



**The 2<sup>nd</sup> Regional Scientific and Technical Committee Meeting for the UNEP-GEF-SEAFDEC “Establishment and Operation of a Regional System of Fisheries Refugia in the South China and Gulf of Thailand” Project**

by

**Valeriano M. Borja**

21-23 May, 2019

Thunsur SokhaHotel,

Kampot Province, Cambodia



**Progress Work on National  
Level Activities  
June 2018 – May 2019**



# ✓ Technical Support Mission of Project Coordinating Unit Staff in the Philippines for the SEAFDEC/UNEP/GEF Project “Establishment and Operation of a Regional System of Fisheries Refugia in the South China Sea and Gulf of Thailand”

Date: 20-21 June 2018

Venue: NFRDI Conference Room, NFRDI, Quezon City

12 participants

- Updates on the current situation of Fisheries Refugia (FR) project
- Joint program between Fisheries Refugia Project and South China Sea (SCS) Project and its benefit
- Support of SEAFDEC on the National Technical work of Fisheries Refugia project
- Progress and Financial Reporting of Philippines
- Work planning and budgeting for succeeding quarter



# **Fisheries Refugia Stakeholders Consultation Workshop in 3 Projects Sites**

**The objective of the workshop is to:**

- **Initially identify major species to be consider in the establishment of Fisheries Refugia in 3 project sites;**
- **Identify threats to fisheries and identify possible management measures and;**
- **Finalize the composition and to be able to discuss and agree on the terms of Reference of Refugia Site Management Committee**



# Fisheries Refugia Stakeholders Consultation – Bolinao Site

**Date: 19-21 September 2018**

**Venue: Treasures of Bolinao,  
Bolinao, Pangasinan**

**Participants:**

- **Office of the Municipal Agriculturist**
- **Office of the Sangguniang Bayan**
- **Bureau of Fisheries and Aquatic Resources Regional Office I**
- **Provincial Fisheries Office**
- **Chairman/Representative form coastal Barangays**
- **Fisherfolk Representatives**



# Fisheries Refugia Stakeholders Consultation – Bolinao Site



# Fisheries Refugia Stakeholders Consultation – Coron Site

Date: 20-22 November 2018

Venue: Wildfern Villa,  
Coron, Palawan

## Participants:

- Office of the Municipal Agriculturist
- MDRRMO
- Community Environment and Natural Resources Office (CENRO)
- BFAR Provincial Fisheries Office
- Chairman from Coastal Barangays
- Fish Warden
- Maritime Police
- Philippines Coast Guard
- Coron School of Fisheries
- Palawan Council for Sustainable Development (PCSD)
- Coron MPA Network



# Fisheries Refugia Stakeholders Consultation Workshop Outputs

THREATS/ISSUES/CONCERNS TO FISHERIES	Species/habitat	Existing ordinances, laws
Use of inappropriate fishing gear	All species/coral	RA 10654 /Municipal Fisheries Ordinance
Dynamite fishing/blast fishing	Corals, all kinds of fish	RA 10654
Encroachment (commercial vessel)	Galunggong Dilis and other species caught on municipal fishing ground	Municipal Fisheries ordinance
Climate Change	corals	Climate Change Act
Siltation		Clean Water Act, Water Quality Management Area
Encroachment of Informal Settlers in Mangrove Areas, Conversion of mangrove areas for tourism purposes	Mangroves, juvenile fish, crabs etc.	Zoning Ordinance, Easement Policies, PD 705 section 84, 68 and 69
Siltation	Corals, seagrass	Clean Water Act, Water Quality Management Area





# Fisheries Refugia Stakeholders Consultation Workshop Outputs

<b>THREATS/ISSUES/CONCERNS TO FISHERIES</b>	<b>Species</b>	<b>Existing Ordinances/laws</b>
<b>Oil spill</b>	<b>Mangrove areas/corals/all kinds of fish</b>	<b>Marine environmental laws</b>
<b>Catching of threatened species</b>	<b>threatened species listed in cites</b>	<b>CITES, RA 8550/10654</b>
<b>Pollution</b>	<b>all kinds of fish</b>	<b>Municipal Ordinance/Environmental laws</b>
<b>human recreational activities (eg. tourism), Non-compliance of tourism establishment within coastal areas</b>	<b>Seagrass, corals</b>	<b>RA 8550/10654 PD 705</b>
<b>Overfishing</b>		
<b>Live Fish Trade Industry</b>	<b>Grouper, Mangrove Jacks, Wrasse</b>	<b>PCSD AO 05</b>

# Fisheries Refugia Stakeholders Consultation – Masinloc Site

Date: 28-30 November 2018

Venue: DFARM Resort, Masinloc, Zambales

## Participants:

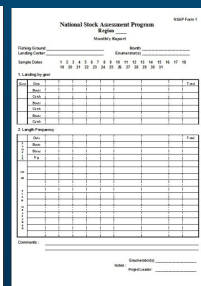
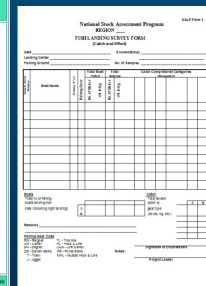
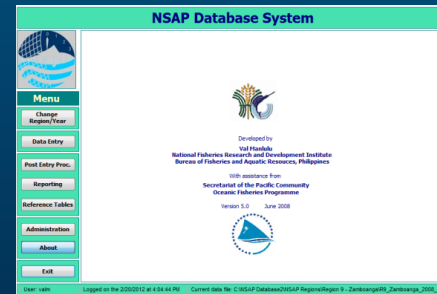
- Municipal Environments and Natural Resources Office
- Office of the Municipal Agriculturist
- BFAR Provincial Fisheries Office
- Chairman/Representative from coastal Barangays
- Fisherfolk Representatives
- Philippines Coast Guard
- Academe Representative
- Fish Warden Representatives





# Continued Baseline Fisheries Data Collection

Fisheries data collection was conducted in 3 project sites  
National Stock Assessment Program (NSAP) Sampling protocol  
was used in collecting data in selected fisheries landing sites



NSAP Sampling forms were used in recording fisheries data and submitted monthly to NFRDI for data encoding and processing using NSAP Database System

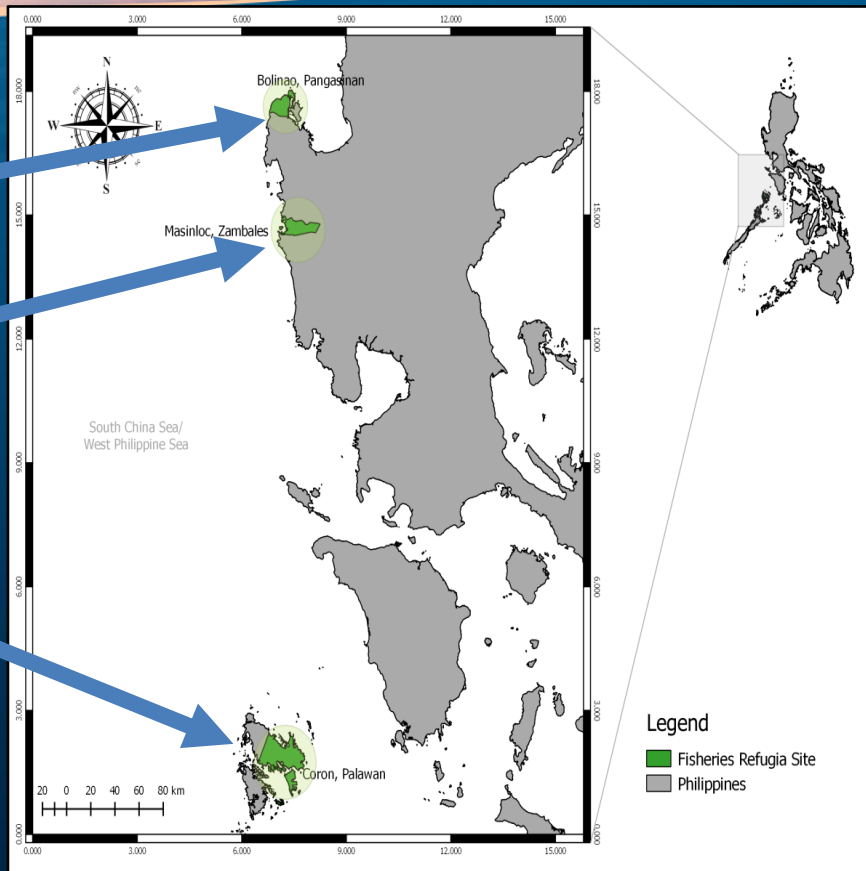


# 3 Project Sites

➤ Bolinao, Pangasinan

➤ Masinloc, Zambales

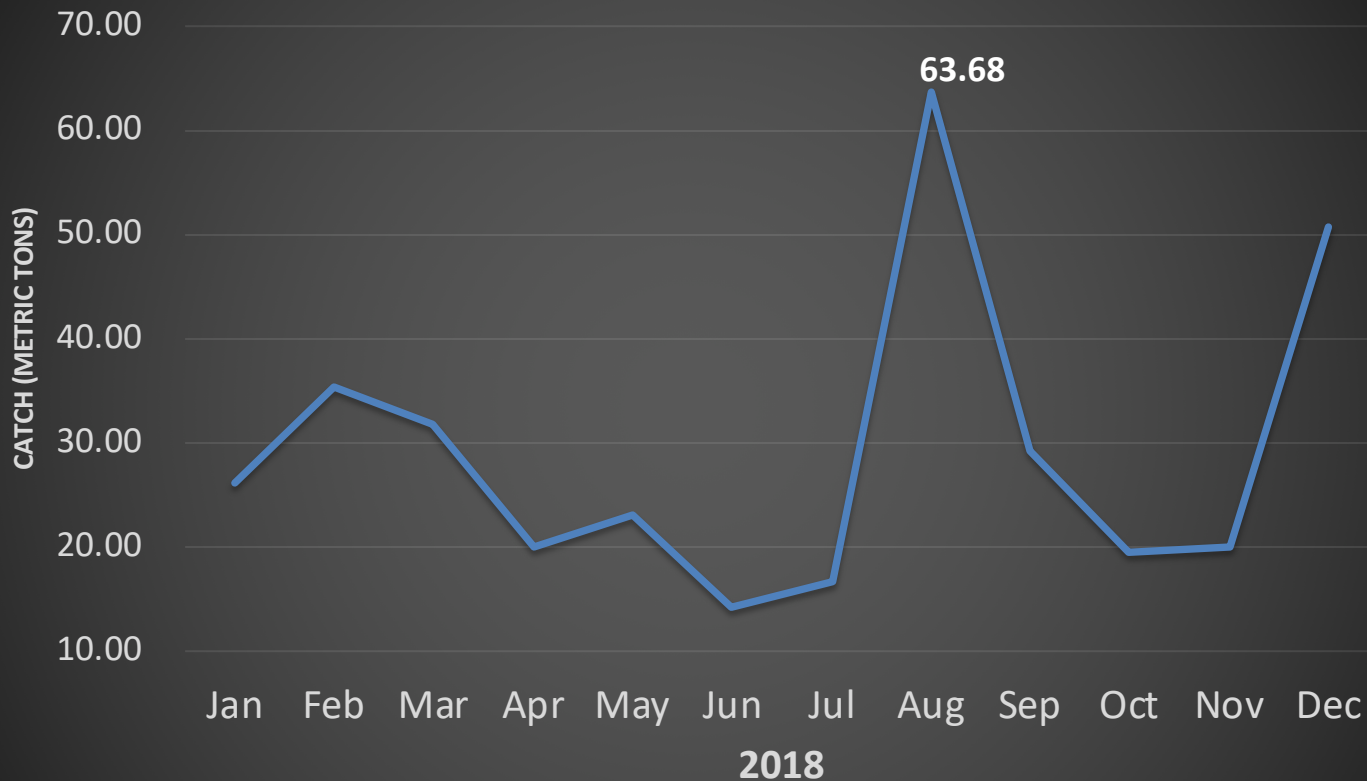
➤ Coron, Palawan





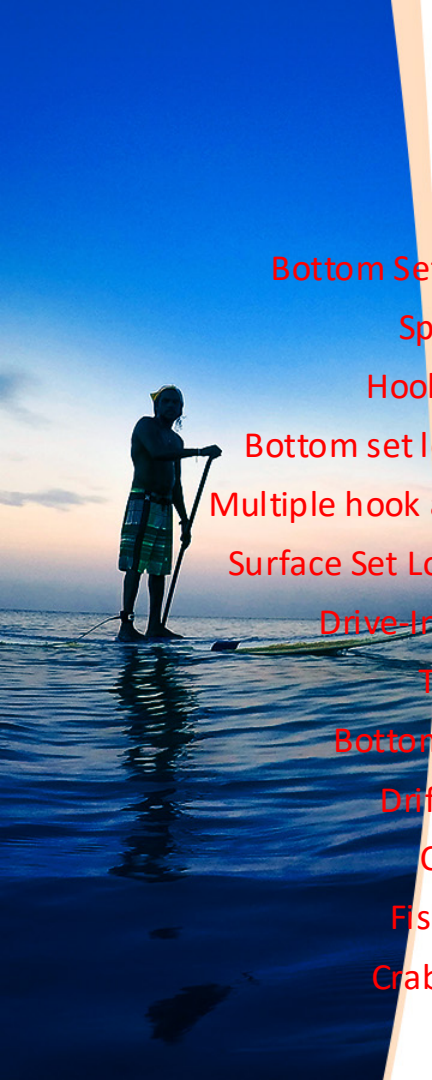
# 2018 Fisheries Data Collection Results

# 2018 Fisheries Data Collection Results



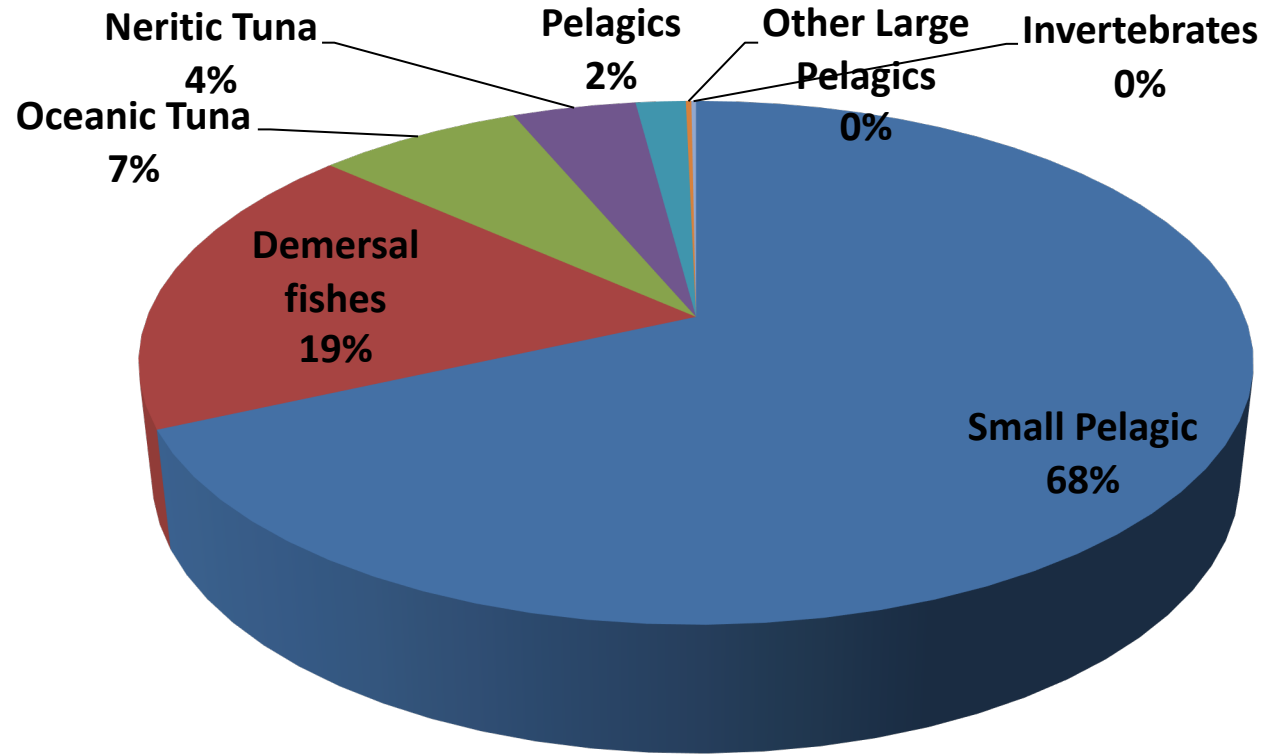
**Monthly Landed Catch in Coron, Palawan, 2018**

# 2018 Fisheries Data Collection Results



■ Metric tons

# 2018 Fisheries Data Collection Results



Landed catch by Species Group in Coron, Palawan (2018)

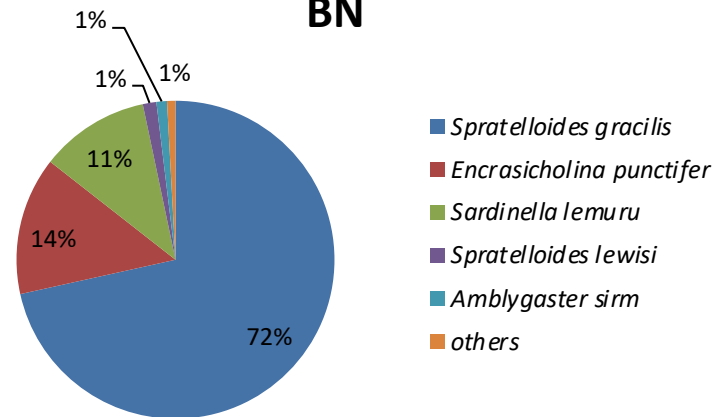




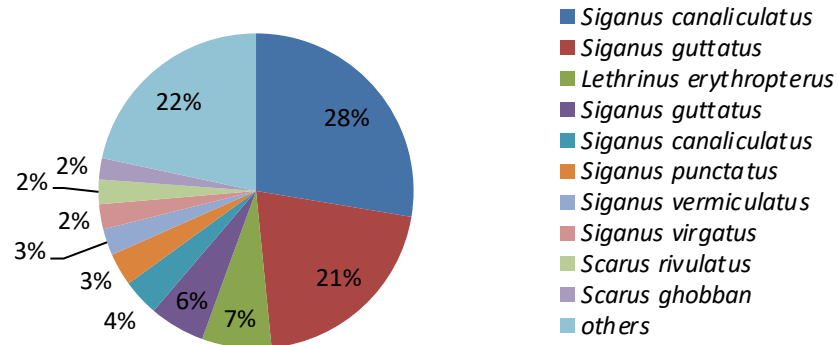
# 2018 Fisheries Data Collection Results



**BN**



**BSGN**

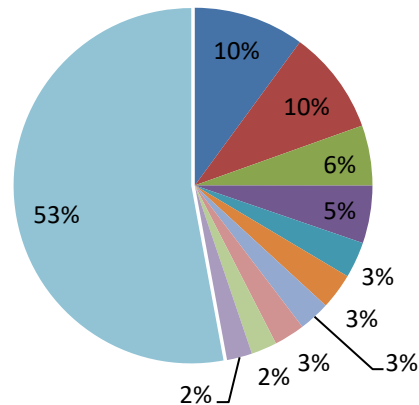


**Species composition by Gear, Coron, Palawan**

# 2018 Fisheries Data Collection Results

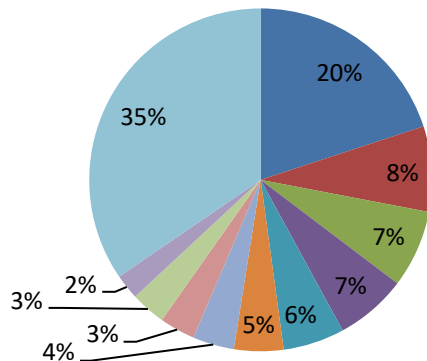


## BGN



- *Selaroides leptolepis*
- *Sphyaena pinguis*
- *Atule mate*
- *Caesio caerulea*
- *Rastrelliger kanagurta*
- *Auxis thazard thazard*
- *Upeneus vittatus*
- *Sphyaena jello*
- *Caranx sexfasciatus*
- *Auxis thazard*
- others

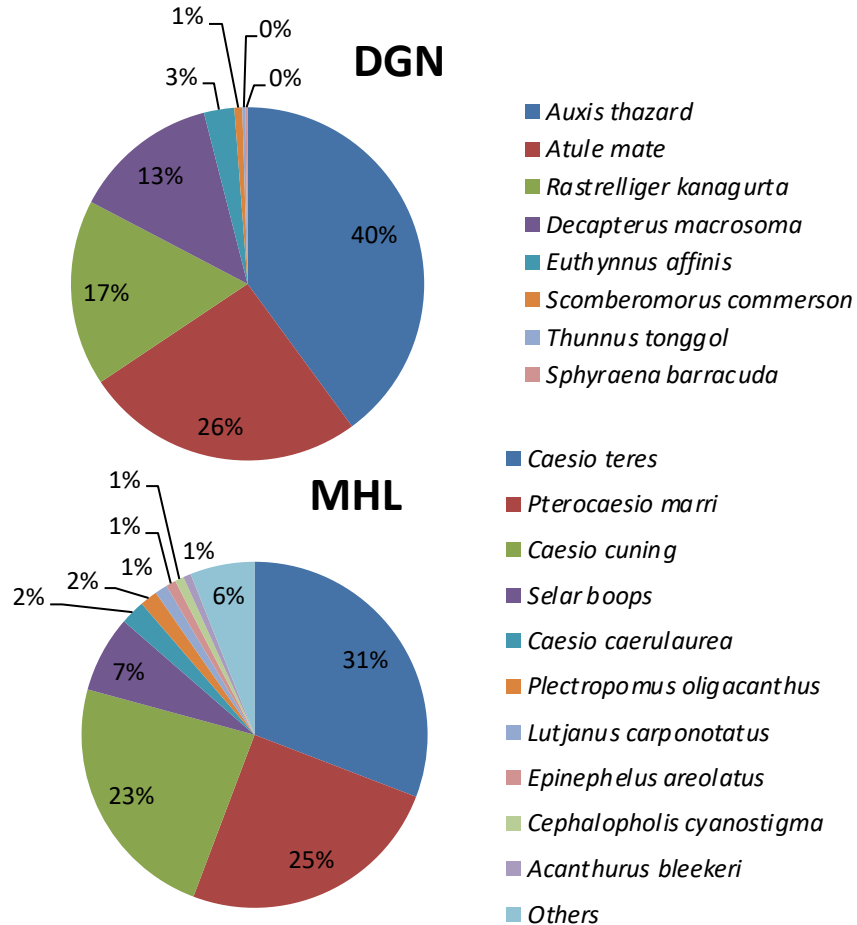
## BSLL



- *Lutjanus lutjanus*
- *Lutjanus malabaricus*
- *Lethrinus atkinsoni*
- *Lutjanus bohar*
- *Epinephelus areolatus*
- *Lethrinus lentjan*
- *Caranx ignobilis*
- *Epinephelus coioides*
- *Lethrinus erythropterus*
- *Lethrinus olivaceus*
- Others

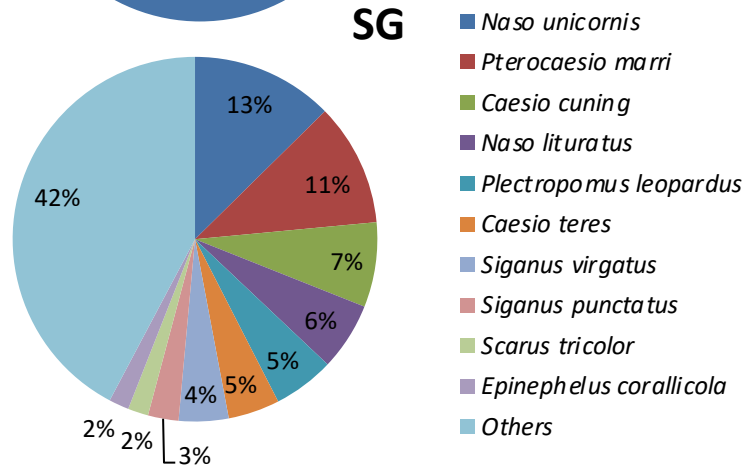
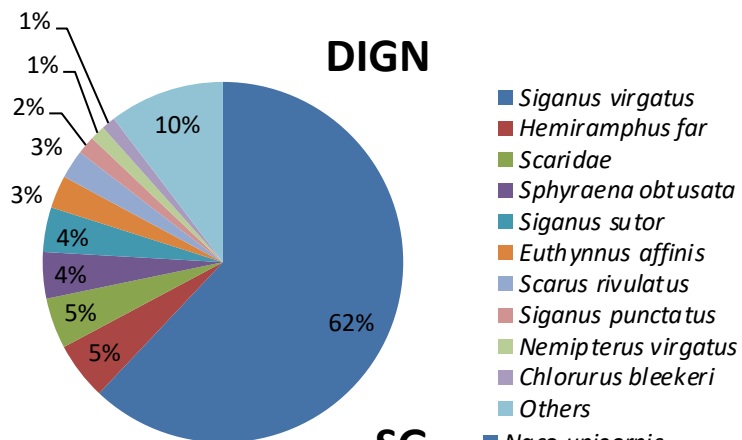
**Species composition by Gear, Coron, Palawan**

# 2018 Fisheries Data Collection Results



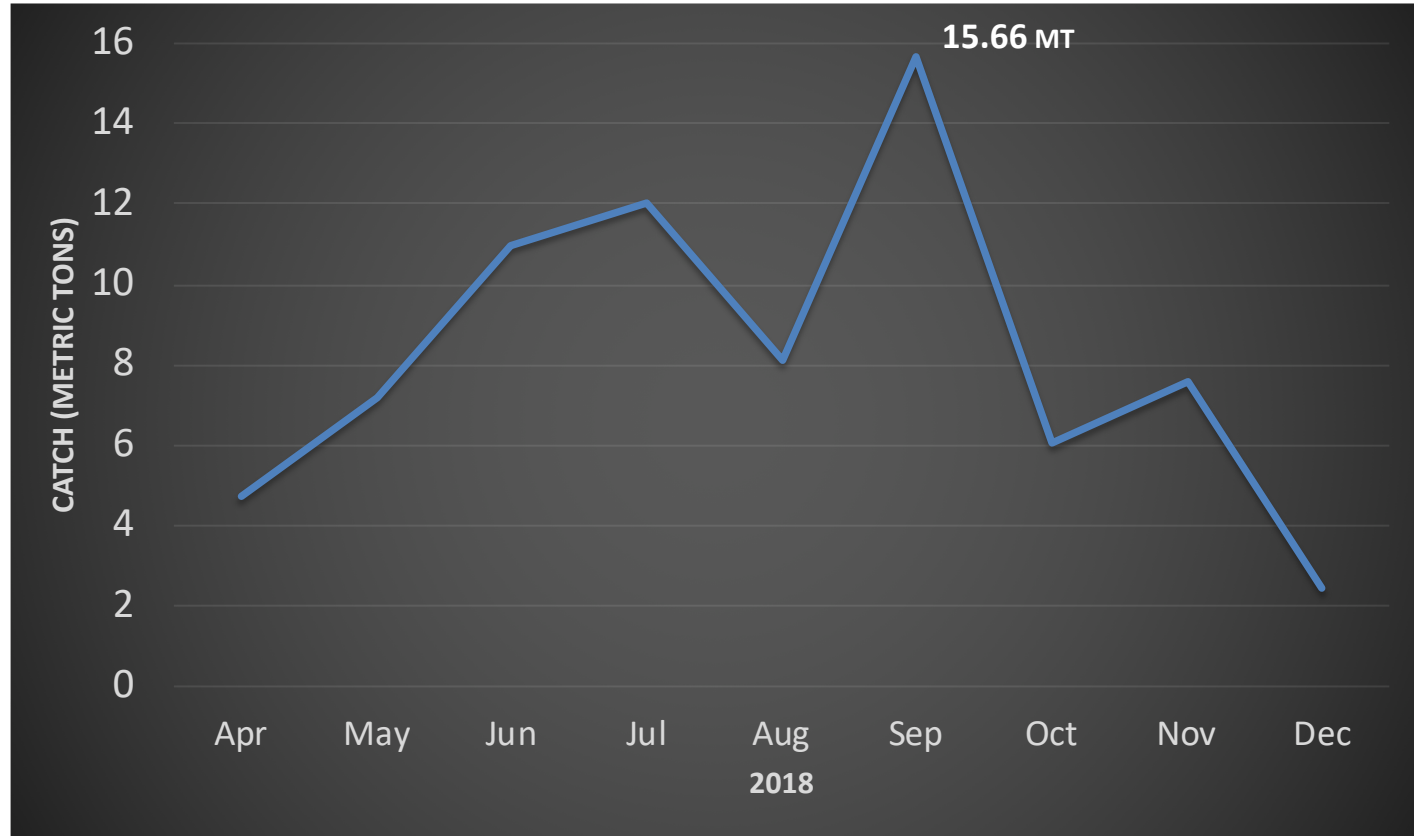
Species composition by Gear, Coron, Palawan

# 2018 Fisheries Data Collection Results



Species composition by Gear, Coron, Palawan

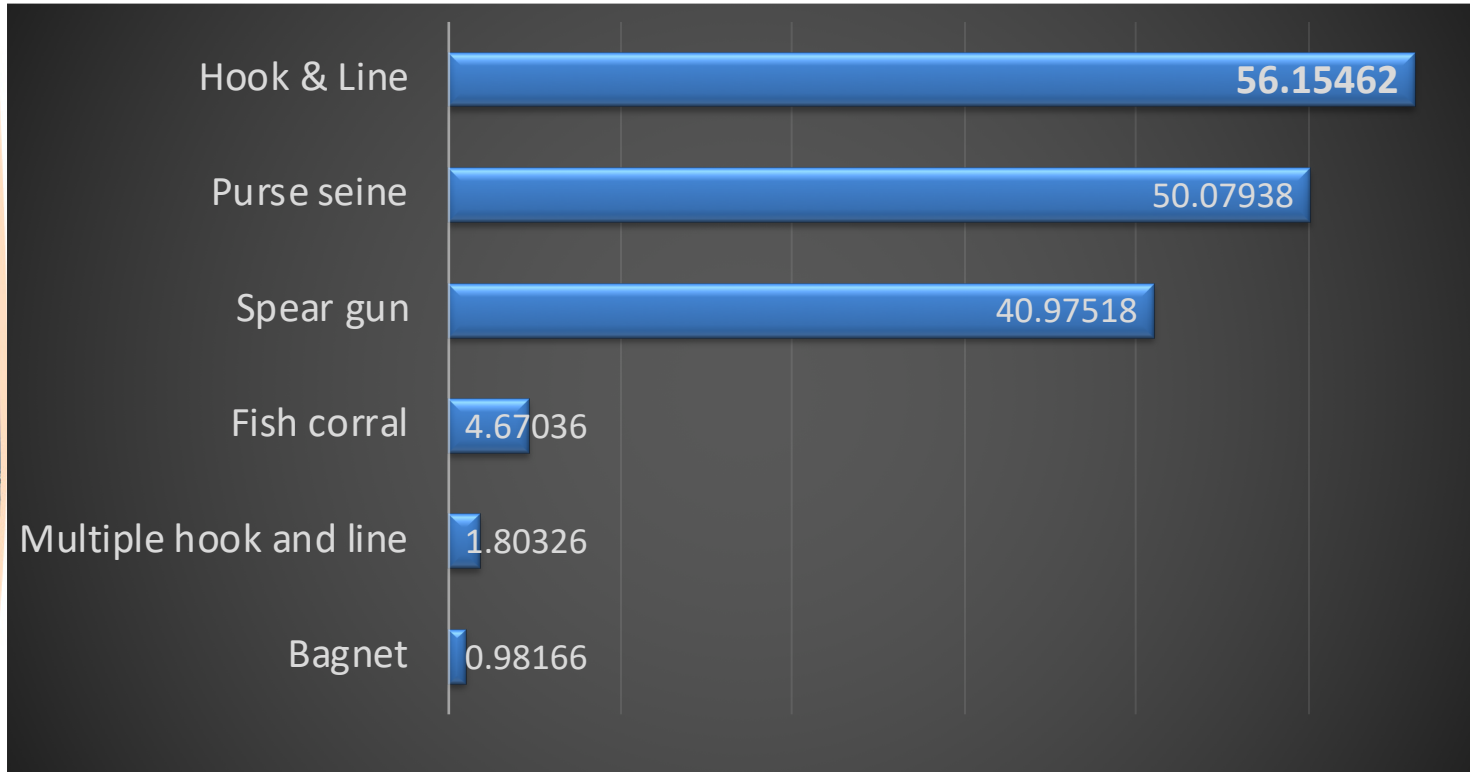
# 2018 Fisheries Data Collection Results



**Monthly Landed Catch in Bolinao, Pangasinan**

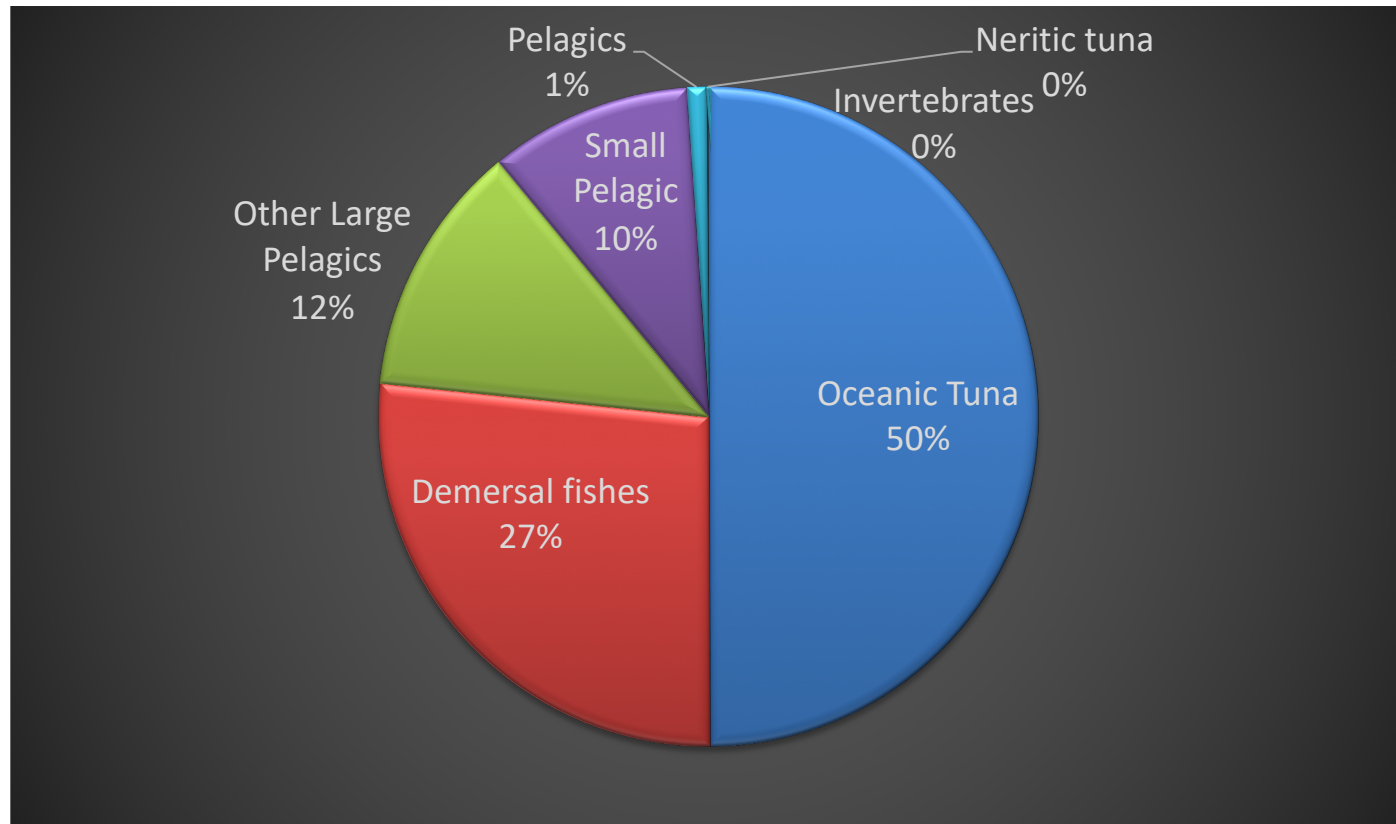


# 2018 Fisheries Data Collection Results



**Landed catch per gear in Bolinao, Pangasinan**

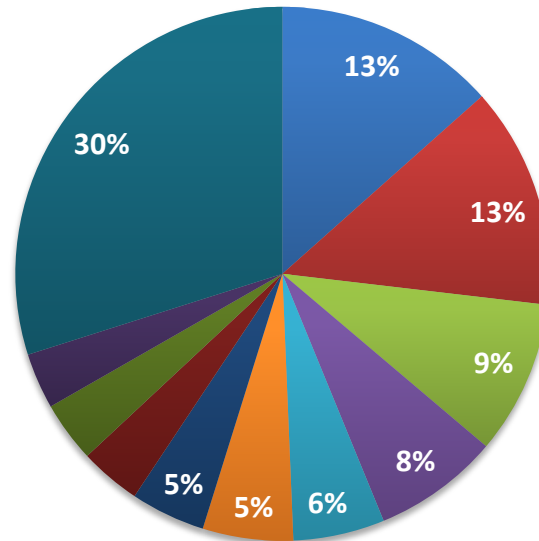
# 2018 Fisheries Data Collection Results



**Landed catch by Species Group in Bolinao, Pangasinan**

# 2018 Fisheries Data Collection Results

## FISH CORRAL



- *Rastrelliger kanagurta*
- *Herklotsichthys quadrimaculatus*
- *Leiognathus equulus*
- *Trichiurus lepturus*
- *Siganus guttatus*
- *Caranx sexfasciatus*
- *Rastrelliger kanagurta*
- *Siganus canaliculatus*
- *Lethrinus lentjan*
- *Siganus guttatus*
- OTHERS

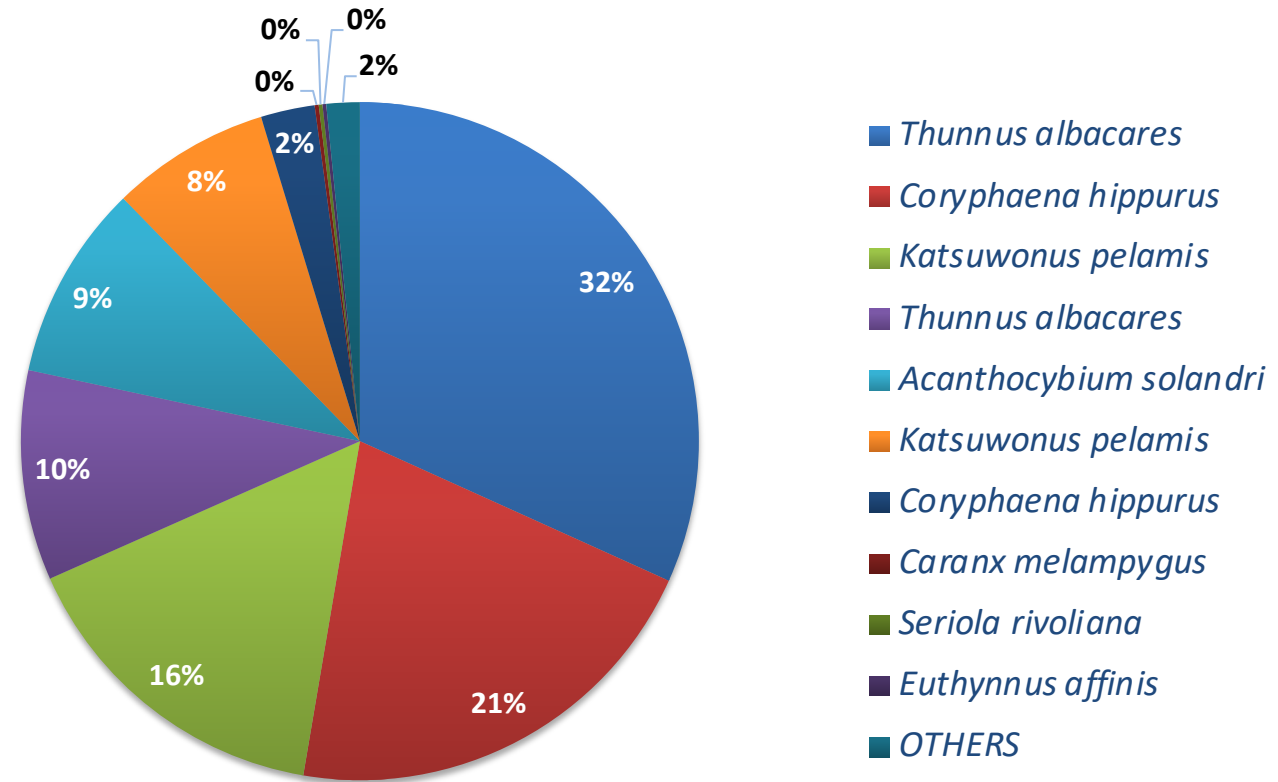
**Species composition by Gear, Bolinao, Pangasinan**





# 2018 Fisheries Data Collection Results

## HOOK & LINE

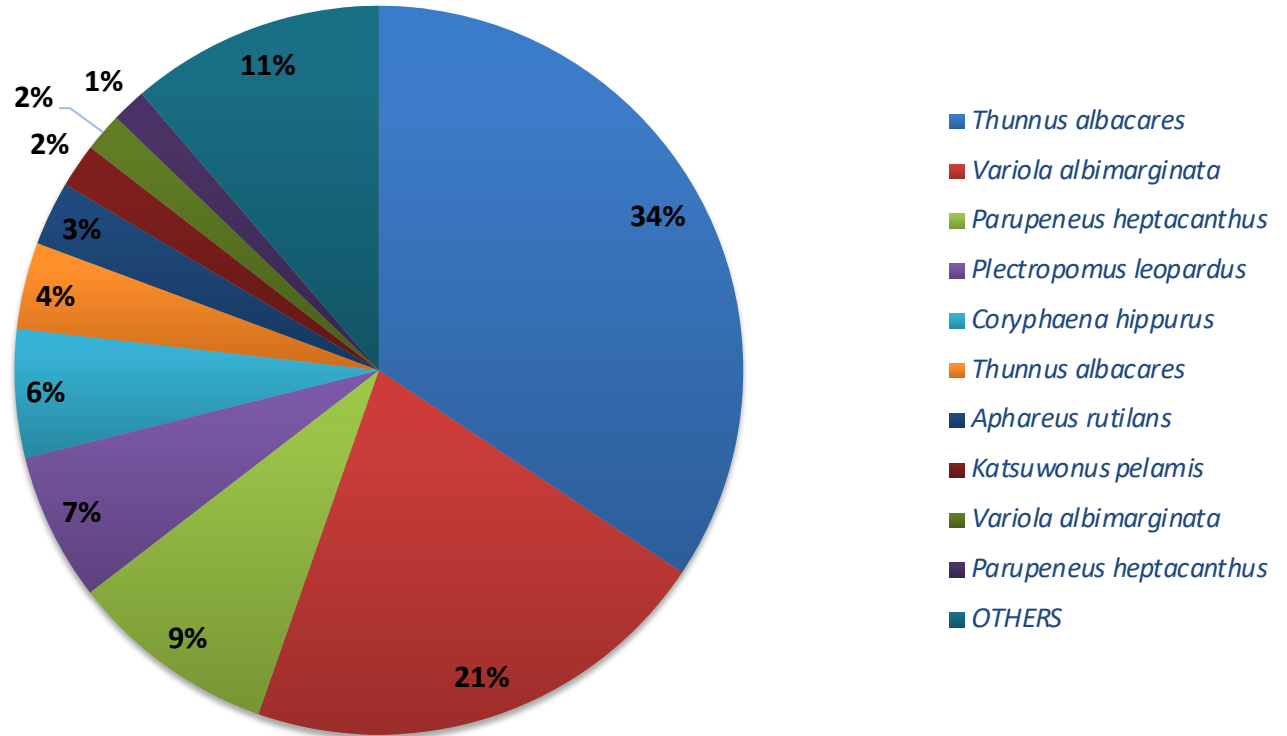


Species composition by Gear, Bolinao, Pangasinan



# 2018 Fisheries Data Collection Results

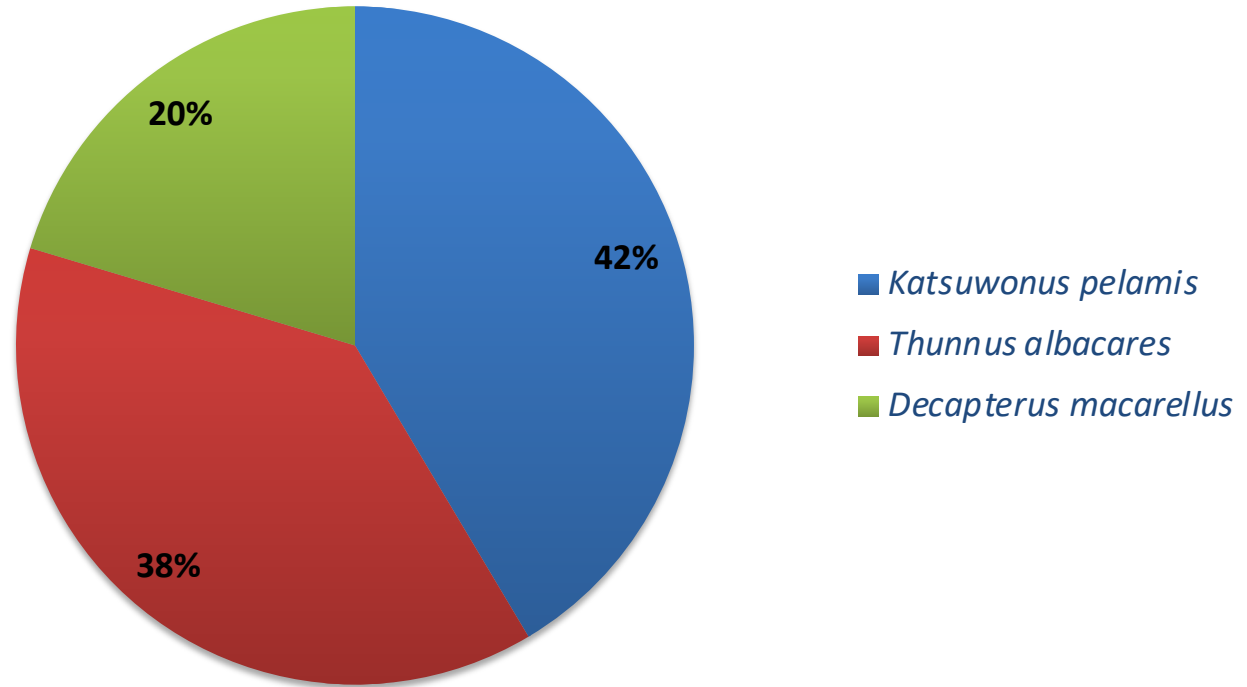
## MULTIPLE HOOK & LINE



Species composition by Gear, Bolinao, Pangasinan

# 2018 Fisheries Data Collection Results

## PURSE SEINE

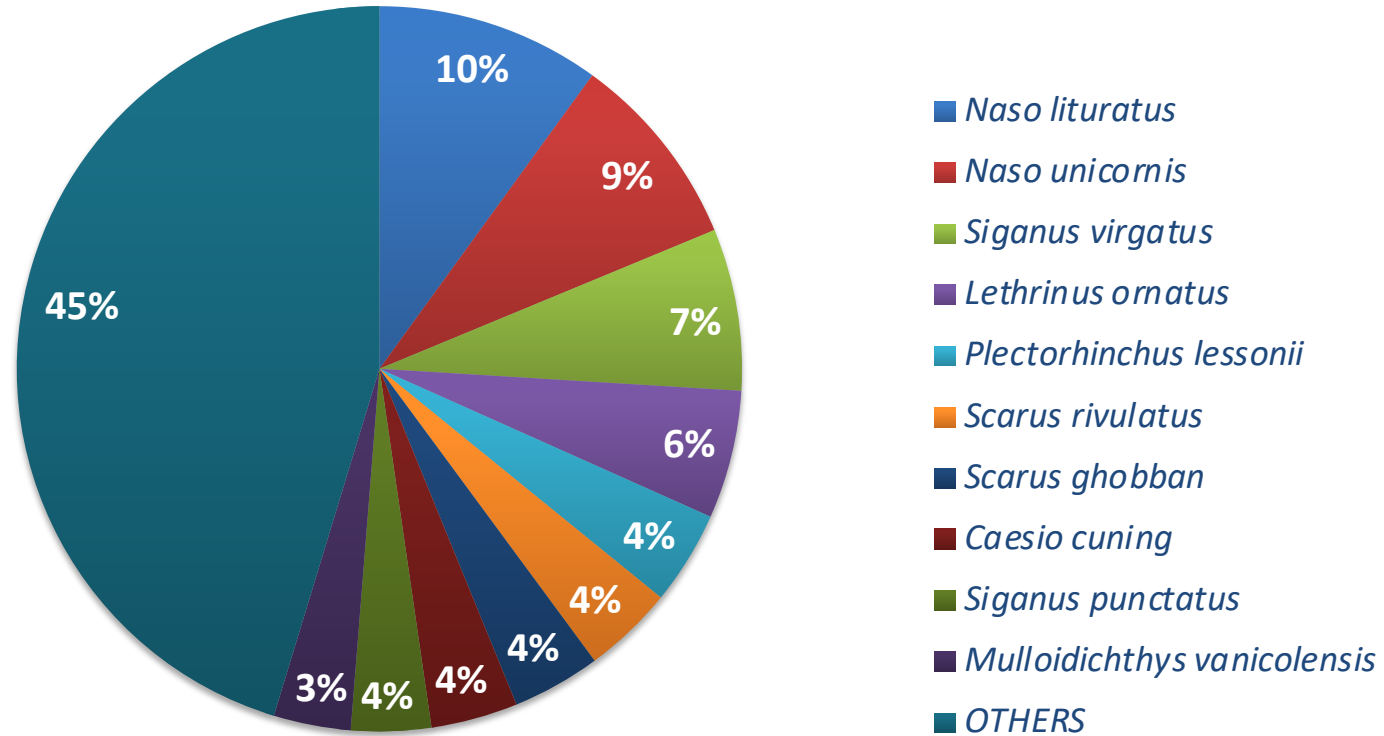


**Species composition by Gear, Bolinao, Pangasinan**



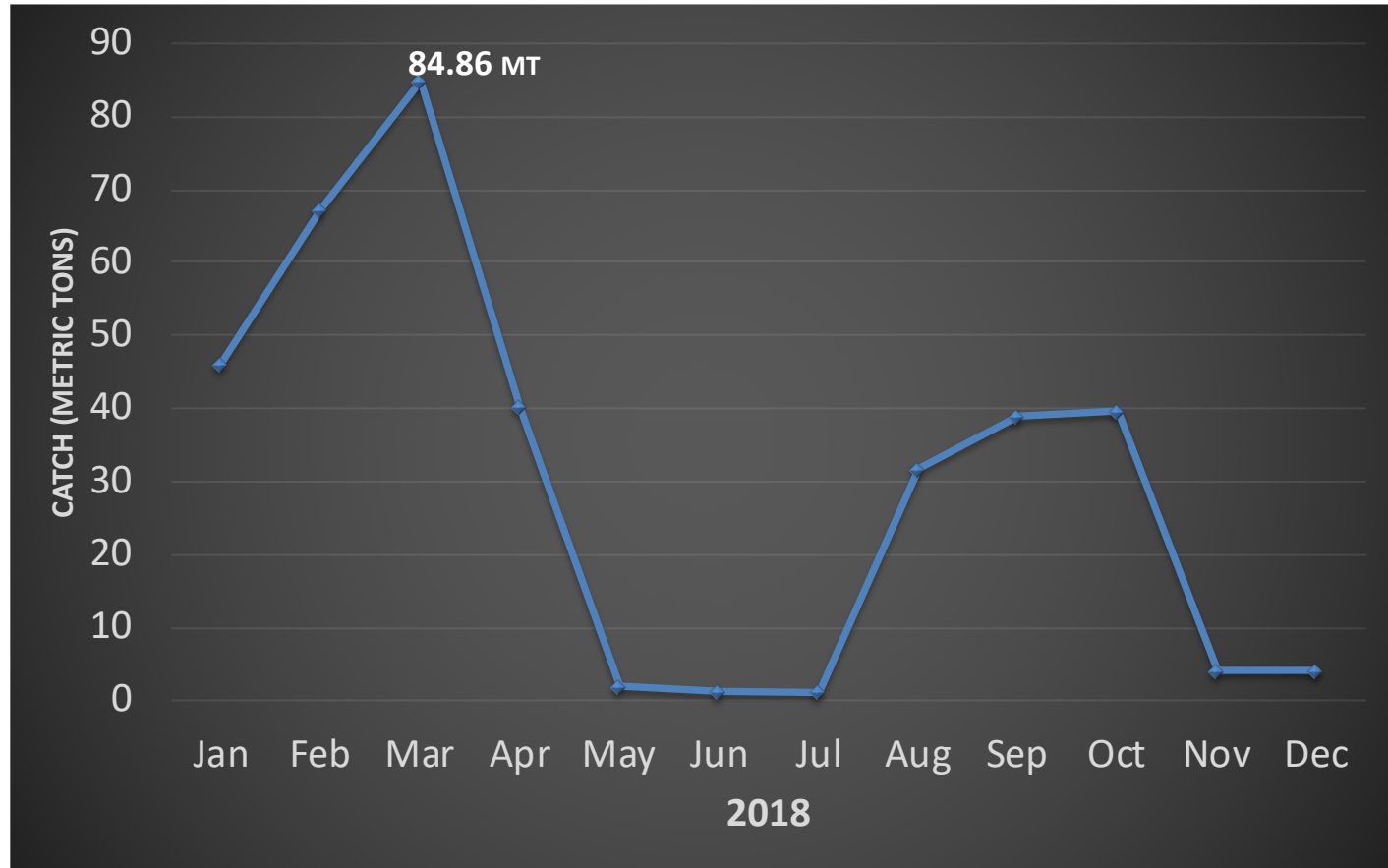
# 2018 Fisheries Data Collection Results

## SPEARGUN



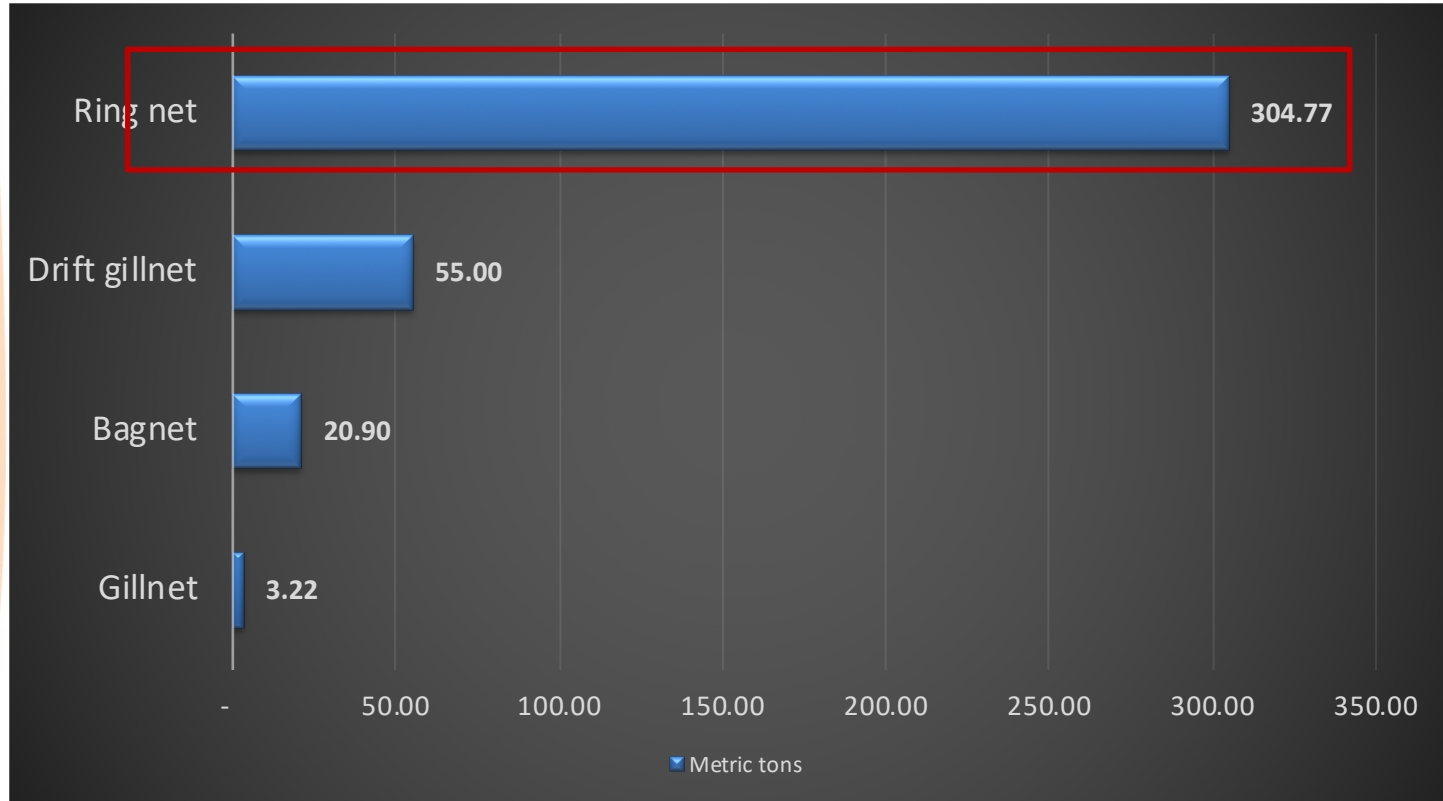
Species composition by Gear, Bolinao, Pangasinan

# 2018 Fisheries Data Collection Results



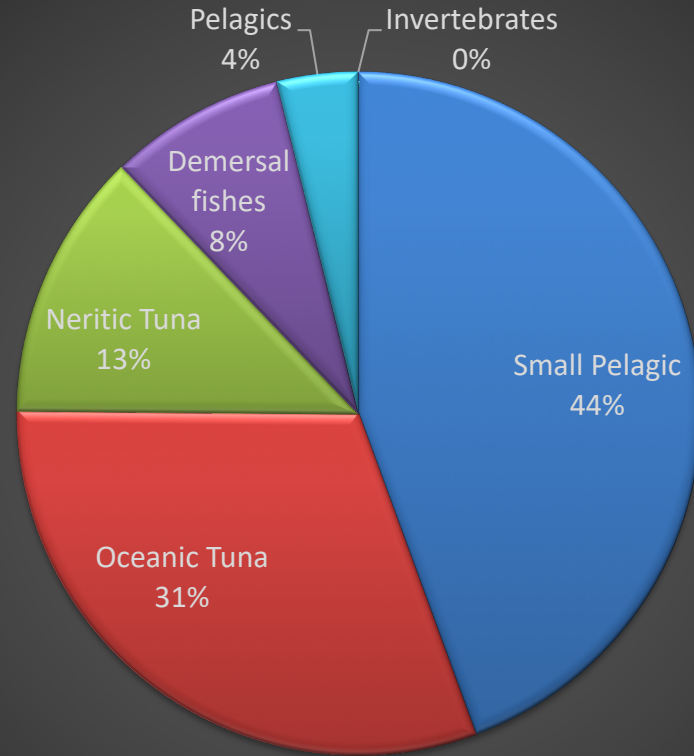
**Monthly Landed Catch in Masinloc, Zambales**

# 2018 Fisheries Data Collection Results



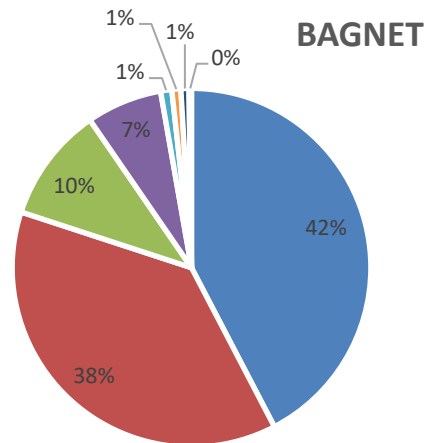
**Landed catch per gear in Masinloc, Zambales**

# 2018 Fisheries Data Collection Results

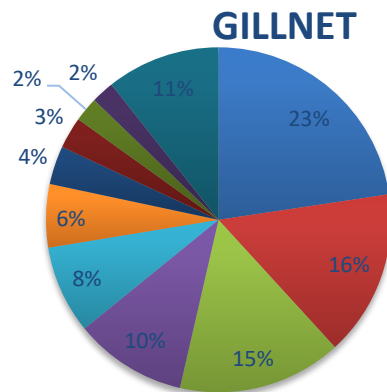


**Landed catch by Species Group in Masinloc, Zambales**

# 2018 Fisheries Data Collection Results



- *Sardinella gibbosa*
- *Engraulidae*
- *Pterocaesio tessellata*
- *Caesionidae*
- *Gazza minuta*
- *Engraulidae*
- *Decapterus macarellus*
- *Rastrelliger faughni*



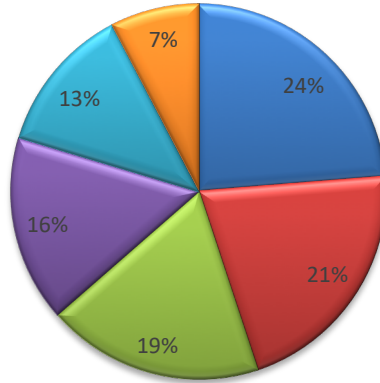
- *Rastrelliger faughni*
- *Selar crumenophthalmus*
- *Sphyaena obtusata*
- *Sphyaena jello*
- *Nemipterus japonicus*
- *Upeneus vittatus*
- *Rastrelliger faughni*
- *Sphyaena jello*
- *Chanos chanos*
- *Trachinotus blochii*
- OTHERS

**Species composition by Gear, Masinloc, Zambales**



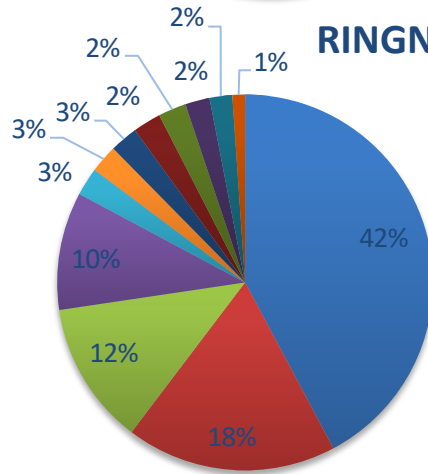
# 2018 Fisheries Data Collection Results

## DRIFT GILLNET



- *Trachinotus blochii*
- *Kyphosus vaigiensis*
- *Cheilinus fasciatus*
- *Siganus argenteus*
- *Lethrinus olivaceus*
- *Siganus puellus*

## RINGNET

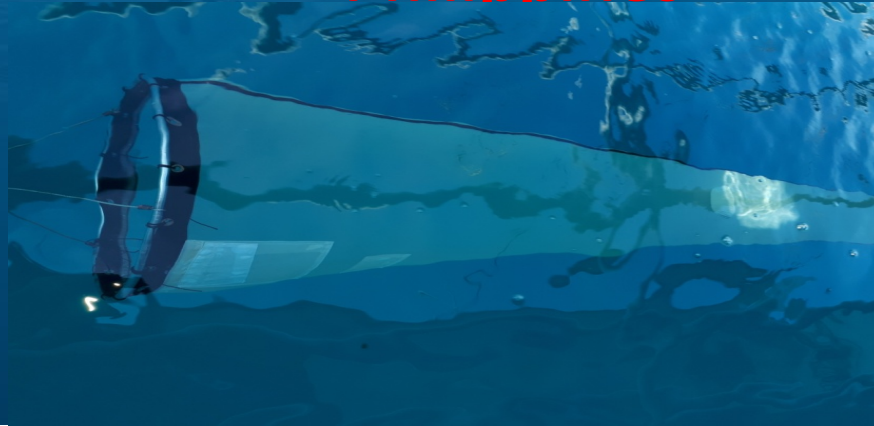


- *Decapterus macarellus*
- *Katsuwonus pelamis*
- *Euthynnus affinis*
- *Thunnus albacares*
- *Thunnus albacares*
- *Decapterus macarellus*
- *Euthynnus affinis*
- *Katsuwonus pelamis*
- *Thunnus albacares*
- *Decapterus macarellus*
- *Katsuwonus pelamis*
- *Euthynnus affinis*

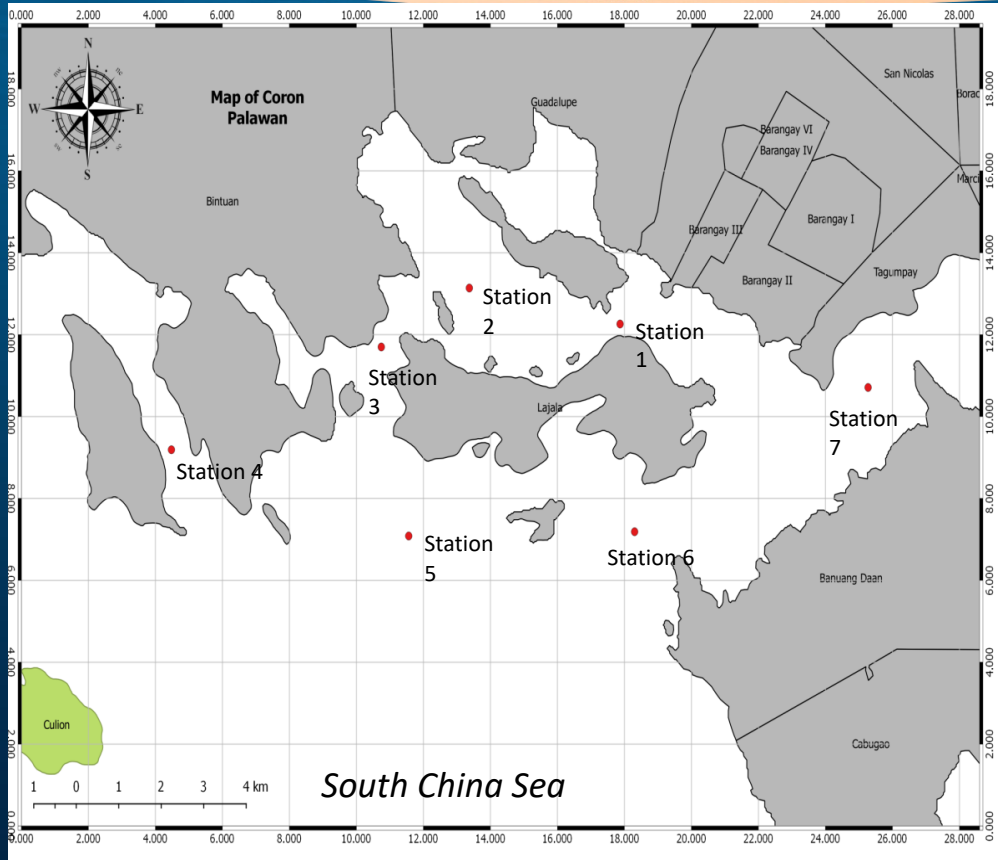
**Species composition by Gear, Masinloc, Zambales**



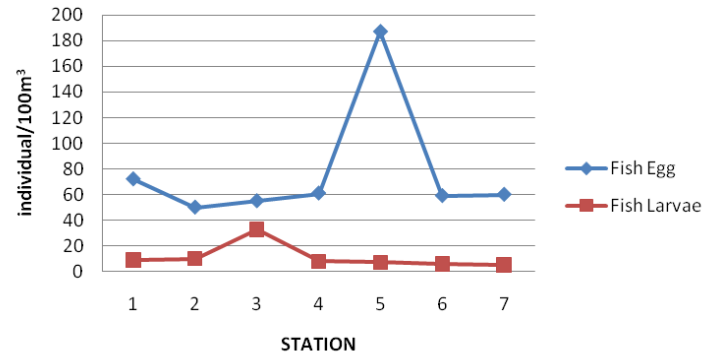
# Quartely Ichthyoplankton Survey for 3 Sites in the Philippines



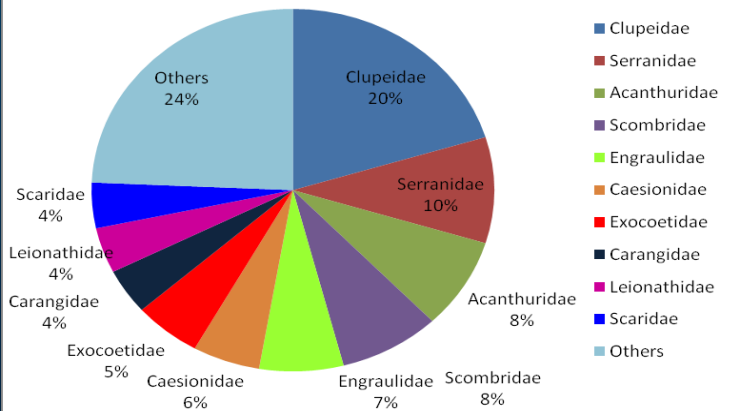
# Fish eggs and Larvae 4<sup>th</sup> Q 2018



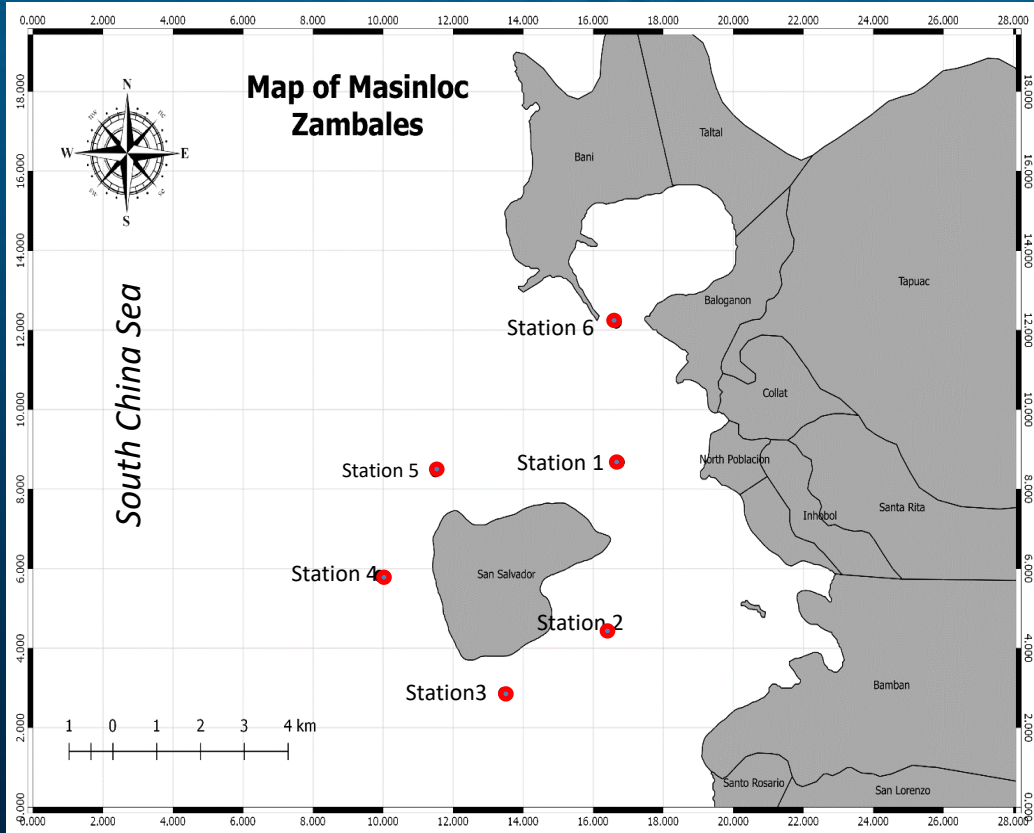
**Fish Eggs and Larvae Distribution in Coron Bay**



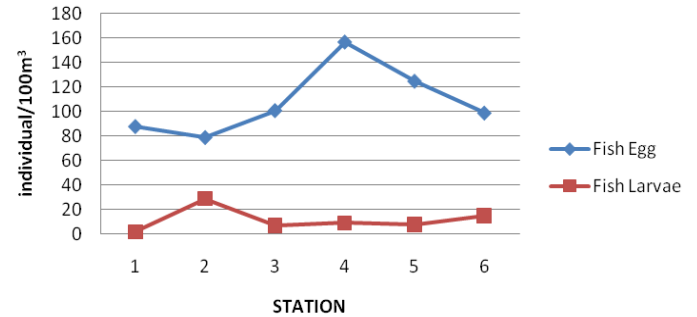
**Fish Family Composition in Coron Bay**



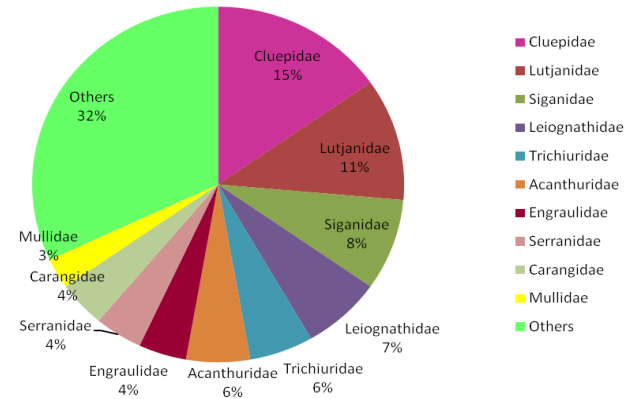
# Fish eggs and Larvae 4<sup>th</sup> Q 2018



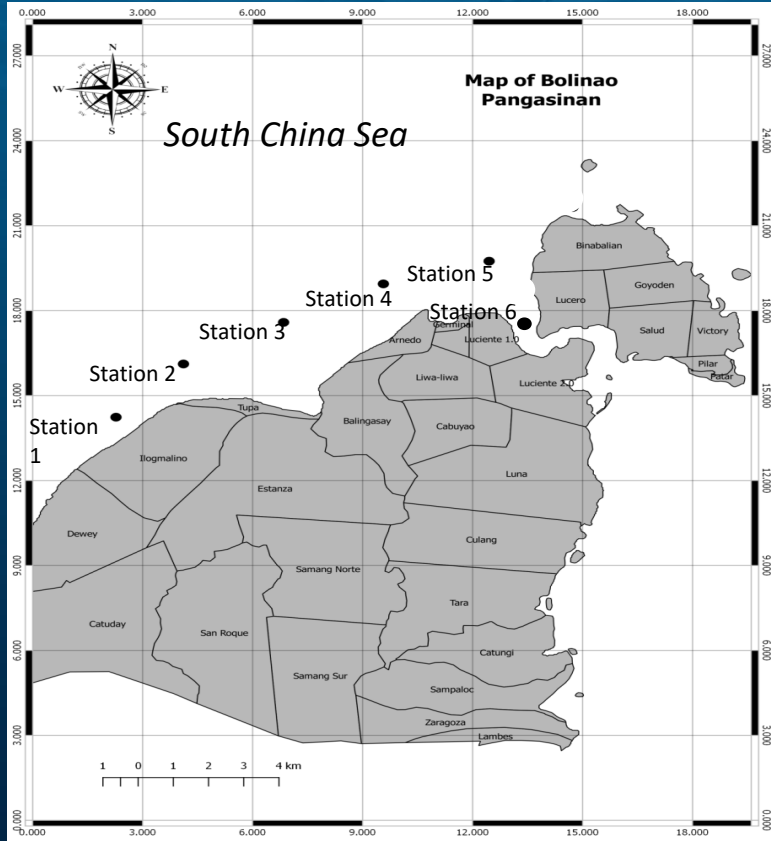
**Fish Eggs and Larvae Distribution in Masinloc Bay**



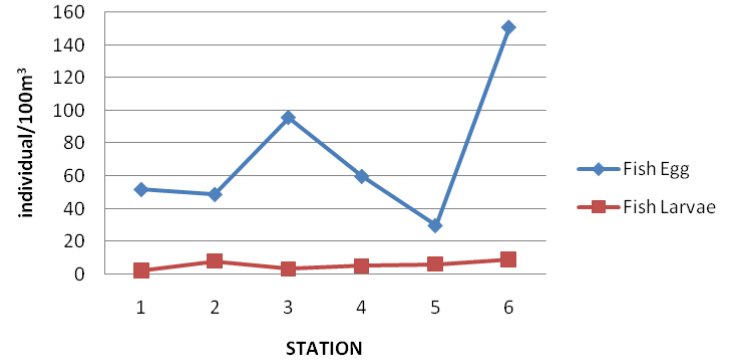
**Fish Family Composition in Masinloc Bay**



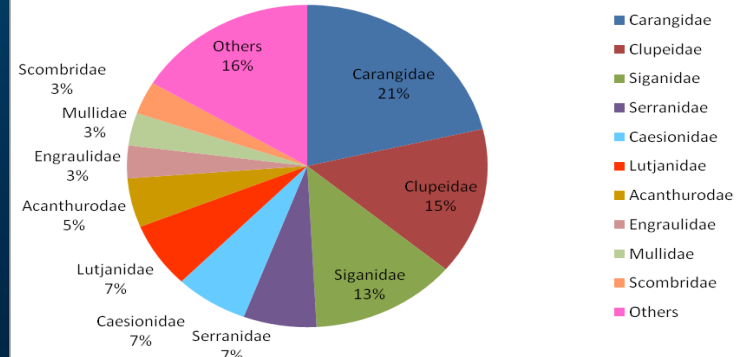
# Fish eggs and Larvae 4<sup>th</sup> Q 2018



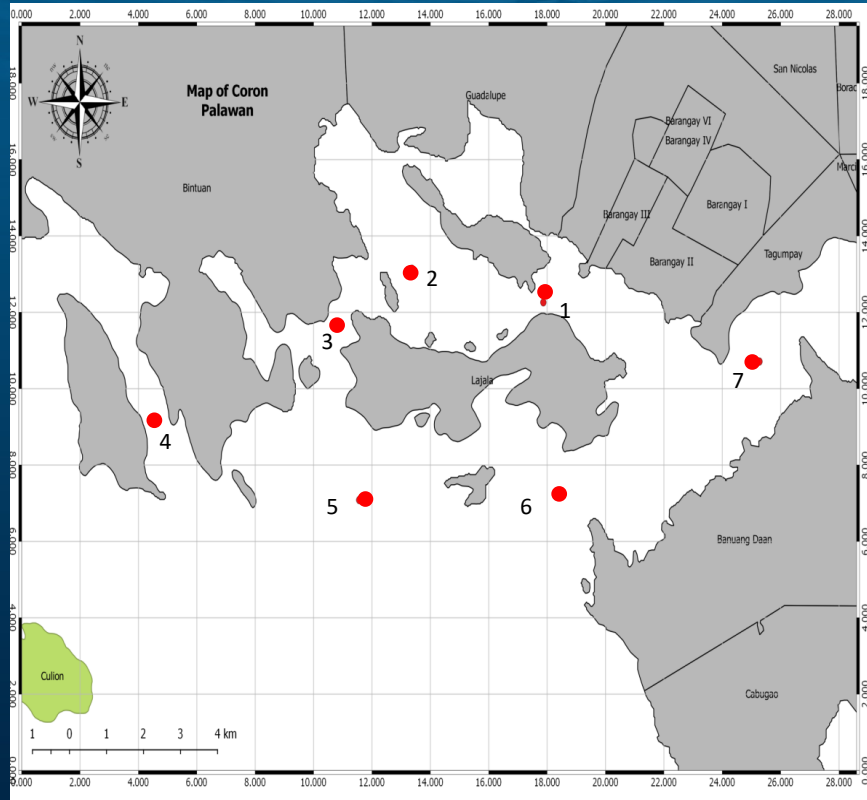
**Fish Eggs and Larvae Distribution in Bolinao Bay**



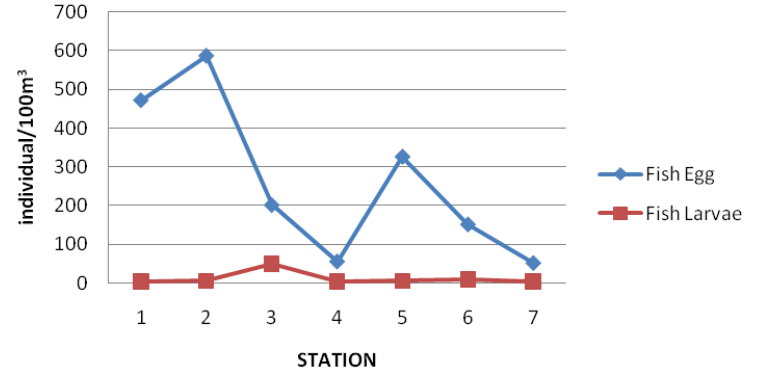
**Fish Family Composition in Bolinao Bay**



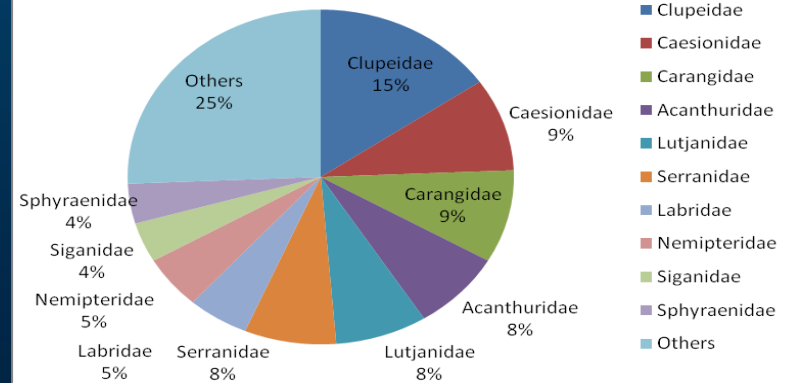
# Fish eggs and Larvae 1<sup>st</sup> Q 2019



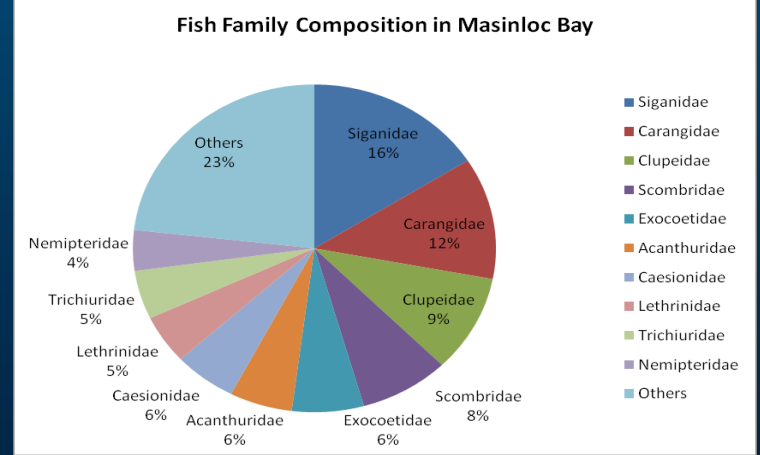
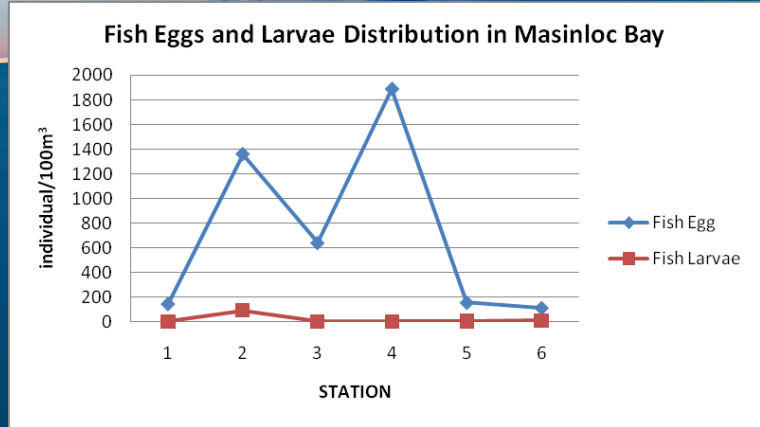
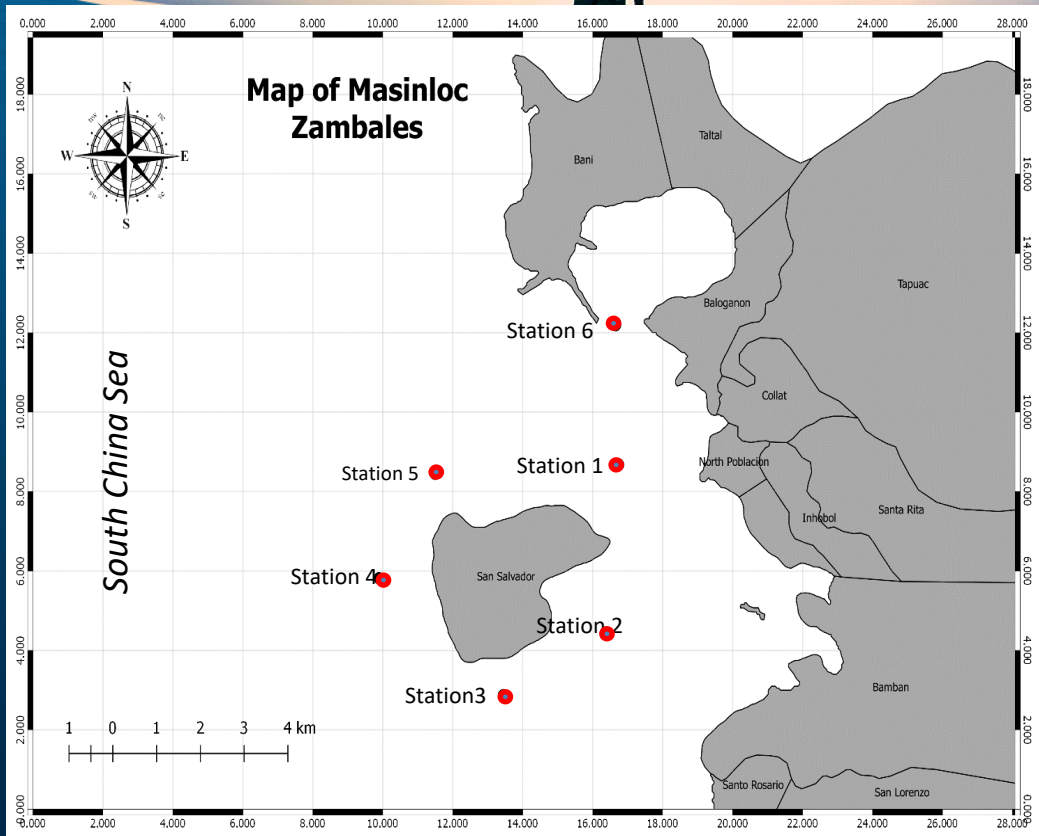
**Fish Eggs and Larvae Distribution in Coron Bay**



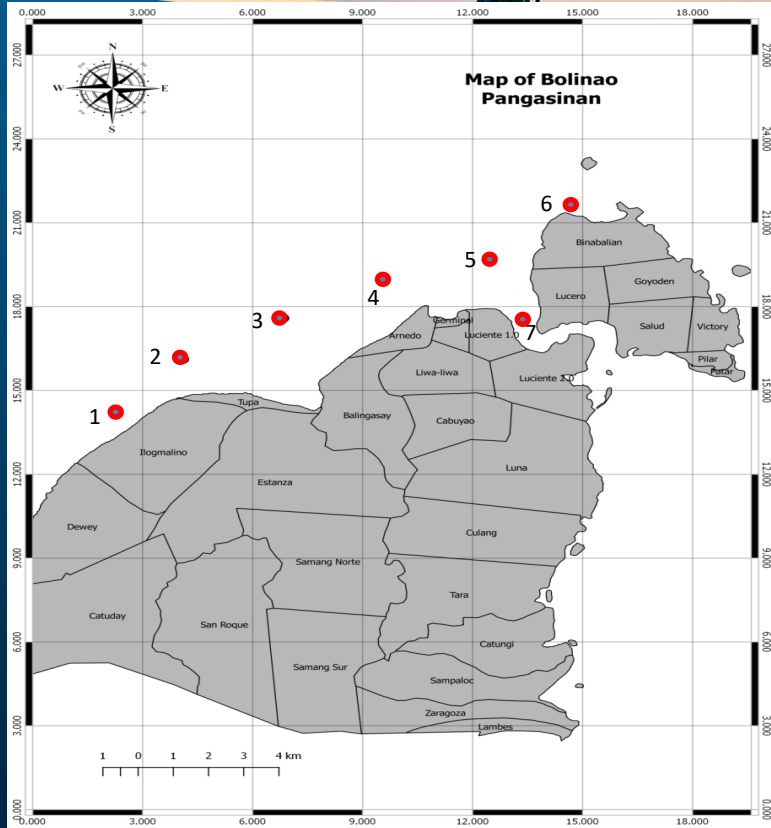
**Fish Family Composition in Coron Bay**



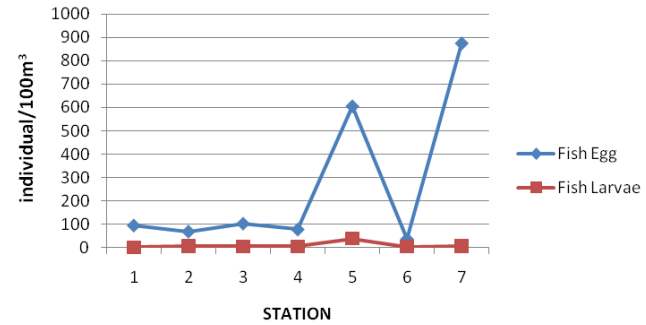
# Fish eggs and Larvae 1<sup>st</sup> Q 2019



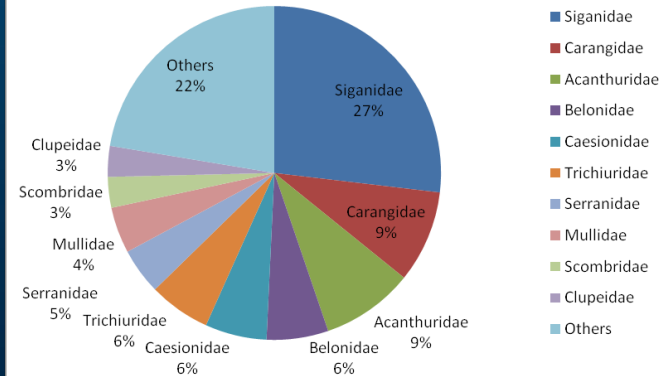
# Fish eggs and Larvae 1<sup>st</sup> Q 2019



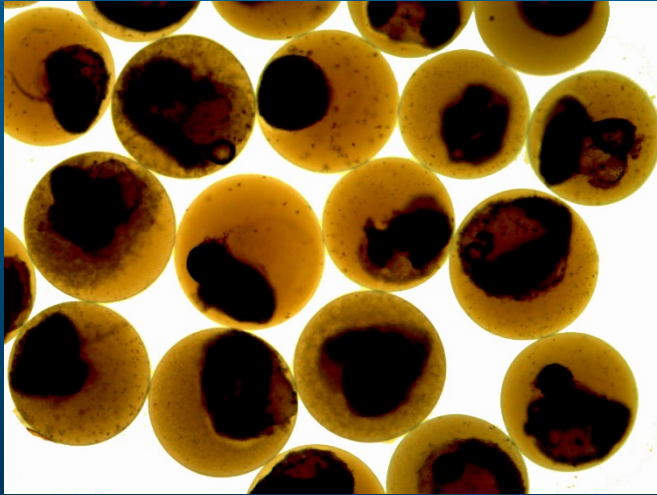
**Fish Eggs and Larvae Distribution in Bolinao Bay**



**Fish Family Composition in Bolinao Bay**







**Fish eggs and Larvae Collected in Bolinao, Pangasinan**



## Future Activities

**Conduct of community-based consultation workshop in 3 sites to develop and draft the Fisheries Refugia Management plan**

**Continued fisheries data collection**

**Fish eggs and larvae survey**

**Conduct practical capacity building programme for management volunteers**

**Conduct of consultation workshop in 3 sites for policy review and reforms.**



# Thank You



