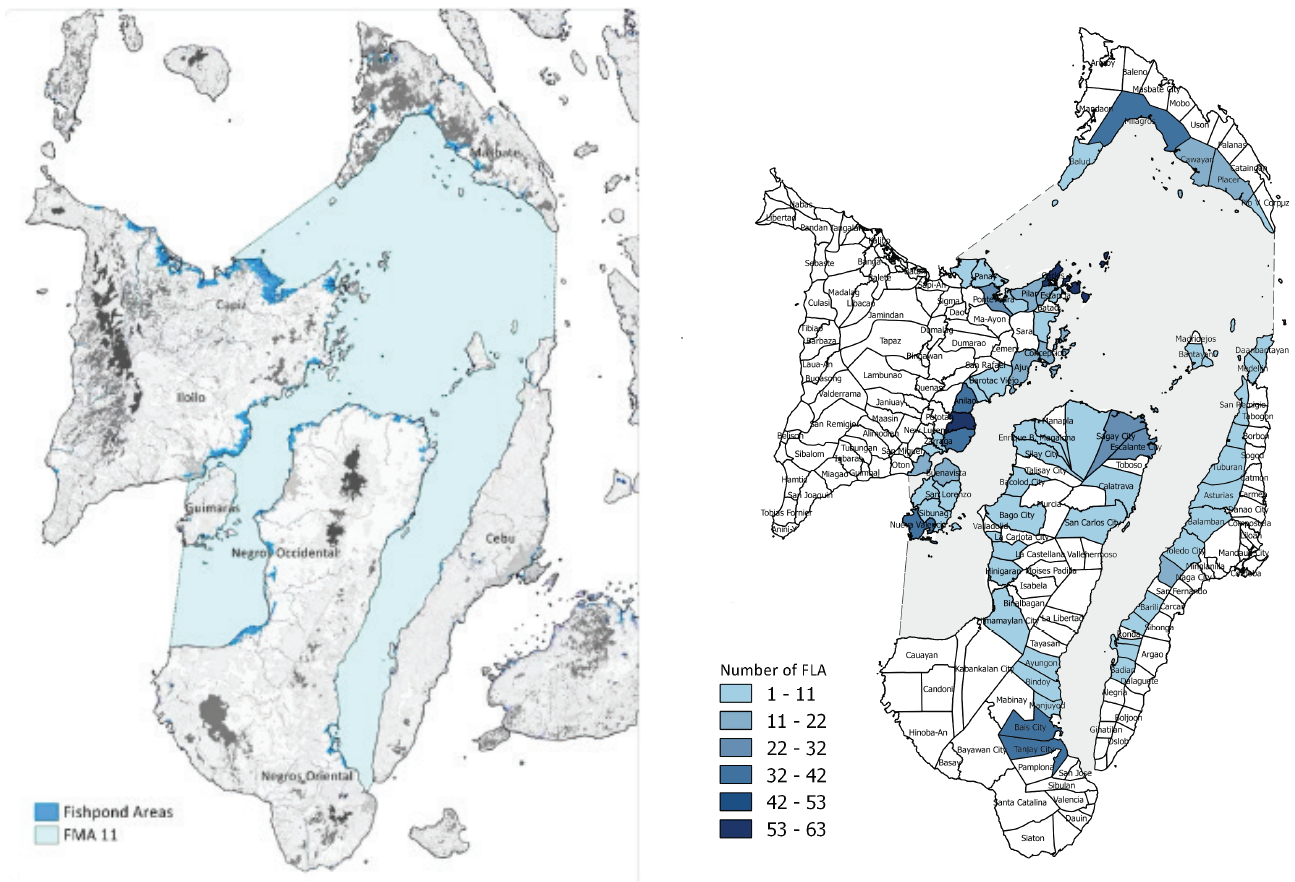
Table 2. Percent Share of Fisheries Sectors Productions of the Provinces* surrounding FMA 11 in 2020 (PSA, accessed Aug 2021)

Overview of fisheries production			
Municipal Capture Fisheries		45%	
Aquaculture		33%	
Commercial Fisheries		20%	
Inland Fisheries		2%	
Province	Total Capture Fisheries	Total Aquaculture production	Overall Fisheries Production
Capiz	26,928.62	61,474.21	88,402.83
Cebu	59,479.92	11,085.16	70,564.08
Guimaras	5,125.10	2,815.25	7,940.35
Iloilo	60,546.76	19,381.76	79,928.52
Masbate	43,057.23	1,519.02	44,574.25
Negros Occidental	49,105.02	28,274.16	77,379.18
Negros Oriental	14,604.37	2,952.36	17,556.73

Table 3. Top 10 Aquaculture Commodities of Provinces* surrounding FMA 11 for 2020 (PSA, accessed Aug 2021)

Commodity	Production (MT)	Percentage
Milkfish	87,528.74	71.1%
Oyster	10,244.77	8.3%
Mussel	8,495.97	6.9%
Seaweed	7,421.94	6.0%
Tilapia	5,877.19	4.8%
Mangrove crab	2,018.00	...
Catfish	625.64	...
Tiger prawn	600.20	...
Endeavor prawn	182.61	...
White shrimp	66.35	...

Figure 7. Major Aquaculture Areas



Municipal and commercial fisheries sector

Figure 8. Number of Registered Municipal Fishers as of Aug 2021

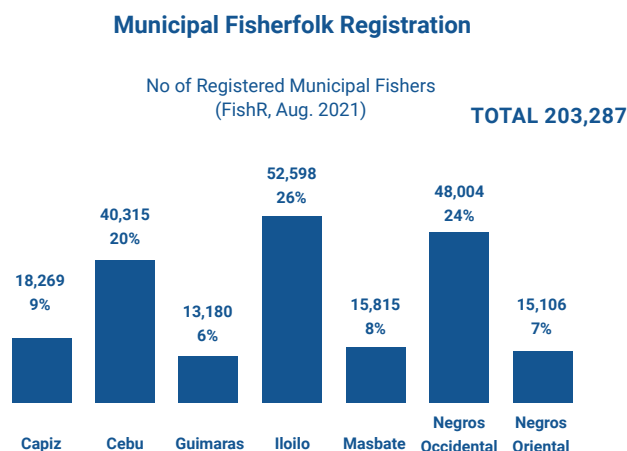
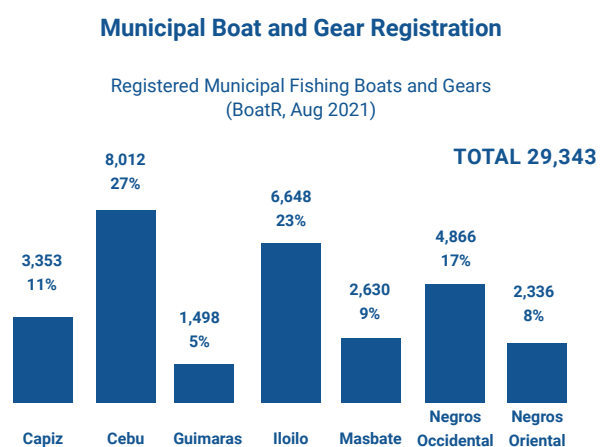


Figure 9. Number of Registered Municipal Fishers as of Aug 2021



There are some 200,000 registered municipal fishers in FMA 11, based on the data collated by BFAR from reports of individual municipalities and cities. BFAR data also shows that there are at least 29,000 municipal fishing vessels in the area. However, the number of registered boats is an underestimate. In Visayan Sea alone, an inventory of fishing vessels conducted in 2018-2019 showed that there are at least 48,000 fishing vessels operating.

Table 4. Summary of fishers and fishing boats in the Visayan Sea (by province) from 2018-2019 fisheries inventory

	Province					Grand Total
	Capiz	Cebu	Iloilo	Masbate	Negros Occidental	
No. of Visayan Sea LGUs	5	6	11	5	6	33
No. of fishers	9,642	28,155	28,702	17,933	13,833	98,265
No. of commercial vessels	46	80	561	14	60	761
No. of motorized municipal fishing boats	3,989	13,124	10,192	8,038	4,463	39,806
No. of non-motorized municipal fishing boats	1,243	1,761	1,815	1,809	813	7,441

Table 5. Number of Registered Commercial and Fishing Vessels Known to Operate in FMA 11

Province/ Home port	Vessel Type	Commercial Fishing Vessel Size			TOTAL
		Small-scale	Medium-scale	Large-scale	
Capiz	Carrier		1		
	Catcher	13	14		27
	Light boat	2	2		4
	TOTAL	15	17		32
Iloilo	Carrier		7	7	14
	Catcher	20	36	4	60
	Escort boat		1		1
	Fish carrier		8	1	9
	Light boat	24	49	1	74
	Skiff boat	4	1		5
	Sonar boat		1		1
	TOTAL	48	103	13	164
Negros Occidental	Carrier	2	19		21
	Catcher	58	49	2	110
	Light boat	15	28		43
	Light boat		3		3
	Skiff boat	4			4
	TOTAL	79	99	2	181
Cebu	Ring net	29	6		35
	Round Haul Seine	16			16
	SMS Purse Seine	2	16		18
	TOTAL	47	22		69

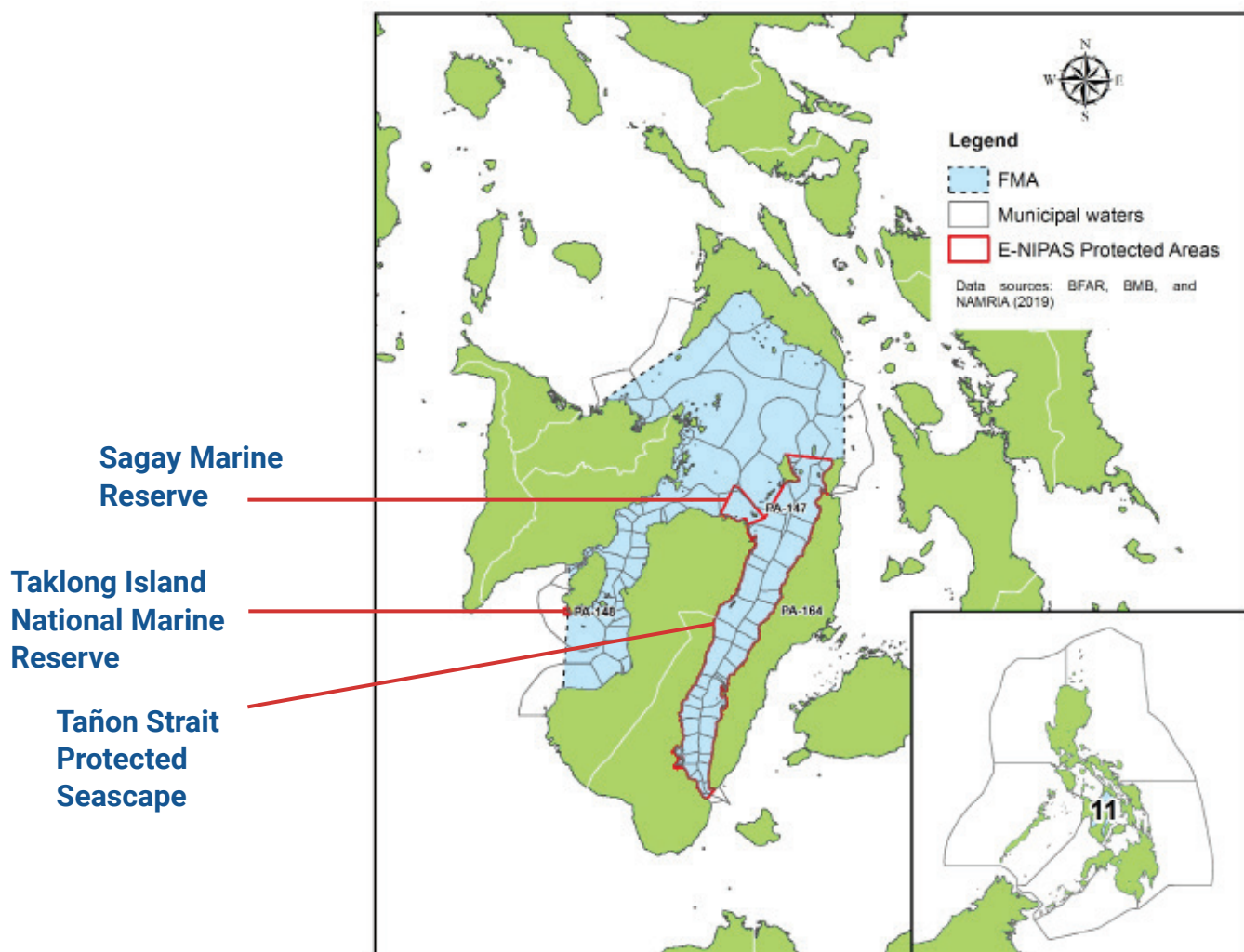
Protected Areas under NIPAS

There are three major NIPAS areas in FMA 11, including the Tañon Strait Protected Seascope (518,200 hectares); Sagay Marine Reserve (32,000 hectares) and Taklong Island National Marine Reserve. In addition, several NIPAS initial components are located in Masbate and Cebu, including the Naro Island Wildlife Sanctuary (1,143.5 hectares) and the Bantayan Wilderness Area.

Five NIPAS areas are included in FMA namely:

1. Sagay Marine Reserve (established under R.A. No. 9106)
2. Tañon Strait Protected Seascope (established under E-NIPAS)
3. Taklong Island National Marine Reserve (PP 525, 1990; initial component)
4. Naro Mangrove Wilderness Area declared as Naro Island Wildlife Sanctuary (Pres. Proclamation No. 317)
5. Island of Bantayan Wilderness Area (Pres. Proclamation No. 2151)

Figure 10. Location of three of the five major NIPAS areas in FMA 11

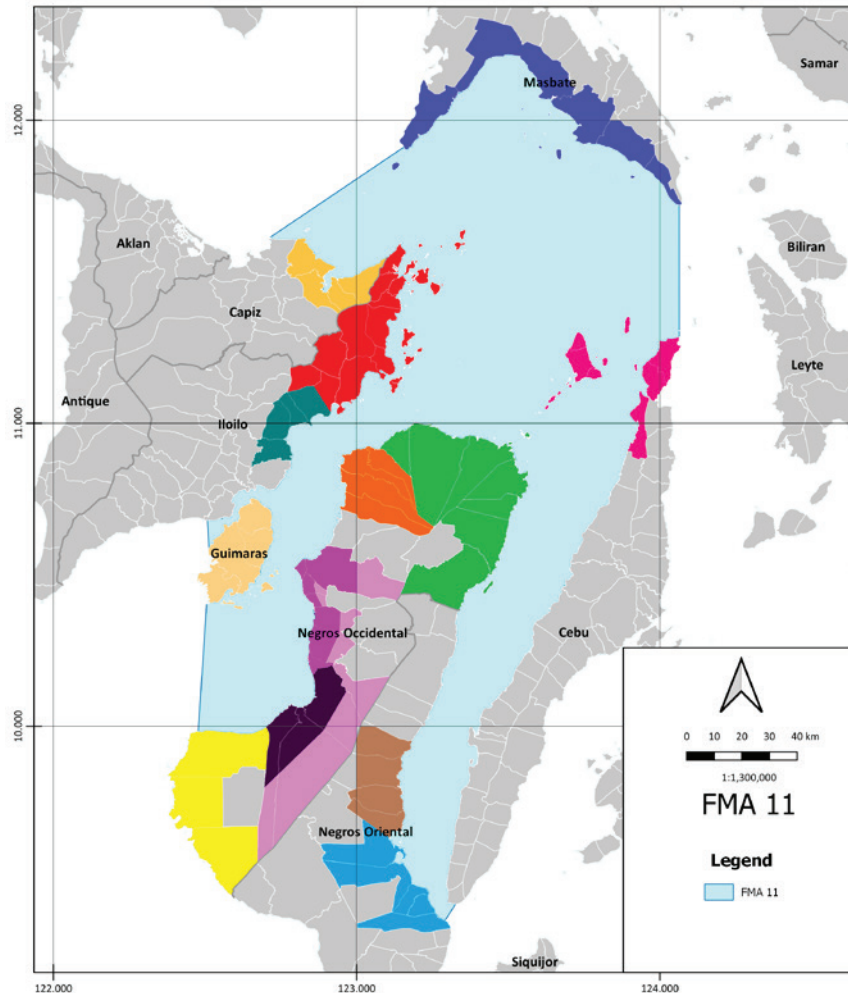


Note: Municipal boundary delineation shown above is not final, and still subject to the adoption of the policy on delineation of municipal waters for LGUs with offshore islands.

LGUs and Alliances

In each of the seven provinces, there are various inter-LGU alliances for coastal resource management. Each alliance typically has a management plan that aligns with the management goals and strategies of the province.

Figure 11. Inter-LGU Alliances in FMA 11



- | | |
|---|---|
| ● 1. Asid Gulf Management Council | ● 9. Central Negros Council for Coastal Resource Development (CENECCORD) |
| ● 2. 4Ps Fisherfolk Integrated Fisheries Aquatic Resources Management Council | ● 10. Kabankalan-Himamaylan-Ilog Integrated Coastal Area Management Council (KAHIL-ICAMC) |
| ● 3. Northern Iloilo Alliance for Development (NIAD) | ● 11. Negros Occidental Coastal Wetlands Conservation Areas Management Council (NOCWAMA) |
| ● 4. Banate Bay Resource Management Council (BBBRCM) | ● 12. Southern Negros Coastal Development Management Council (SNCDMC) |
| ● 5. Guimaras Alliance of Protected Areas and Sanctuaries | ● 13. Bindoy, Ayungon, Tayasan and Manjuyod (BATMan) Alliance |
| ● 6. Northern Cebu Alliance | ● 14. Bais, Amalan, Tanjay, San Jose, Sibulan (BATASS) |
| ● 7. Northern Negros Aquatic Resource Management Advisory Council (NNARMAC) | |
| ● 8. Negros 3 rd Coastal Resource Management Development Council (N3CRMDC) | |

Issues and Problems

The following issues and problems were collected from existing management plans of the various Provinces, Alliances and NIPAS areas. The initial list was then categorized and prioritized during the FMA 11 Planning Workshop. The priority issues and problems (#1-4) need to be addressed at the FMA level because: a) the scale of the problems may involve many provinces; b) these require high-level (regional or national) coordination and support. The additional issues and problems (#5-16) may be best addressed at the provincial, LGU-alliance or individual LGU level because the primary authority to address these problems lies with the LGUs. These additional issues may be included in monitoring and evaluation at FMA level in order to: a) determine the level of support that may be provided by the FMA institutions; b) assess the cumulative impacts of the problems; c) draw best practices for sharing and replication.

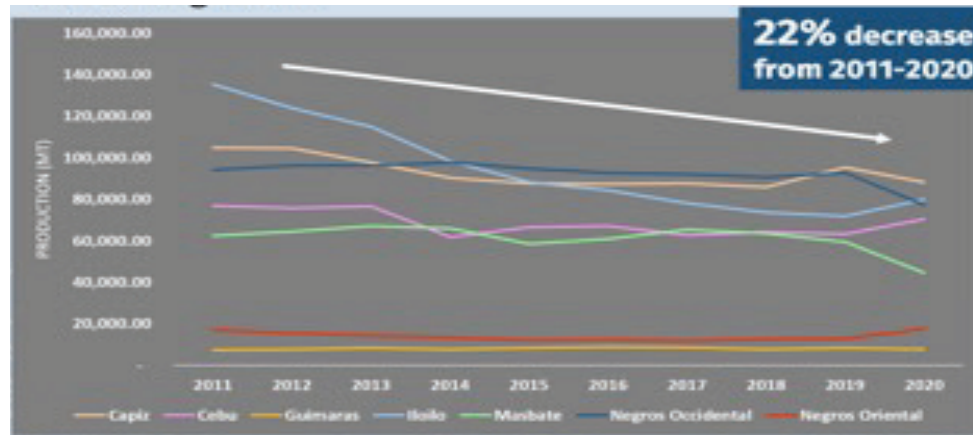
Table 6. Priority Issues and Problems

Priority Issues and Problems	Priority		
	Low	Med	High
1) Declining fish catch (major fish stocks in fishing grounds, shellfish)			H
2) Rampant IUU Fishing, particularly: trawl, hulbot-hulbot, trawl-bot, fine-mesh nets, blast fishing, intrusion of commercial fishers in MW			H
3) Lack of capacity for coordinated and effective fisheries law enforcement		M	
4) Insufficient and unsustainable alternative/supplemental livelihood for marginal fishers			H
Additional Issues	Jurisdiction		
	Municipality	Prov/Alliance	FMA M&E
5) pollution; improper waste management (garbage)			
6) beach/ river quarrying; black sand mining			
7) cutting of mangroves; conversion of mangrove areas to other uses			
8) habitat degradation (coral reefs, seagrass beds; soft-bottom areas)			
9) upland deforestation			
10) fisherfolk settlement areas			
11) municipal boundary disputes			
12) Inactive/ not capacitated FARMCs, LGU Alliances			
13) proposed oil depot in Dumangas			
14) harvesting of juvenile blue swimming crab for grow-out (Pilar Bay)			
15) proposed reclamation projects (anticipated)			
16) Panay-Guimaras-Negros bridge (anticipated)			

1) Declining fish catch (major fish stocks in fishing grounds, shellfish)

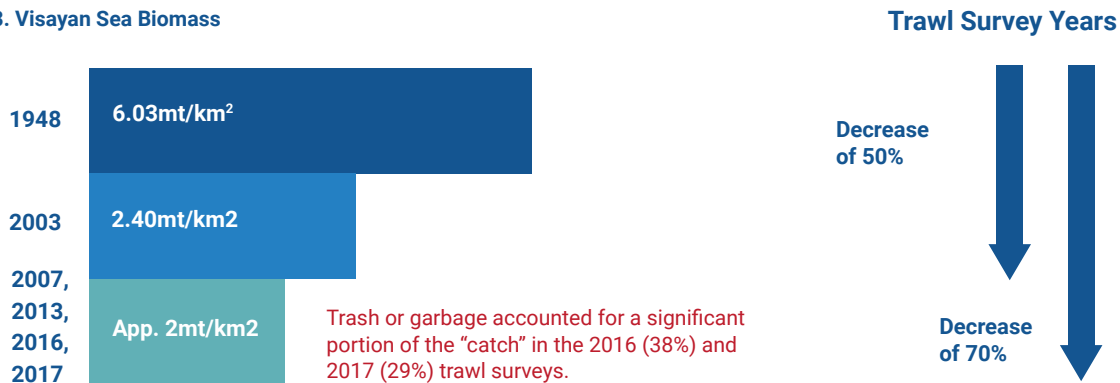
In the past decade, fisheries production trend has been decreasing, with a loss of about 22% from 2011 to 2020 (Figure 13). While these aggregated figures by province include fish caught outside of FMA 11, the trend is consistent with the observed decline in fish biomass in the Visayan Sea recorded over several decades (Figure 14).

Figure 12. 10-year Fisheries Production Trends of Provinces surrounding FMA 11



Data source:
PSA Fisheries
Production Data,
2011-2020

Figure 13. Visayan Sea Biomass



The major causes of the decline in fish catch are overfishing (from IUU fishing and overcapacity), and habitat loss. There have been several management initiatives to address the problems at the scale of entire fishing grounds (e.g. Visayan Sea) down to individual LGUs. These initiatives include:

- Visayan Sea closed season
- fisheries regulations on the total ban of hulbot-hulbot, bottom trawl, etc
- Visayan Sea Management Framework and join collaboration among 5 Provinces
- established inter-LGU alliances to address common issues and concerns
- ongoing catch monitoring by NSAP, expanded coverage of sampling sites
- NIPAS and locally managed MPAs
- climate vulnerability assessments, and study of impact of climate change on fisheries stocks

There are few comprehensive studies on the overall impact and effectiveness of management measures. For example, several years of implementing the Visayan Sea closed season has not stemmed the decline in fisheries stocks, even as reports show fish stocks increase in periods when enforcement is strict. The socio-economic impact of management measures also needs further study.

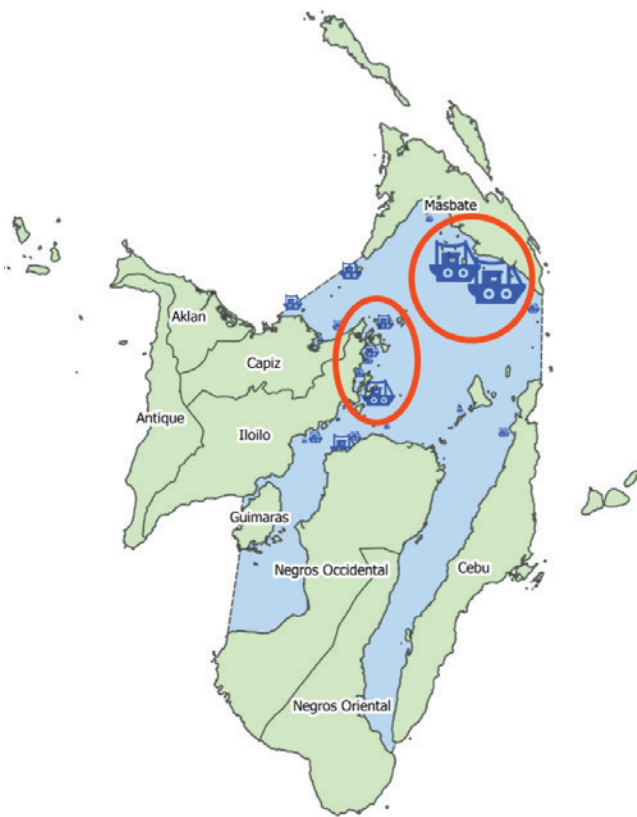
Table 7. Top 10 Fishing Gears in Visayan Sea with the Highest CPUE

Gear Variation	Average CPUE
Purse seine	1,595.63
Bottom trawl	551.67
Round haul seine with scoopnet	483.33
Danish seine	461.42
Ring net	352.97
Boat seine	233.79
Midwater trawl	205.77
Baby ring net	158.19
Surface set gillnet	80.00
Mechanized push net	63.93

2) Rampant IUU Fishing, particularly: trawl, hulbot-hulbot, trawl-bot, fine-mesh nets, blast fishing, intrusion of commercial fishers in municipal waters.

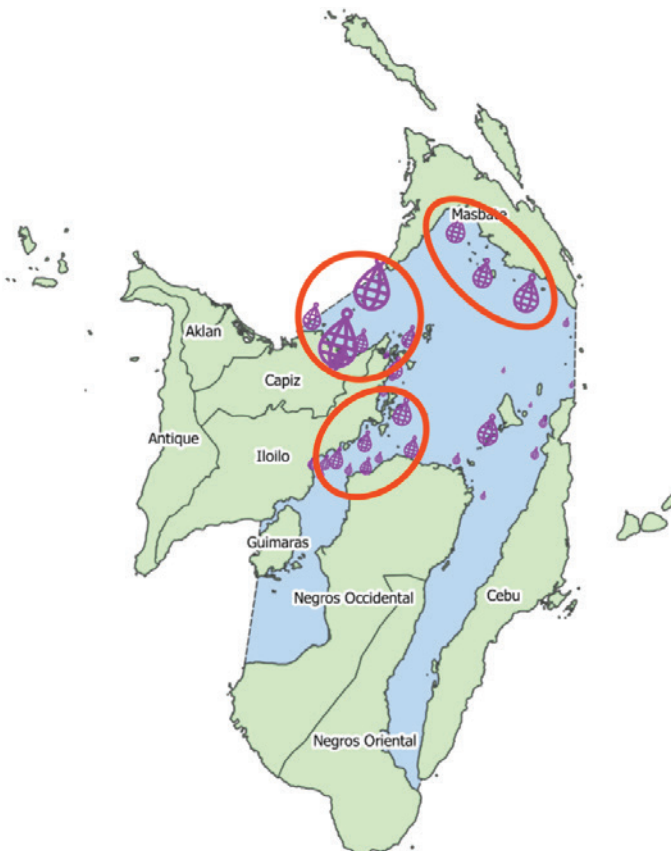
Despite enforcement efforts against illegal fishing methods (e.g. Danish seine), they are still known to operate, and contribute a large part to the overfishing. In Visayan Sea, a survey of commercial fishing operations show that Danish seine (hulbot-hulbot) and trawl operations in municipal waters are common (Figure 15 and Figure 16). An initial assessment of IUU fishing also shows that fishing operations using fine mesh gear are also rampant. The use of fine mesh gear to catch juvenile fish after the lifting of the closed season is one of the reasons why there is a limited improvement in fish stocks.

Figure 14. Location and Magnitude of Hulbot-hulbot and trawl operations



- There are ~2,000 functional hulbot-hulbot and trawl operators in Visayan Sea.
- Municipalities of Cawayan and Placer (Masbate) have the highest incidence.
- Some hulbot-hulbot and trawl operators are also found in Northern Iloilo and Negros Occ.

Figure 15. Magnitude and location of fine mesh gear operations



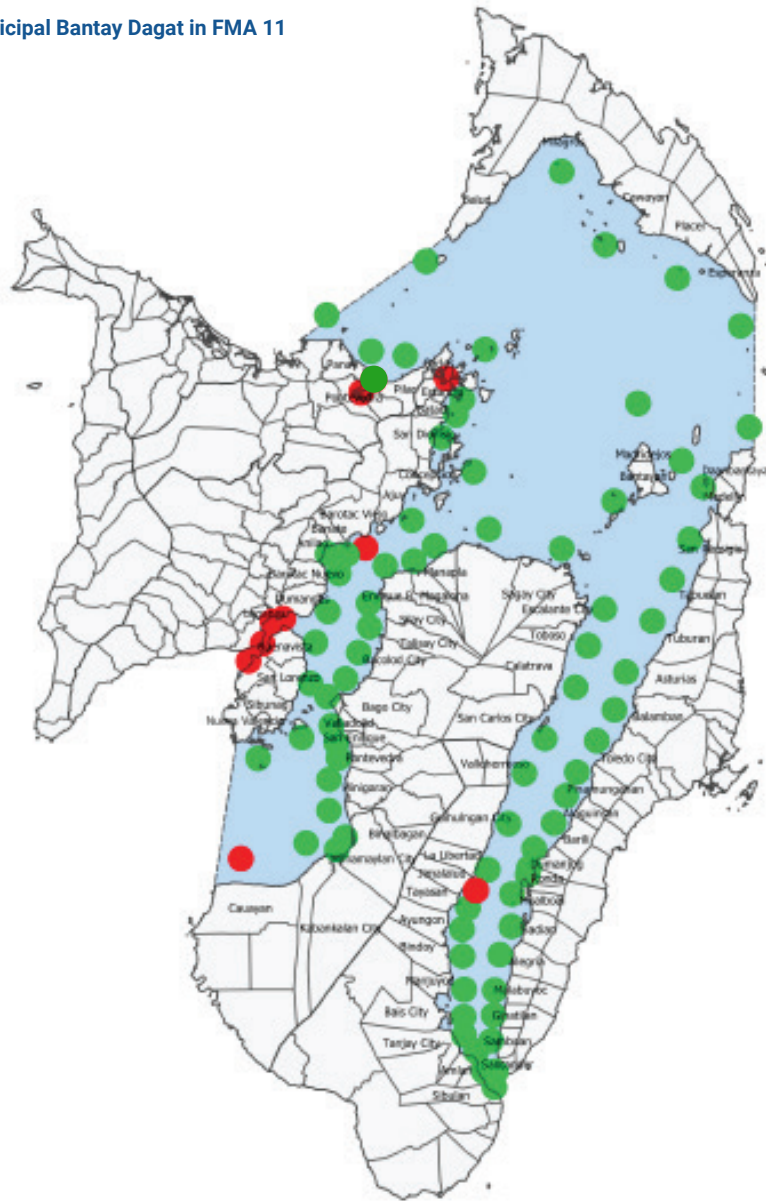
- ~11,000 Fine-mesh fishing gears operate in the Visayan Sea.
- Bulk of these gears are found in Panay, Capiz and in Balud, Masbate.
- Other municipalities in Masbate and Iloilo are also actively using fine-mesh gears.

We need to understand the reasons behind (motivations) and conditions that allow IUU fishing to become rampant despite the various regulations and enforcement actions.

3) Lack of capacity for coordinated and effective fisheries law enforcement

IUU fishing is rampant not only because the perpetrators are motivated to do so, but also because the enforcement capacity of LGUs and BFAR need enhancement.

Figure 16. Status of municipal Bantay Dagat in FMA 11



Municipal Bantay Dagat Program

- Functional
- No data

Compliance and enforcement need to also be strategic, coordinated and purposive. The IUU Fishing Index and Threat Assessment Tool (I-FIT) is a new tool for assessing and addressing IUU fishing adopted by BFAR. It allows stakeholders to gather, process and analyze data that will help them make informed strategies in their IUU fishing reduction plan.

Figure 17. Sample date from IUU Fishing Assessment using I-FIT

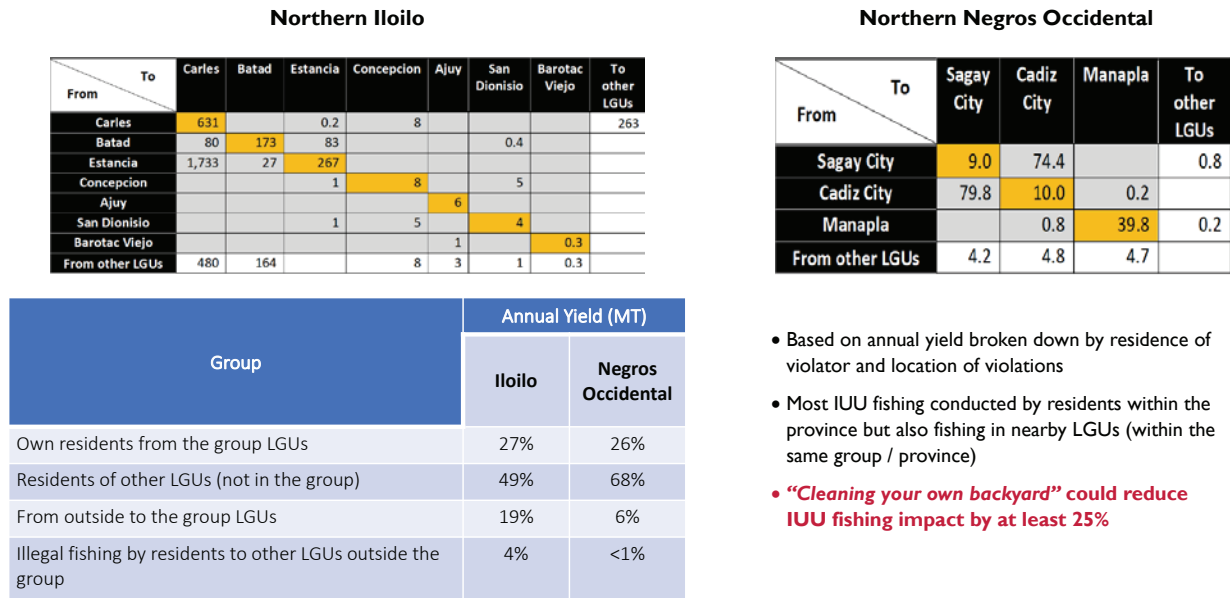


Figure 18. Estimated annual yield from different IUU fishing activities by LGU, disaggregated by residence of violators

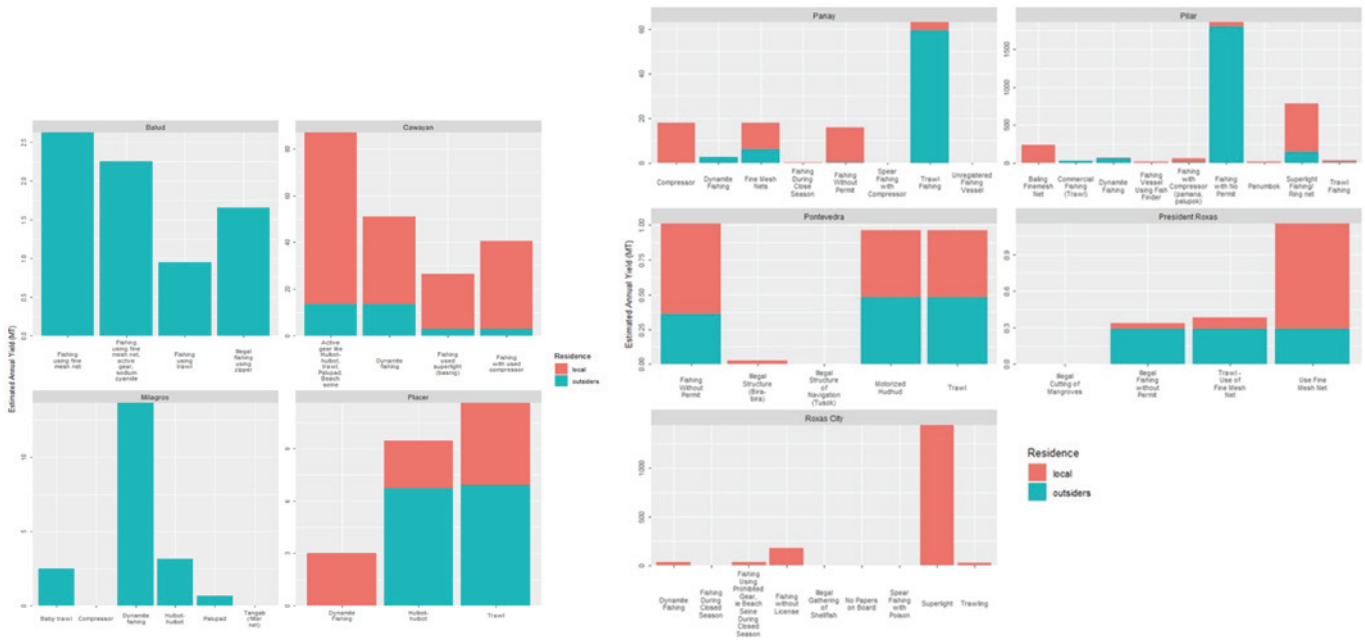


Figure 19. Sample IUU Fishing Index Scores

IUU Fishing Index Scores per LGU by Indicator [1 = low risk (good); 4 = high risk (bad)]						
Indicator	Description	Municipalities / Cities				
		Panay	Pilar	Pontevedra	President Roxas	Roxas City
Prevalence						
P1	Illegal fishing incidence	4	4	4	4	2
P2	Incidence from remote sensing	1	4	4	1	2
P3	Apprehension rate	3	4	4	2	4
P4	Fish catch reporting and monitoring	4	4	4	4	3
P5	Fisher and vessel registration	1	2	3	1	2
P6	Trend in illegal fishing incidence	2	4	1	3	4*
P7	Repeat offenders	4	4	4	1	4
P8	Catch from illegal fishing	4	4	4	4	4
P9	Risk of habitat damage	4	4	4	4	4
P10	Violence	3	3	2	2	3
Vulnerability						
V1	Rich fisheries and habitats	4	3	4	2	4
V2	Increasing price of target species	3	1	2	4	2
V3	Overcapacity in fisheries	1	3	4	4	4
V4	Physical configuration of shoreline and islands	3	3	3	1	3
V5	Weather and ocean condition impacts	3	4	4	1	3
V6	LGU budget allocation for fisheries and CRM	1	4	4	1	1
V7	Clear boundaries and jurisdiction	4	4	2	4	1
V8	Illegal fishers supported by powerful personalities	1	4	1	1	4
Response						
R1	Enforcement team fully operational	2	3	4	3	3
R2	Information, education, and communications	4	3	4	2	1
R3	LGU Fisheries Compliance Audit	4	4	4	4	4
R4	IUU fishing data collection and analysis	1	4	4	4*	3
R5	IUU fishing reduction plan implementation	3	3	4	4*	3
IUU Fishing Index		2.8	3.4	3.5	2.7	2.9

*(Black shaded cells) No score provided. Automatically replaced with '4'.

IUU Fishing Index Scores per LGU by Indicator [1 = low risk (good); 4 = high risk (bad)]						
Indicator	Description	Municipalities / Cities				
		Esperanza	Placer	Balud	Milagros	
Prevalence						
P1	Illegal fishing incidence	4*	4	4	2	
P2	Incidence from remote sensing	4*	4*	2	4	
P3	Apprehension rate	4	2	1	1	
P4	Fish catch reporting and monitoring	2	3	4	4	
P5	Fisher and vessel registration	4	4	2	1	
P6	Trend in illegal fishing incidence	4	3	4	3	
P7	Repeat offenders	4	4*	4	4	
P8	Catch from illegal fishing	2	4*	4	4*	
P9	Risk of habitat damage	4	4	4	4*	
P10	Violence	1	2	4	4*	
Vulnerability						
V1	Rich fisheries and habitats	4	2	2	2	
V2	Increasing price of target species	3	2	4	2	
V3	Overcapacity in fisheries	2	3	2	4	
V4	Physical configuration of shoreline and islands	3	3	3	2	
V5	Weather and ocean condition impacts	2	4	4	4*	
V6	LGU budget allocation for fisheries and CRM	3	3	2	3	
V7	Clear boundaries and jurisdiction	2	2	4	4	
V8	Illegal fishers supported by powerful personalities	4	1	1	4*	
Response						
R1	Enforcement team fully operational	2	2	3	2	
R2	Information, education, and communications	2	4	4	2	
R3	LGU Fisheries Compliance Audit	4	4	4	4	
R4	IUU fishing data collection and analysis	3	4	3	3	
R5	IUU fishing reduction plan implementation	3	4	3	4	

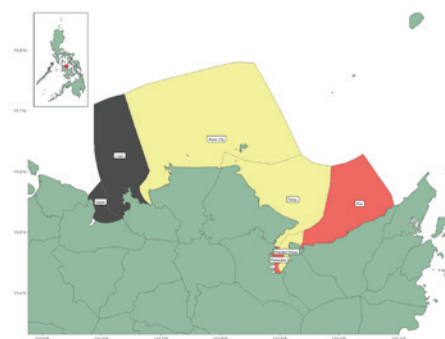
Figure 20. Sample IUU Fishing Index Scores

IUU Fishing Index Scores Summary [1 = low risk (good); 4 = high risk (bad)]					
Category	Municipalities / Cities				
	Balud	Cawayan	Esperanza	Milagros	Placer
Prevalence	3.3	3.0	3.0	3.1	3.5
Response	3.4	2.8	2.8	3.0	2.4
Vulnerability	2.0	2.8	2.9	2.8	2.5
IUU Index	2.9	2.9	2.9	3.0	2.8

Measure of the risk that IUU fishing in the given area could increase / worsen.

- 1 = low risk
- 4 = high risk

IUU Fishing Index Scores Summary [1 = low risk (good); 4 = high risk (bad)]					
Category	Municipalities / Cities				
	Panay	Pilar	Pontevedra	Pres. Roxas	Roxas City
Prevalence	3.0	3.7	3.4	2.6	3.2
Response	2.8	3.4	4.0	3.4	2.8
Vulnerability	2.5	3.2	3.0	2.2	2.8
IUU Index	2.8	3.4	3.5	2.7	2.9



The IFIT roll-out will continue for the rest of FMA 11 in order for the FMA institutions and stakeholder groups to have a comprehensive understanding of the IUU fishing situation, and to come up with strategies and plans at the LGU, fishing ground and FMA levels. The assessment results will help BFAR, LGUs and other partner agencies identify and provide the needed resources (boats, personnel, equipment, etc). It will also help them develop coordination mechanisms for a more efficient and effective compliance and enforcement program.

Past and current initiatives to address issue, assessment:

- BFAR floating assets and teams assigned per Province
- ongoing standardization of Training for Municipal Bantay Dagat
- IFIT as a tool to assess IUU prevalence and vulnerability- how big is the threat?

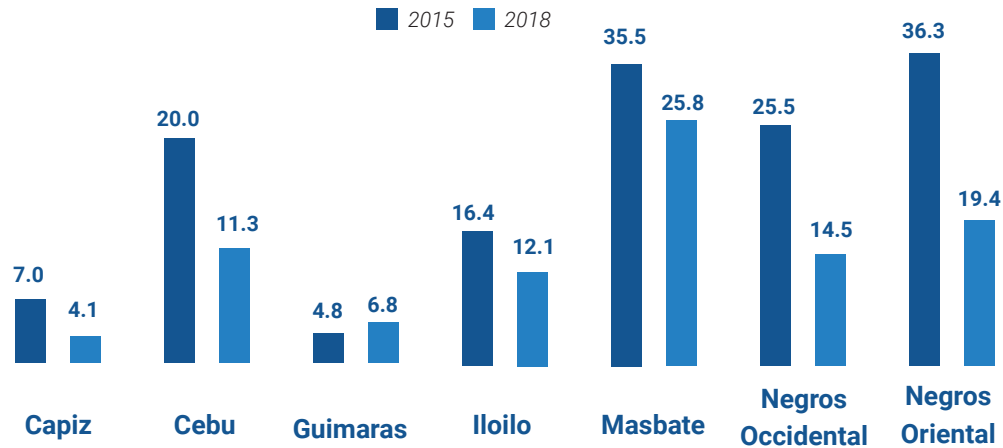
Challenges:

- need for more sophisticated boats especially for BFAR , to be able to patrol national waters

4) Insufficient and unsustainable alternative/supplemental livelihood for marginal fishers

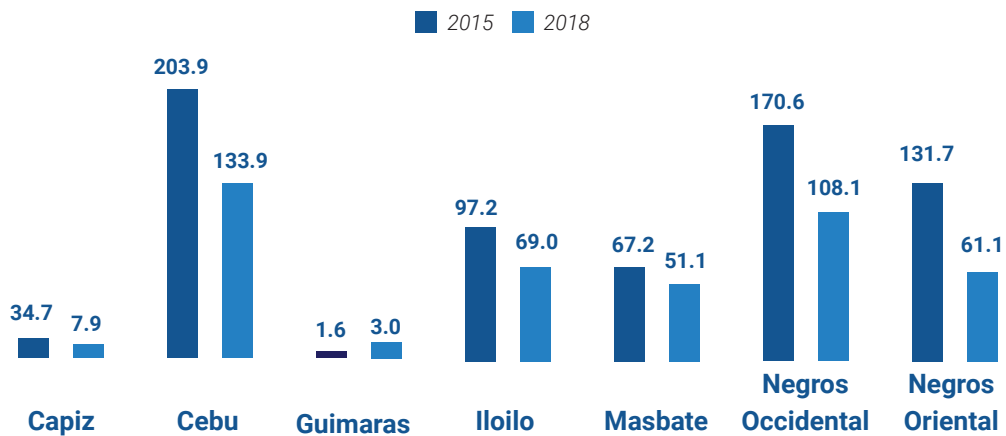
There is generally very little data available on the status of fisherfolk. Nationwide, poverty in the fisheries sector is high. However, there is a need to have more specific information about the needs of fishers of particular areas and sectors, in order to provide tailored actions to improve their well-being.

Figure 21. Poverty incidence (%) of Provinces surrounding Fma 11, 2015 & 2018



Data source: PSA Income and Consumption data, 2015 and 2018

Figure 22. Magnitude of Poor Families ('000) of Provinces surrounding FMA 11, 2015 & 2018



Data source: PSA Income and Consumption data, 2015 and 2018

Several government agencies (DA, DOLE, DSWD, DOST, among others) have specific poverty or livelihood assistance programs. BFAR is currently leading convergence meetings to invite the agencies to align their programs to achieve a common goal of diversifying the livelihood options of fisherfolk to increase incomes, mitigate adverse effects of fisheries regulations (safety nets), and to enhance resilience to typhoons, climate change, the COVID 19 pandemic and other disasters.

The FMA-Management Board is also prioritizing building partnerships with the private sector and non-government organizations in order to provide livelihood assistance especially to marginal fisherfolk.

Additional issues and problems

During the FMA 11 Planning Workshop, the stakeholders identified the additional issues that were either area-specific or are the primary concern of LGUs. Thus, the management role of the FMA institutions is secondary, consisting of providing technical and material support, as well as monitoring and evaluation. These issues are:

- 1) pollution; improper waste management (garbage)
- 2) beach/ river quarrying; black sand mining
- 3) cutting of mangroves; conversion of mangrove areas to other uses
- 4) habitat degradation (coral reefs, seagrass beds; soft-bottom areas)
- 5) upland deforestation
- 6) fisherfolk settlement areas
- 7) municipal boundary disputes
- 8) Inactive/ not capacitated FARMCs, LGU Alliances
- 9) proposed oil depot in Dumangas
- 10) harvesting of juvenile Blue Swimming Crab for grow-out (Pilar Bay)
- 11) proposed reclamation projects (anticipated)
- 12) Panay-Guimaras-Negros bridge

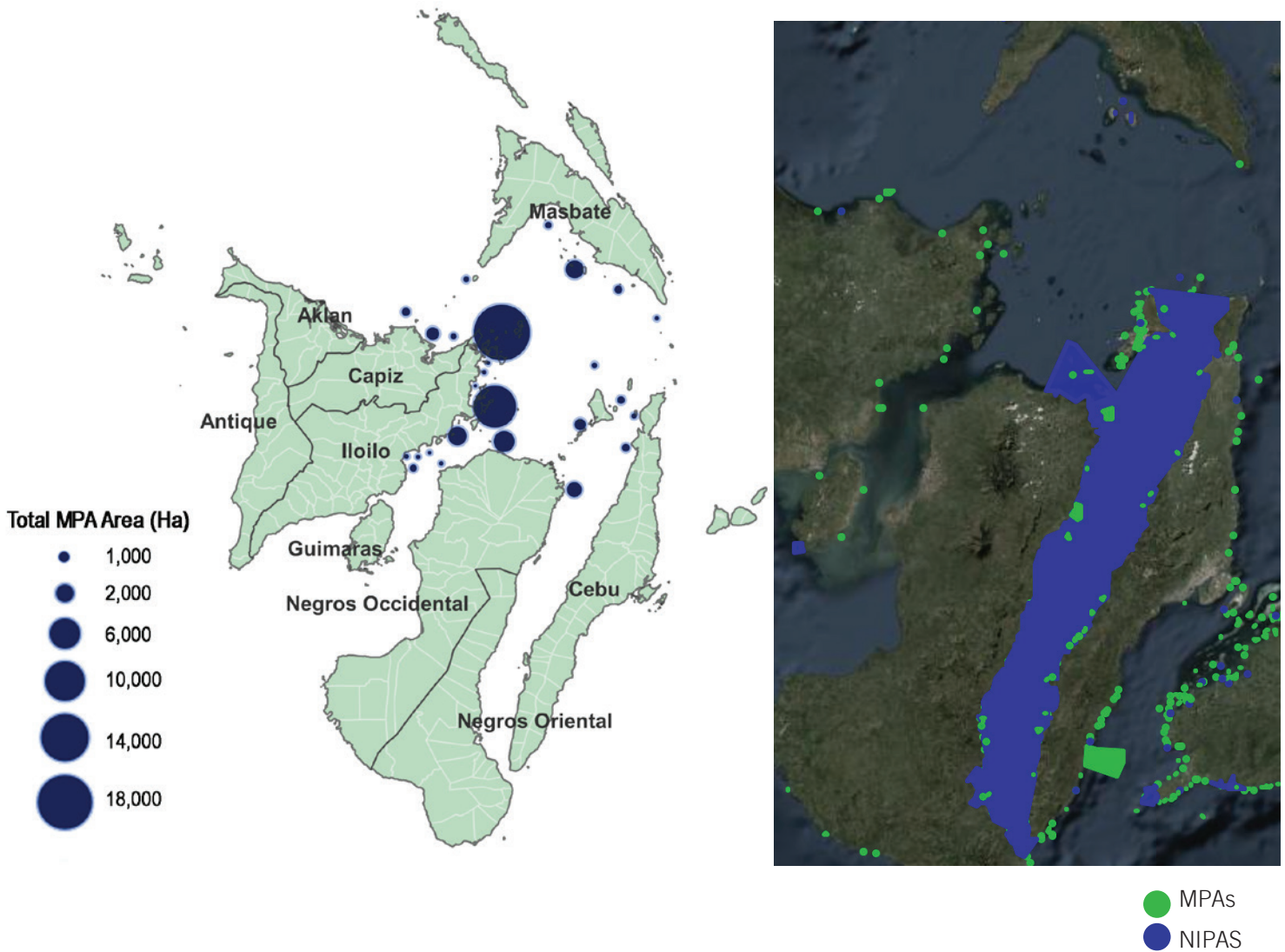
Habitat loss and degradation

The loss of coral reefs, seagrass beds and mangrove areas is a major contributor to declining fish catch. Habitat loss may be due to: pollution and improper municipal waste disposal; siltation from agricultural run-off, deforestation, quarrying and mining; unregulated coastal development.

LGUs are primarily responsible for regulating development activities in their coastal areas (e.g. province/city for quarrying; municipality/city for waste management. National agencies have also oversight and regulatory functions on mining, reclamation and industrial pollution. While these problems have direct impact on fisheries management, the FMA institutions lack the power or jurisdiction to address these problems completely. Thus, its role may be to complement the program of the LGUs and national agencies by providing relevant data on impact to fisheries, technical contribution to environmental impact assessments, and material assistance to remedial/ mitigating measures.

LGUs are also primarily responsible for developing and implementing programs to conserve biodiversity and protect critical habitats through the establishment of marine protected areas and/or fish sanctuaries. Many LGUs have also started creating science-based MPA networks (either within an LGU or across LGU alliances) that further enhances the value of MPAs in protecting fisheries stocks throughout their lifecycles.

Figure 23. Existing MPAs and NIPAS areas in Visayan Sea and FMA 11



Fisherfolk well-being

LGUs are also at the forefront of protecting and enhancing the well-being of fisherfolk. This includes ensuring safe and secure settlement areas, protecting their fishing grounds and priority rights in municipal waters, and increasing their participation in decision-making through functional FAMRCs.

The FMA institutions can provide support to the programs of LGUs by prioritizing technical support for fisheries post-harvest and aquaculture livelihoods, providing fisheries infrastructure in settlement areas (such as Community Fish Landing Center, cold-chain facilities), and capacity-building for fisherfolk POs and FARMCs.

Vision

**A highly biodiverse and resilient FMA 11
co-managed sustainably based on science,
with active participation of progressive communities
and a proactive, responsive and adaptive government,
to sustain a healthy ecosystem
and provide equitable benefits (especially food and livelihood)
for all stakeholders**



Goals

1. IUU fishing practically eliminated (reduced to minimum/ regulated) through strategic and effective compliance and enforcement program
2. Capacitated and well-coordinated local and national enforcement teams (with skills training, basic equipment and floating assets, advanced MCS technology)
3. Fishing activities regulated to levels that will restore and sustain fisheries stocks
4. Inter-agency/PPP program developed to provide alternative/ supplemental livelihood to adversely affected fishers (in partnership with private sector)
5. FMA institutions (MB, SAG, TWG) strengthened to provide guidance and support to provinces and LGU-alliances in implementing management actions



Objectives

Table 8. Specific objectives under each priority goal

Goals	Objectives
<p>1. IUU fishing practically eliminated (reduced to minimum/ regulated) through strategic and effective compliance and enforcement program</p>	<p>a. By Year 1 (2022), complete the assessment of IUU fishing in FMA 11 using IFIT, and adopt strategic plan(s) for addressing the top IUU fishing practices (trawl, hulbot-hulbot, fine mesh gear, blast fishing, intrusion of CF in MW).</p>
	<p>b. In Y2 (2023), review and recommend updates to BFAR regulations and LGU MFOs to enhance implementation of IUU fishing strategic reduction plan(s).</p>
	<p>c. In Y2-5 (2023-2027), implement the strategic reduction plan(s) in hotspot areas.</p>
<p>2. Capacitated and well-coordinated local and national enforcement teams (with skills training, basic equipment and floating assets, advanced MCS technology)</p>	<p>a. In Year 1 (2022), establish FMA-wide and Alliance-based inter-agency task forces to address IUU fishing</p>
	<p>b. In Y1-2 (2022-2023), develop and implement a standardized training program for FLE at all levels (FMA, Alliance, Municipal, Brgy).</p>
	<p>c. In Y1 (2022), institute M&E system and reporting, including a merit and incentive system for enforcers and informers.</p>
	<p>d. In Y2 (2023), review and recommend updates to BFAR regulations and LGU MFOs to strengthen capacity for addressing IUU fishing.</p>
<p>3. Fishing activities regulated to levels that will restore and sustain fisheries stocks</p>	<p>a. By Year 1 (2022), adopt RPs and HCRs for priority fisheries stocks, including providing models for relevant HCMs.</p>
	<p>b. In Y1-5 (2023-2027), build consensus for right-sizing of priority fisheries stocks.</p>
	<p>c. By Y1 (2022), assess and enhance VS closed season, and continue implementation (Y2-5, 2023-2027) subject to regular M&E.</p>
	<p>d. In Y1 (2022), develop and adopt a plan for protection of spawning and nursery grounds of priority fisheries stocks using strategic conservation planning tools.</p>
	<p>e. Develop (Y1, 2022) and implement (Y2-5, 2023-2027) FMA management actions for sardines and BSC consistent with NMPs.</p>
	<p>f. Develop (Y1, 2022) and implement (Y2-5, 2023-2027) multi-sectoral plan to eliminate by-catch of threatened wildlife (marine mammals, turtles, sharks and rays)</p>

<p><i>4. Inter-agency/PPP program developed to provide alternative/ supplemental livelihood to adversely affected fishers (in partnership with private sector)</i></p>	<p>a. In Y1 (2002), establish a convergence program for livelihood support for the fisheries sector, based on the assessment of existing NGA and private sector programs with community organizing towards cooperative organizing and strengthening activities</p>
	<p>b. In Y1 (2022), establish PPP program with private sector to support FMA plan implementation, especially on conservation enterprise opportunities and responsible seafood sourcing.</p>
	<p>c. In Y2-5 (2023-2027), implement the livelihood support program/PPP in IUU fishing hotspot areas, and among value-chain actors of priority commodities (sardines, BSC, shellfish).</p>
<p><i>5. FMA institutions (MB, SAG, TWG) strengthened to provide guidance and support to provinces and LGU-alliances in implementing management actions</i></p>	<p>a. In Year 1 (2022), institute structural and procedural enhancements in the MB, SAG and TWG with special focus on strategic planning (Y1-2, 2022-2023) for IUU fishing, livelihoods/PPP and aquaculture/post-harvest.</p>
	<p>b. Establish (Y1, 2022) and implement continuing (Y1-5, 2022-2027) capacity-building program for MB, SAG, TWG, and Secretariat, including enhancing their capacity to explain and build-consensus on science-based management actions.</p>
	<p>c. Provide continuing support (Y1-5, 2022-2027) to provinces and LGU-alliances to address local issues that are the primary responsibility and within the capability of the LGUs to address.</p>

Management Actions

Goal 1:

IUU fishing practically eliminated (reduced to minimum/ regulated) through strategic and effective compliance and enforcement program

Objective 1 (a):

By Year 1 (2022), complete the assessment of IUU fishing in FMA 11 using IFIT, and adopt strategic plan(s) for addressing the top IUU fishing practices (trawl, hulbot-hulbot, fine mesh gear, blast fishing, intrusion of CF in MW).

Table 9.

Management Action	Indicators	Benchmark
<p>TWG to facilitate completion of IUU fishing assessment using I-FIT as a reference to determine and implement the appropriate reduction plan or program, with indicators and monitoring system</p> <p>Note: Establish accessible database of relevant information (apprehension record, case records; research, technical and statistical data) to analyze trends and aid in strategies in operations</p>	<p>Output:</p> <ul style="list-style-type: none"> • #IFIT assessments • strategic plans for reduction of specific IUU fishing practices 	<p>Target:</p> <p>Prioritize hotspots for Trawl, hulbot-hulbot, fine mesh gear, blast fishing and intrusion of CF in MW.</p>

Objective 1(b): and 2(d)

In Y2 (2023), review and recommend updates to BFAR regulations and LGU MFOs to enhance implementation of IUU fishing strategic plan(s).

Table 10.

Management Action	Indicators	Benchmark
<p>BFAR to prepare, SAG to review and TWG to lead consultations on model MFOs focused on IUU fishing reduction, covering:</p> <ul style="list-style-type: none"> • MW delineation • regulation of specific IUU fishing methods (fine meshed nets, trawl, hulbot-hulbot, blast fishing, intrusion of CF in MW) • registry and database of fishing boats and gears • training and deputation of PO-based bantay-dagat • budget for FLE operations • provision of incentive/reward system for enforcers and informers 	<p>Output:</p> <ul style="list-style-type: none"> • # MFOs adopted focused on IUU fishing reduction 	<p>Target:</p> <p>LGU hotspots for trawl, hulbot-hulbot, fine mesh gear, blast fishing and intrusion of CF in MW.</p>

Objective 1(c):

In Y2-5 (2023-2027), implement the strategic plan(s) in hotspot areas.

To be determined based on results of IFIT assessment and strategic planning.



Goal 2:

Capacitated and well-coordinated local and national enforcement teams (with skills training, basic equipment and floating assets, advanced MCS technology).

Objective 2(a):

In Year 1 (2022), establish FMA-wide and Alliance-based inter-agency task forces to address IUU fishing

Table 11.

Management Action	Indicators	Benchmark
<p>MB to institutionalize the formation of multi-sectoral task-force through MOA, etc. and review and reactivate previous agreements and cooperation</p> <p>Note: Under the MB Working Group or the WG is also the task force?</p> <p>Ensure participation of Fisherfolk Assn and\thru the FARMC in the selection of the members of law enforcement group and in the formulation of policies (partnership among LGUs, FARMCs, NGOs, NGAs)</p>	<p>Output:</p> <ul style="list-style-type: none"> % LGUs covered by inventory of agreement and cooperation reviewed and reactivated (Share resources, competencies, and equipment/ logistics among multi-sectoral group) # task forces at provincial/ alliance levels FMA-wide IUU fishing task force/ working group 	<p>Target: 1 FMA-wide task force/ working group; province-based task forces (with counterparts at alliance levels)</p>
<p>BFAR and LGUs to provide annual budget for operational requirements of FLE, and support modernization of FLE patrol assets, facilities and equipment</p>	<p>Output:</p> <ul style="list-style-type: none"> Amount (PhP) allocated and disbursed 	<p>Target:</p>

Objective 2(b):

In Y1-2 (2022-2023), develop and implement a standardized training program for FLE at all levels (FMA, Alliance, Municipal, Brgy).

Table 12.

Management Action	Indicators	Benchmark
<p>TWG to facilitate formulation and enhancement of Standardized Fishery Law Enforcement training and deputation for local and national fishery enforcers.</p>	<p>Output:</p> <ul style="list-style-type: none"> Standard training program/ courses for community-level bantay-dagat and inter-agency level enforcement # trainings conducted 	<p>Target: 1 training program</p> <p>Target: __ trainings in priority IUU fishing hotspots</p>
<p>TWG to facilitate FARMC capability-building on compliance and enforcement, including use of IFIT.</p>	<ul style="list-style-type: none"> # trainings conducted 	<p>Target: __ trainings in priority IUU fishing hotspots</p>

Objective 2(c):

In Y1 (2022), institute M&E system and reporting, including a merit and incentive system for enforcers and informers.

Table 13.

Management Action	Indicators	Benchmark
1. TWG to facilitate review and revision of strategies, procedures, and policies to improve law enforcement operations (markets, ports, municipal waters, and FMA 11 level)	<ul style="list-style-type: none">• % LGUs covered by review and updating of operations protocols	Target: all LGU hotspots for IUU fishing (trawl, hulbot-hulbot, fine mesh gear, blast fishing, intrusion of CF in MW)
2. BFAR and LGUs to establish database on fisheries law enforcement team capacitated, deputized, and operationalized	<ul style="list-style-type: none">• % LGUs regularly contributing to database	Target: all LGU hotspots for IUU fishing (trawl, hulbot-hulbot, fine mesh gear, blast fishing, intrusion of CF in MW)
3. TWG to lead formulation or creation of reward, recognition or incentive mechanisms for law enforcers, fisherfolk enforcement volunteers and community-based informers	<ul style="list-style-type: none">• # recognition/ rewards	Target:
4. MB to host Fishery Law Enforcement Summit, including presentation of best practices and recognition of awardees	<ul style="list-style-type: none">• regular FLE Summit	Target: Baseline (2022), mid-term (2025), end-term (2027)

Objective 2(d): and 1(b)

In Y2 (2023), review and recommend updates to BFAR regulations and LGU MFOs to strengthen capacity for addressing IUU fishing.

Note: Same as 1(b)

GOAL 3:

Fishing activities regulated to levels that will restore and sustain fisheries stocks

Objective 3(a):

By Year 1 (2022), adopt RPs and HCRs for priority fisheries stocks, including providing models for relevant HCMs.

Table 14.

Management Action	Indicators	Benchmark
1. SAG to review and endorse to MB adoption of proposed Visayan Sea RPs and HCRs; MB to adopt and endorse to NFARMC and DA	Outcome: <ul style="list-style-type: none"> • RPs and HCRs for 13 priority fisheries stocks in VS and adopted and endorsed 	Target: RPs and HCRs adopted by MB and formalized by NFARMC/ DA through FAO
2. NSAP to study and report; SAG to review monitoring data on status of fisheries stocks relative to RPs; assessment of effectiveness of model HCMs implemented in 3(c),(d) and (e).	Output: <ul style="list-style-type: none"> • # NSAP reports 	Target: Baseline (2022); midterm (2025) and end-term (2027)
3. NSAP to intensify data collection on fishing effort at LGU level (vessel and gear inventory linked to BoatR and FishR registration) to support RP and HCR updating	Output: <ul style="list-style-type: none"> • LGUs with fishing effort database linked to NSAP data collection 	Target: 40 LGUs
4. Establish MSY for priority stocks	Output: <ul style="list-style-type: none"> • # priority stocks with established MSY 	Target:

Objective 3(b):

In Y1-5 (2023-2027), build consensus for right-sizing of priority fisheries stocks.

Table 15.

Management Action	Indicators	Benchmark
1. TWG to lead orientation-consultations on right-sizing by sector (municipal and commercial), covering scientific basis and emphasizing participatory (consensus-building) process, initially in VS	Outcome: <ul style="list-style-type: none"> # sectoral groups informed and supportive of right-sizing as HCM 	Target: commercial fishers; municipal fishers in each province in VS
2. BFAR to prepare, SAG to review and TWG to lead consultations on basic ecological models of fisheries in VS (including stock status, fishing effort, gear, fisher incomes, etc) that forms the basis for right-sizing negotiations	Output: <ul style="list-style-type: none"> # sectoral groups informed and ready for negotiation exercises 	Target: commercial fishers; municipal fishers in each province in VS
3. TWG to lead consultation-negotiation of regulation of use of fine-mesh gear (<3 cm mesh size) that catch juvenile fishes Note suggestions: <ul style="list-style-type: none"> Limit issuance of licenses of fishing gears that catch 25-50% juveniles Initiating the establishment of a fisheries licensing system linked to FishR and BoatR 	Output: <ul style="list-style-type: none"> negotiated agreement options 	Target: aggregated by province, and VS-wide (as appropriate)
4. TWG to lead consultation-negotiation of attrition of fishing boats operating in VS (up to 40% recommended reduction) Note suggestions: <ul style="list-style-type: none"> staggered/ phased implementation start with removal of illegal operators removal of unserviceable boats without replacement 	Output: <ul style="list-style-type: none"> negotiated agreement options 	Target: aggregated by province, and VS-wide (as appropriate)

Objective 3(c):

By Y1 (2022), assess and enhance VS closed season, and continue implementation (Y2-5, 2023-2027) subject to regular M&E.

Table 16.

Management Action	Indicators	Benchmark
<p>1. SAG to facilitate consolidation and analysis of the socio-economic and ecological impacts of the Visayan Sea closed season, and recommend amendments.</p> <p>Note: recommendations to widen scope/ area covered; regulate fishing gears like extension of the closure specific for fine meshed gear in March to May (sinsuro, Beach Seine, baklad), etc will be deliberated by SAG</p>	<p>Outcome:</p> <ul style="list-style-type: none"> # impact studies with recommended options 	<p>Target:</p> <p>at least 3 studies/reports (NSAP 5,6 & 7 consolidated studies, UPV, apprehension and fisheries compliance reports, etc.)</p> <p>Revised/ Amended Policy (FAO 167-3) deliberated and endorsed</p>
<p>2. TWG to review proposed amended policy and consult with FARMCs and other stakeholders</p>	<p>Output:</p> <ul style="list-style-type: none"> % of FARMCs and sectors consulted (FMA-wide) 	<p>Target: at least 33 FARMCs/LGUs; provincial sectoral consultations for municipal and commercial fishers</p>
<p>3. FMA 11 MB to adopt the proposed revisions and endorse to NFARMC and DA for issuance of revised regulations</p>	<p>Output:</p> <ul style="list-style-type: none"> MB adoption and endorsement 	<p>Target: proposed amendment to FAO 167-3</p>
<p>4. LGUs in VS adopt the amended policy through updated municipal fisheries ordinances</p>	<p>Output:</p> <ul style="list-style-type: none"> # MFOs updated to align with VS closed season 	<p>Target: 33 MFOs</p>
<p>5. TWG (with BFAR and LGUs comms teams) to lead intensive IEC campaigns on the VS closed season</p>	<p>Output:</p> <ul style="list-style-type: none"> % target audience reached through IEC campaign conducted 	<p>Target: 100% of targeted audience in all 33 LGUs</p>
<p>6. BFAR (VS Command Center) and LGUs to enforce the revised FAO and complementary MFOs, and share annual reporting of compliance</p>	<p>Outcome:</p> <ul style="list-style-type: none"> % compliance of fishers/ low violation or apprehension reports (as measured by VIIRS and other tools) 	<p>Target:</p> <p>90% compliance of commercial fishers (from VIIRS); __% compliance by municipal fishers (monitoring/ apprehension reports)</p>

Objective 3(d):

In Y1 (2022), develop and adopt plan for protection of spawning and nursery grounds of priority fisheries stocks using strategic conservation planning tools.

Table 17.

Management Action	Indicators	Benchmark
1. SAG to review; TWG to conduct consultations and promote LGU adoption of model HCMs to implement HCRs reducing harvesting of juveniles of priority fisheries species, including regulation of fish mesh gear, establishment of MPA networks protecting sources and sinks	Output: <ul style="list-style-type: none"> % of mature fish in catch 	Target RP: (80%) Limit RP: (50%) mature fish in catch
2. SAG to review; TWG to conduct consultations and promote LGU adoption of model HCMs to implement HCRs for improvement and protection of spawning population, including identification and protection of areas of spawning aggregates	Outcome: <ul style="list-style-type: none"> Spawning Potential Ratio # areas of spawning aggregates identified and protected 	Target RP: (30%) Limit RP: (20%) SPR Target: ??

Objective 3(e):

Develop (Y1, 2022) and implement (Y2-5, 2023-2027) FMA management actions for sardines and BSC consistent with NMPs.

Table 18.

Management Action	Indicators	Benchmark
1. SAG to review; TWG to conduct consultations and promote LGU adoption of model ordinances for the implementation of sardine and BSC NMPs	Outcome: <ul style="list-style-type: none"> % LGUs adopting NMP actions in MFOs 	Target: LGUs with dominant sardine and BSC catches
2. TWG (with BFAR and LGU's communications teams) to lead intensive IEC campaigns on the sardine and BSC NMP and model ordinances	Output: <ul style="list-style-type: none"> % target audience reached through IEC campaign conducted 	Target: 100% of targeted audience in relevant LGUs
3. BFAR and LGUs to enforce the revised FAO and complementary MFOs, and share annual reporting of compliance	Outcome: <ul style="list-style-type: none"> % compliance of fishers 	Target:

GOAL 4:

Inter-agency/PPP program developed to provide alternative/ supplemental livelihood to adversely affected fishers (in partnership with private sector)

Objective 4(a):

In Y1 (2002), establish convergence program for livelihood support for the fisheries sector, based on the assessment of existing NGA and private sector programs.

Table 19.

Management Action	Indicators	Benchmark
1. BFAR secretariat to conduct assessment of existing NGA (DA, DSWD, DOLE, DOT, DOST, DENR, etc) programs providing livelihood support available to fisherfolk (including sustainability, suitability/ appropriateness to sector, accessibility to target beneficiaries).	Output: <ul style="list-style-type: none"> Assessment reports, with recommendations for program application to fisherfolk beneficiaries 	Target: per agency
2. NGAs (through BFAR secretariat) to establish a convergence program for alternative/ supplemental livelihood (fishery and non-fishery) especially for displaced fisherfolks: <ul style="list-style-type: none"> Identification of appropriateness of livelihood options, guidelines/ eligibility criteria for access (marginal fishers; adversely affected by HCMs) Regular budget allocation for the program 	Outcome: <ul style="list-style-type: none"> Agreement on common/ complementary livelihood program Amount (PhP) annual budget allocation # target beneficiaries based on eligibility criteria 	Target:

Objective 4(b):

In Y1 (2022), establish PPP program with private sector to support FMA plan implementation, especially on conservation enterprise opportunities and responsible seafood sourcing.

Table 20.

Management Action	Indicators	Benchmark
1. BFAR secretariat to conduct assessment of existing private sector programs providing livelihood support available to fisherfolk (including sustainability, suitability/ appropriateness to sector, accessibility to target beneficiaries).	Output: <ul style="list-style-type: none"> Assessment reports, with recommendations for program application to fisherfolk beneficiaries 	Target: per agency
2. BFAR secretariat to propose; MB to adopt and promote PPP models for livelihood support for marginal fishers/ fishers adversely affected by HCMs: <ul style="list-style-type: none"> appropriate conservation enterprise options (with technical and financial assistance) linked to responsible seafood sourcing 	Outcome: <ul style="list-style-type: none"> Amount (PhP) leveraged in PPP # target beneficiaries based on eligibility criteria 	Target:

Objective 4(c):

In Y2-5 (2023-2027), implement the livelihood support program/PPP in IUU fishing hotspot areas, and among value-chain actors of priority commodities (sardines, BSC, shellfish).

Table 21.

Management Action	Indicators	Benchmark
<p>1. TWG (through BFAR PFOs and LGUs) to promote pilot implementation of livelihood programs in 4(a) and 4(b) in IUU fishing hotspots and among value-chain actors, including:</p> <ul style="list-style-type: none"> • leadership, financial literacy and values formation • adherence to EAFM principles • gender inclusiveness 	<p>Output:</p> <ul style="list-style-type: none"> • # target beneficiaries based on eligibility criteria 	<p>Target:</p>
<p>2. TWG and SAG to institute M&E system to assess impact of livelihood program on sustainability of fisheries stocks and improvement in well-being of target beneficiaries</p>	<p>Outcome:</p> <ul style="list-style-type: none"> • % improvement of stocks (based on RPs) • % improvement in well-being (income or other proxy) of target beneficiaries 	<p>Target:</p>

GOAL 5:

FMA institutions (MB, SAG, TWG) strengthened to provide guidance and support to provinces & LGU alliances in implementing FMA-level and local management actions

Objective 5(a):

In Year 1 (2022), institute structural and procedural enhancements in the MB, SAG and TWG with special focus on strategic planning (Y1-2, 2022-2023) for IUU fishing, livelihoods/PPP and aquaculture/post-harvest.

Table 22.

Management Action	Indicators	Benchmark
1. MB to create working groups on IUU fishing, livelihoods/PPP and aqua/post-harvest, with clear scope of work	Output: • # Working Groups created with relevant SOW	Target: 3 WGs
2. MB (through TWG and SAG) to develop and adopt strategic plans for addressing IUU fishing, diversification of livelihood options, and expansion of aquaculture/post-harvest sector	Outcome: • # strategic plans adopted	Target: 3 strategic plans
3. MB to include IFARMC and LGU-alliance reps in the MB or TWG	Output: • % of Alliance/ IFARMC reps included in MB or TWG	Target: • 14 Alliance reps • IFARMC reps (as IF-ARMCs are convened)
4. BFAR secretariat to establish database of relevant FMA information (stats, researches, etc) that is accessible to members of MB, SAG and TWG, and stakeholders	Output: • % completion of entries in database/ information management system	Target: %%% database, integrated in FMA 11 webpage
5. BFAR secretariat (with TWG) to establish platforms and mechanisms for regular consultation and 2-way communication among MB, SAG and TWG, and with various stakeholder groups/ sectors.	Output: • # platforms for regular communication and consultation/ feedback created and maintained	Target: 10 platforms for: MB, TWG, SAG, commercial fishers, municipal fishers, aqua/ post-harvest/ processors, NGOs, private sector, LGUs, NGAs
6. MB (through TWG and SAG) to establish and implement monitoring and evaluation for FMA 11 Management Framework	Output: • # M&E Plan and periodic reports prepared	Target: • 1 M&E Plan • Baseline (2022), mid-term (2025) and end-term (2027) M&E reports

Objective 5(b):

Establish (Year 1, 2022) and implement continuing(Y1-5, 2022-2027) capacity-building program for MB, SAG, TWG, and Secretariat, including enhancing their capacity to explain and build-consensus on science-based management actions.

Table 23.

Management Action	Indicators	Benchmark
<p>1. BFAR (Regions 5,6,7 in coordination with BFAR National)) to adapt and implement training program for MB, SAG, TWG and Secretariat customized to the needs and context of FMA 11, including technical (biological and social science), evidence-based management and consensus-building topics.</p>	<p>Output:</p> <ul style="list-style-type: none"> • # Training Program/ Curriculum adapted and implemented 	<p>Target: 4 Programs Specific for MB, SAG, TWG and Secretariat</p>
<p>2. BFAR (Regions 5,6,7 in coordination with BFAR National) to develop and implement standardized training courses on relevant topics for target groups, for example:</p> <ul style="list-style-type: none"> • FLE for bantay-dagat; • science-based and equitable policy/ legislation to implement HCRs for FARMCs; • financial literacy and social enterprise development (e.g. smoked fish processing, shellfish culture/ processing - specific to the need of fisherfolk organizations) • gender sensitivity (cross-cutting) • climate resilience (cross-cutting) 	<p>Output:</p> <ul style="list-style-type: none"> • ☒ # standard training courses developed 	<p>Target: 6 courses</p> <ol style="list-style-type: none"> 1) FLE, including use of IFIT 2) local policy/ legislation (MFO) 3) social enterprise development, incl. PO leadership 4) financial literacy/ COM-SCA 5) consensus-building and conflict transformation 6) systematic conservation planning (includes climate resilience)
<p>3. SAG (in consultation with TWG) to develop scientific research agenda based on data needs for addressing priority issues</p>	<p>Output:</p> <ul style="list-style-type: none"> • # research agenda adopted • % specific research areas/ studies identified in research agenda pursued 	<p>Target: 1 Research agenda adopted</p> <ul style="list-style-type: none"> • Target: ??

Objective 5(c):

Provide continuing support (Y1-5, 2022-2027) to provinces and LGU-alliances to address local issues that are the primary responsibility and within the capability of the LGUs to address.

Table 24.

Management Action	Indicators	Benchmark
<p>1. BFAR secretariat (in coordination with TWG) to conduct inventory and assessment of local legislation/policies related to fisheries and coastal management, including specific themes on:</p> <ul style="list-style-type: none"> • FLE/IUU fishing; • regulating fishing practices to reduce overfishing consistent with RPs and HCRs; • MSP/ systematic conservation planning (incl establishment of MPAs/networks) 	<p>Output:</p> <ul style="list-style-type: none"> • % completion of inventory of local legislation and policies • # assessment reports, including highlighting best practices and proposing guidelines prepared 	<p>Target: 1 compilation, periodically updated</p> <p>Target: 3</p> <ul style="list-style-type: none"> • Status of local FLE/ capacity • Local regulation on fine mesh gear, ban on trawl, MDS, blast fishing • Meeting requirements for MPAs in 15% MW
<p>2. NGAs (in Regions 5,6,7) to provide annual budget for technical, material/financial support for LGU-led management actions and fisherfolk livelihoods, based on agreed convergence strategies</p>	<p>Output:</p> <ul style="list-style-type: none"> • Amount (PhP or equivalent) allotted and disbursed 	<p>Target:</p>
<p>3. TWG (through BFAR secretariat) to facilitate coordination and technical support and M&E for local management initiatives, including:</p> <ul style="list-style-type: none"> • FLE (VS closed season, trawl, MDS, blast-fishing, intrusion of CF in MW) • Systematic conservation planning (incl MPA networks establishment and monitoring) • Right-sizing of fishing effort 	<p>Output:</p> <ul style="list-style-type: none"> • # coordinated FLE operations conducted; • # collaborative studies and reports prepared <p>Outcome:</p> <ul style="list-style-type: none"> • % increase in compliance and/ or decrease in violations • % increase in MPAs and/or improvement in MEAT scores 	<p>Target:</p>

<p>4. BFAR (in coordination with TWG and SAG) to facilitate technical assistance to LGUs and NGAs on specific issues that affect fisheries and fishers in specific areas, for example:</p> <ul style="list-style-type: none"> • ecological and socio-economic impact of proposed oil depot, reclamation and other coastal development projects • impact of quarrying, black sand mining, solid waste, agri/ industrial pollution on fisheries and livelihoods 	<p>Output:</p> <ul style="list-style-type: none"> • # reports, position papers and recommendations prepared 	<p>Target: as needed</p>
<p>5. BFAR PFOs (in coordination with LGUs, CSOs, private sector and academe) to facilitate technical assistance for local conservation initiatives and livelihood opportunities, for example:</p> <ul style="list-style-type: none"> • conservation and sustainable harvesting of locally-important shellfish (e.g. nylon shell, lampisaw, batitis, scallops) • establishment of mangrove conservation areas with compatible community-based eco-tourism enterprises • aquaponics 	<p>Output:</p> <ul style="list-style-type: none"> • # initiatives/ projects provided with technical assistance <p>Outcome:</p> <ul style="list-style-type: none"> • % increase community income from conservation enterprises • % increase in sustainable harvest of shellfish 	<p>Target: as needed</p> <p>Target:??</p>

Monitoring and Evaluation

The TWG will prepare a comprehensive monitoring and evaluation plan that identifies specific indicators and targets (some of the targets in the tables of management actions are still unspecified).

Aside from specific output targets relevant to each of the identified management actions, the TWG and SAG will also develop higher-level (outcome) indicators to include:

1. Indicators of healthy fishery stocks anchored on regular NSAP monitoring and based on the adopted reference points;
2. Indicators for monitoring cumulative impact of local coastal habitat management actions -- for example aggregating the MPA assessments (individual MEAT scores) to determine the overall status of MPA's in the FMA, and/or assessing the cumulative benefit of establishing MPA networks according to the science-based and agreed MPA Network Design;
3. Indicators of human well-being -linked to the regular monitoring of poverty levels by PSA, as well as fisheries sector specific indicators of catch and income, fisherfolks settlement security, access to basic services (health, education, transportation) and others;
4. Indicators of good governance- such as capacity for fisheries law enforcement. This can include qualitative indicators related to participation in decision making, especially of women and other marginalized groups.




Communication Strategy


The secretariat, with support from the TWG and SAG, will lead preparation and implementation of a communications strategy anchored on the following priorities:

1. Information campaign among stakeholders about the FMA Framework Plan and support implementation at provincial, LGU-alliance and individual LGU levels; increase participation of women and marginalized groups
2. Campaign against IUU fishing - detection and reporting
3. Promotion of sustainably-sourced, value-added seafood; alternative (e.g. online) supply and marketing
4. Campaign for municipal/city FARMCs to develop ordinances to implement HCRs relevant to their LGU


CONSENSUS ESTIMATES OF IUU FISHING IN THE PHILIPPINES



UNREGISTERED FISHING
vessels are estimated to be as much as **30-47%** of the current number of municipal vessels in the BoatR system. There are also likely around **1,600 to 2,700** unregistered commercial fishing vessels.



UNREPORTED CATCH
by commercial fishers ranges from **274,000 to 422,000 MT / year**



ILLEGAL FISHING by both municipal and commercial fishers is placed at **27-40%** of Philippine capture fisheries production in 2019. By conservative estimate, this is valued at **₱42-63B**



Capacity-building and Adaptive Management

Capacity-building will be a continuing process to enhance the skills of members of the Management Board, TWG and SAG in the performance of their roles. In the immediate term (2-3 years), capacity-building will be focused on the following:

1. Enhancement of platforms for continuing engagements with key stakeholder groups
2. Establishment of regular mechanisms for consultations, M&E, coordination of planning and implementation at FMA, province and LGU-alliance levels
3. Training for municipal/city FARMCs to develop ordinances to implement HCRs relevant to their LGU



The image shows the top portion of a website for Fisheries Management Area 11. At the top left, there is a logo for 'i am FMA 11' and the text 'FMA 11'. To the right, there is a navigation menu with 'Home', 'Management Board', 'TWG', and 'Scientific Advisory Group', followed by a search icon. Below the navigation menu is a row of ten circular logos representing various local government units: City of Bacolod, Province of Capiz, Province of Cebu, Province of Iloilo, Province of Negros Occidental, Province of Negros Oriental, Province of Zamboanga, City of Iloilo, Province of Negros Occidental, and Province of Negros Oriental. The main heading 'Fisheries Management Area 11' is prominently displayed in white text against a background image of a fisherman. Below the heading, the word 'VISION' is centered, followed by a paragraph: 'A highly biodiverse and resilient FMA 11 co-managed sustainably based on science, with active participation of progressive communities and a proactive, responsive and adaptive government, to sustain a healthy ecosystem and provide equitable benefits (esp. food and livelihood) for all stakeholders'. At the bottom left of the page, there is a blue button labeled 'FMA 11 Profile'.



For more information on FMA 11, please visit the webpage
<https://sites.google.com/view/fma-11/home>



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