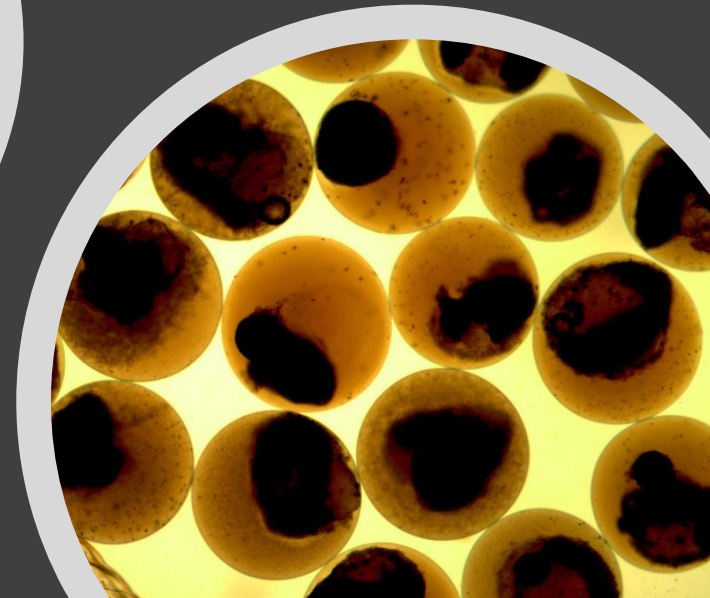
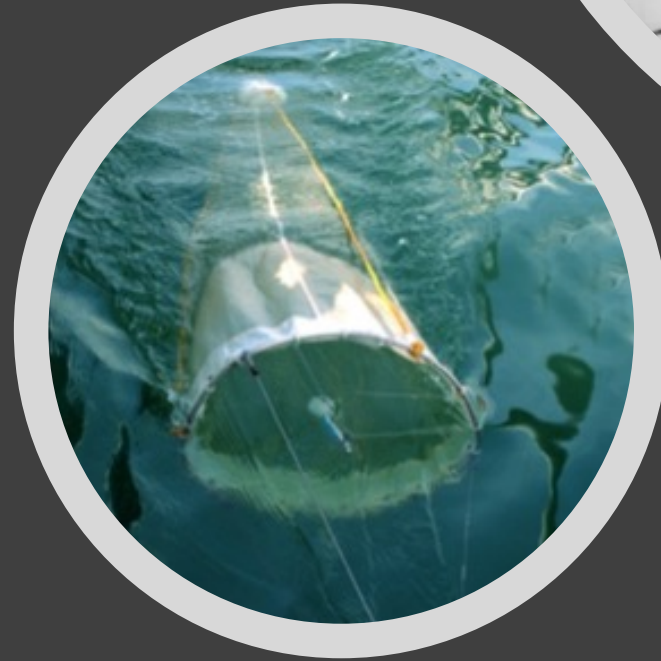


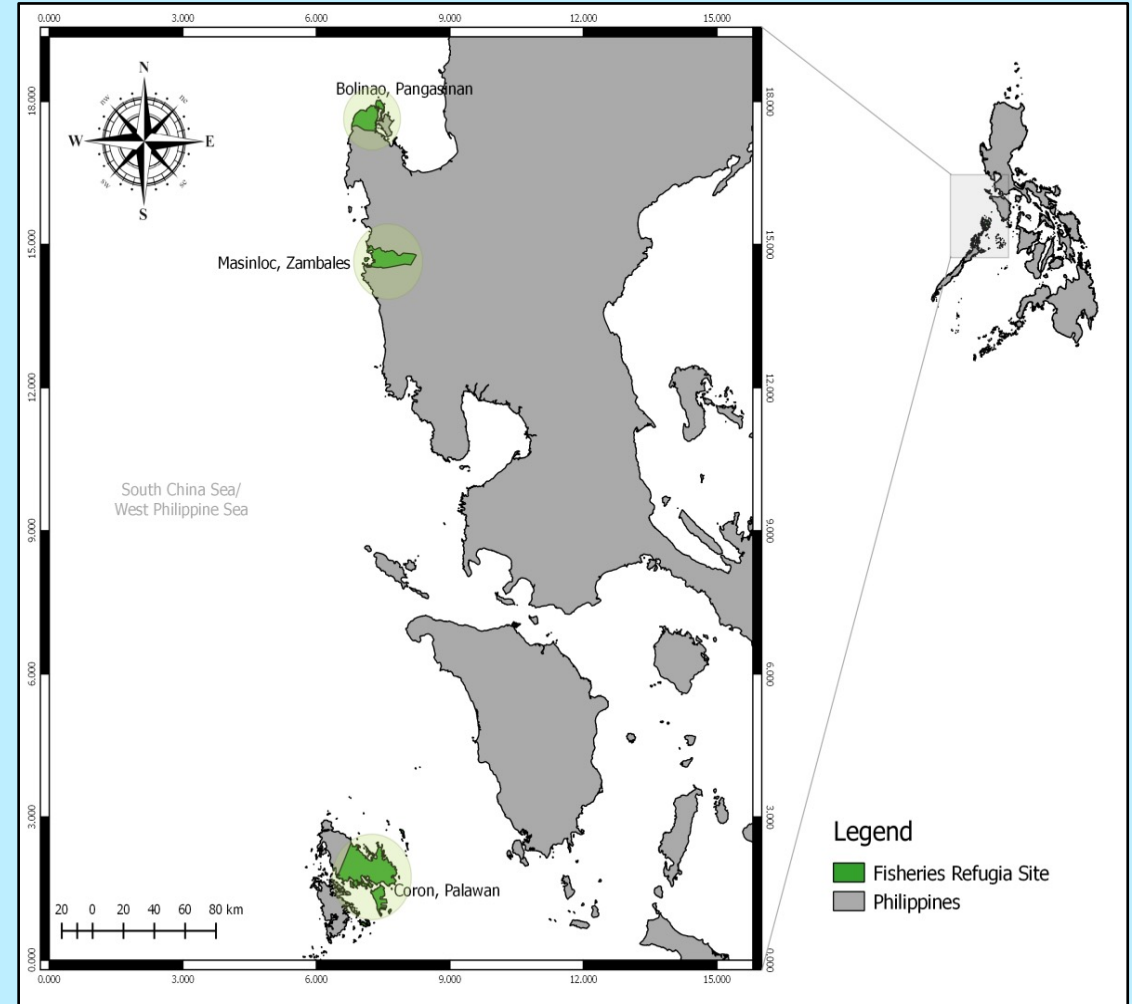
Ichthyoplankton survey in 3 Fisheries Refugia Sites In the Philippines (2018-2019)

by
Marvin Tobias
Dennis Tanay
Valeriano Borja



REFUGIA SITES IN THE PHILIPPINES:

- 1. Bolinao, Pangasinan**
- 2. Coron, Palawan**
- 3. Masinloc, Zambales**



Priority Species

Bolinao, Pangasinan

Family Name: Siganidae

English Name: Rabbitfish



Coron, Palawan

Scientific Name: *Caesio cuning*

English Name: Redbelly yellowtail fusilier



Scientific Name: *Decapterus muroadsi*

English Name: Whitetipped mackerel scad



Masinloc, Zambales

Scientific Name: *Pterocaesio tesellata*

English Name: One-stripe fusilier



Scientific Name: *Auxis thazard*

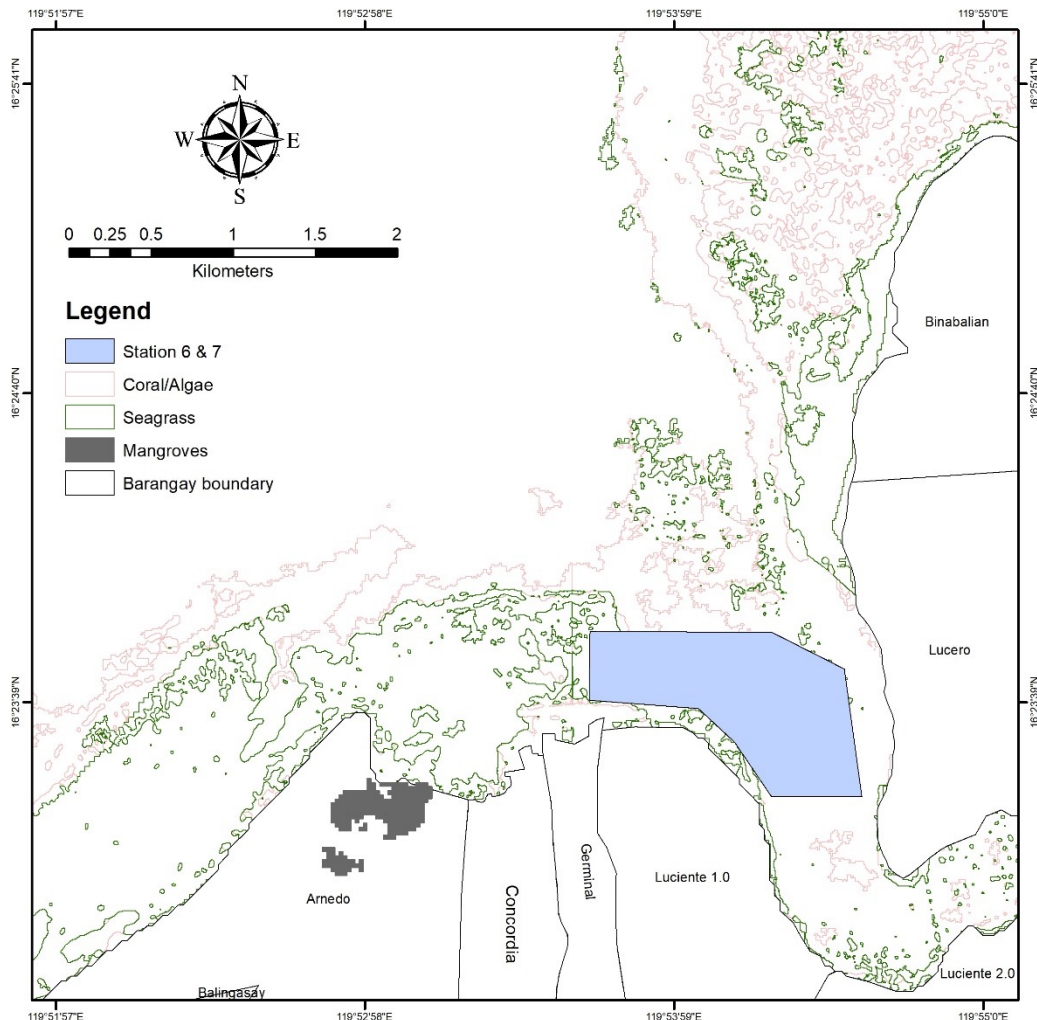
English Name: Frigate tuna



Scientific Name: *Sardinella fimbriata*

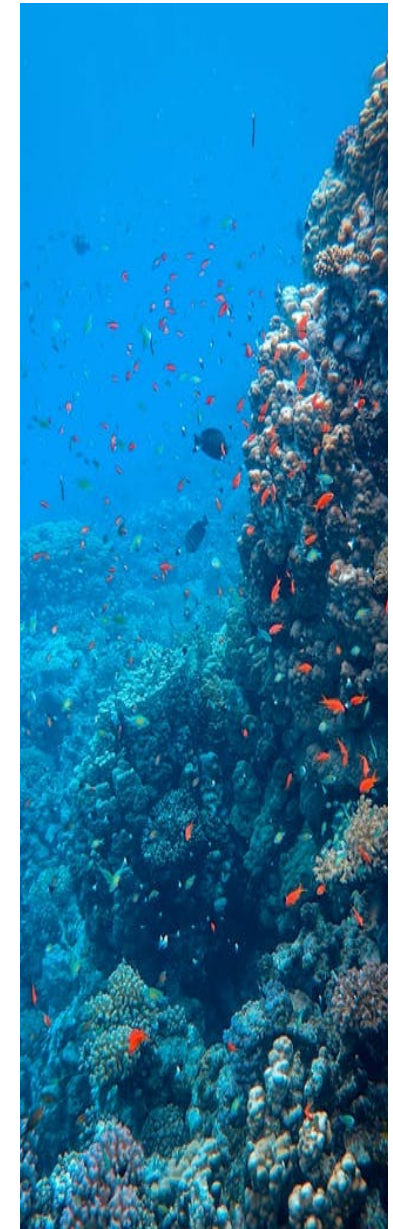
English Name: Fringescale sardine





Bolinao Site

Bolinao, Pangasinan		
Point	Latitude	Longitude
1	16.3980441	119.8950987
2	16.3942697	119.8950503
3	16.3938615	119.9010221
4	16.3919962	119.9030112
5	16.3890416	119.9050331
6	16.3890270	119.9099803
7	16.3960149	119.9090250
8	16.3980276	119.9050513

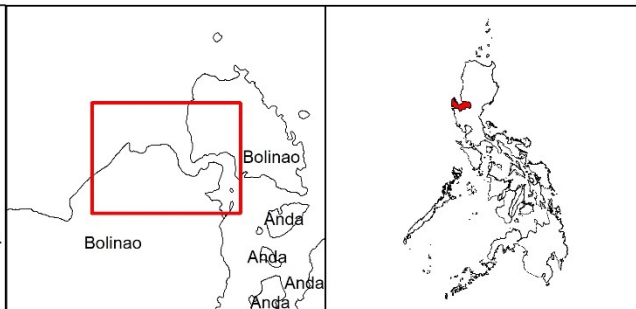


BOLINAO, PANGASINAN PHILIPPINES

Proposed Refugia Sites

Station 6 & 7: 99.84 hectares

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree



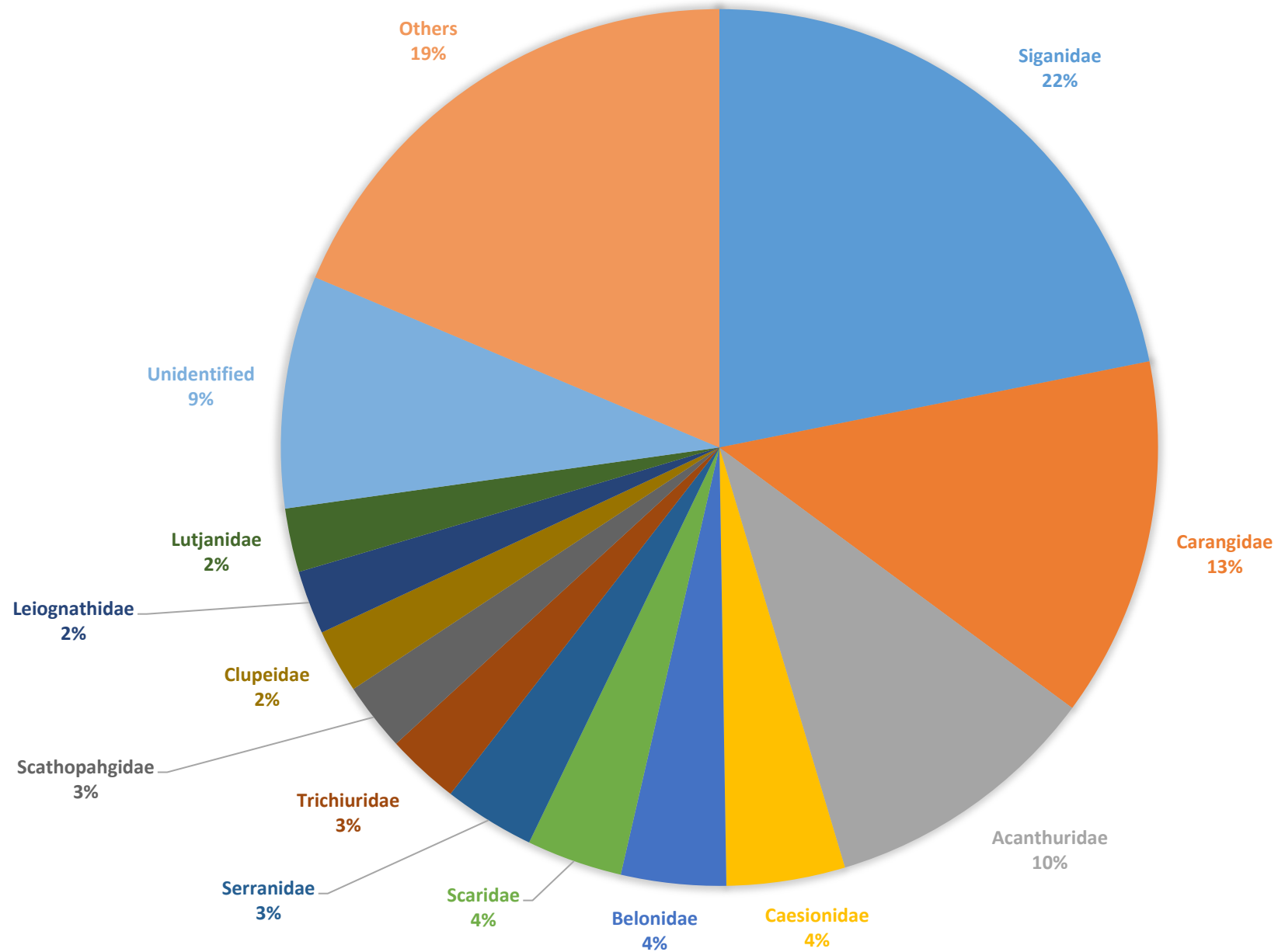
Target Habitat: Seagrass



Implementing the Strategic Action Programme for the South China Sea and Gulf of Thailand (SCS SAP Project)

FISH FAMILY COMPOSITION IN BOLINAO BAY

2018-2019



Top Fish Larvae Family in Bolinao Bay Pangasinan 2018-2019



Fam. Siganidae (Siganids)
Samaral/Malaga



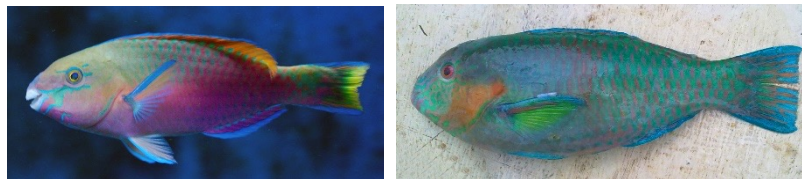
Fam. Belonidae (NeedleFish)
Layalay



Fam. Lutjanidae (Snapper)
Maya maya/Angrat



Fam. Carangidae (Trevally)
Talakitok



Fam. Scaridae (Parrot Fish)
Mol-mol



Fam. Acanthuridae (Surgeon Fish)
Labahita/lablabahita



Fam. Trichiuridae (Hair tail)
Espada/Pinka



Fam: Caesionidae (Yellow tail Fusilier)
Dalangang bukid

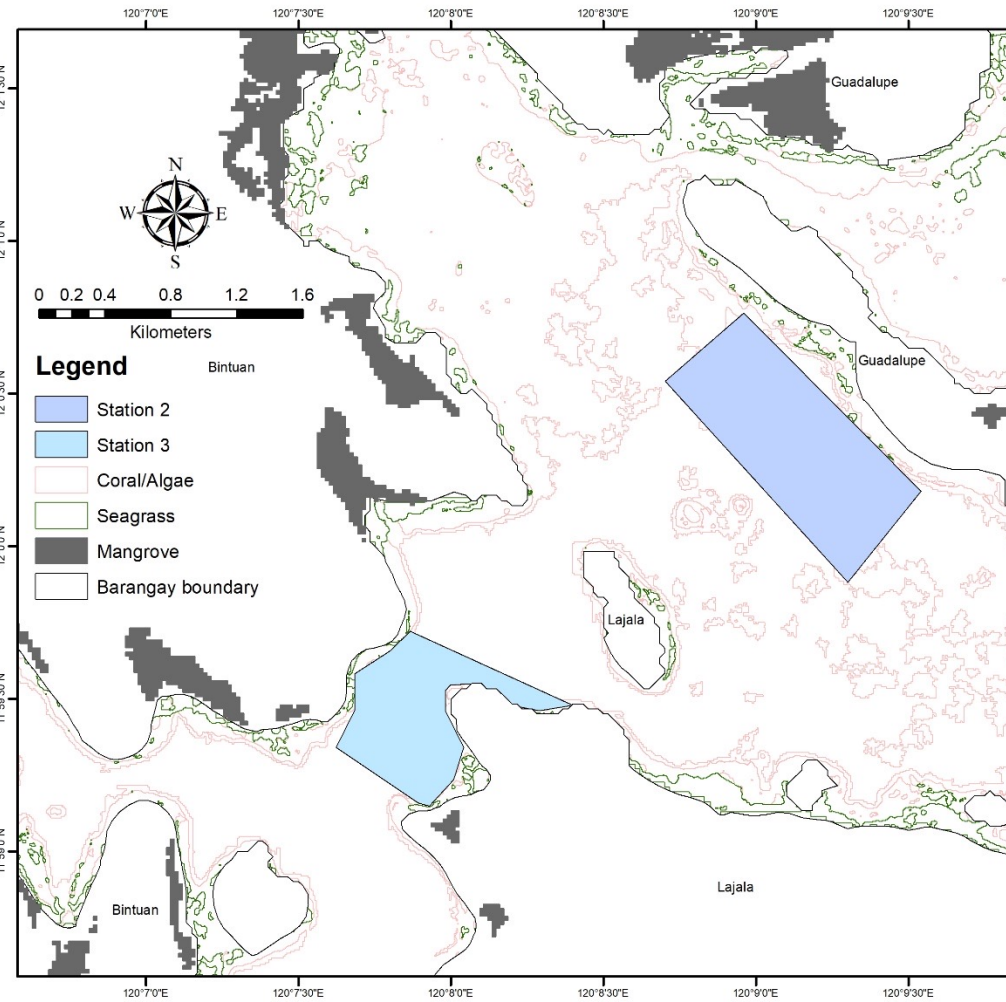
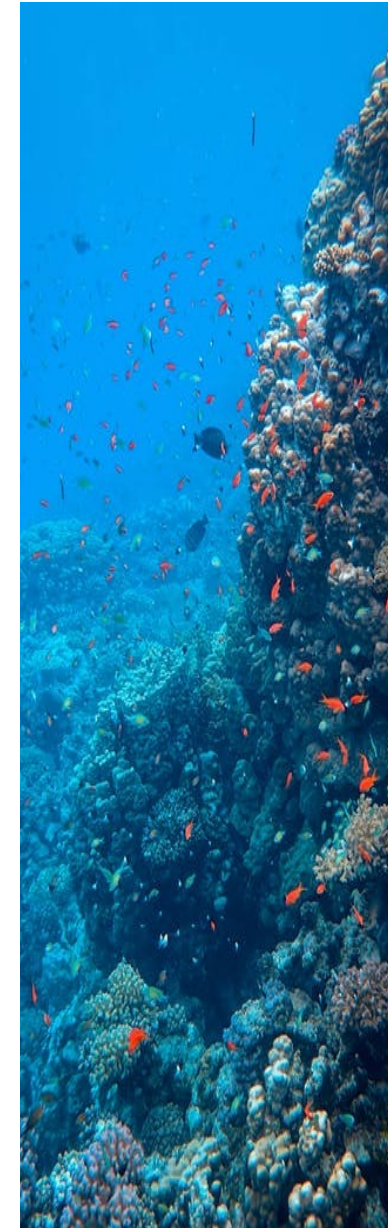


Fam. Clupidae (Sardines)
Tamban/Toyo



Coron Site

Coron, Palawan		
Point	Latitude	Longitude
1	12.0127417	120.1493244
2	12.0090223	120.1450388
3	11.9980370	120.1550200
4	12.0030079	120.1590131
1	11.99132500	120.13998611
2	11.99102500	120.13813333
3	11.99127222	120.13683611
4	11.99244167	120.13493611
5	11.99248056	120.13415000
6	11.99240556	120.13329167
7	11.99210556	120.13301667
8	11.99101667	120.13303056
9	11.98899722	120.13402778
10	11.98725278	120.13346111
11	11.98579167	120.13215556
12	11.98597500	120.13154722
13	11.98901667	120.12706667
14	11.99101389	120.12804722
15	11.99301667	120.12804722
16	11.99429444	120.13001667
17	11.99535833	120.13110556



CORON, PALAWAN PHILIPPINES

Proposed Refugia Sites

Station 2: 103.27 hectares
Station 3: 59.93 hectares

Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

Coron

Coron

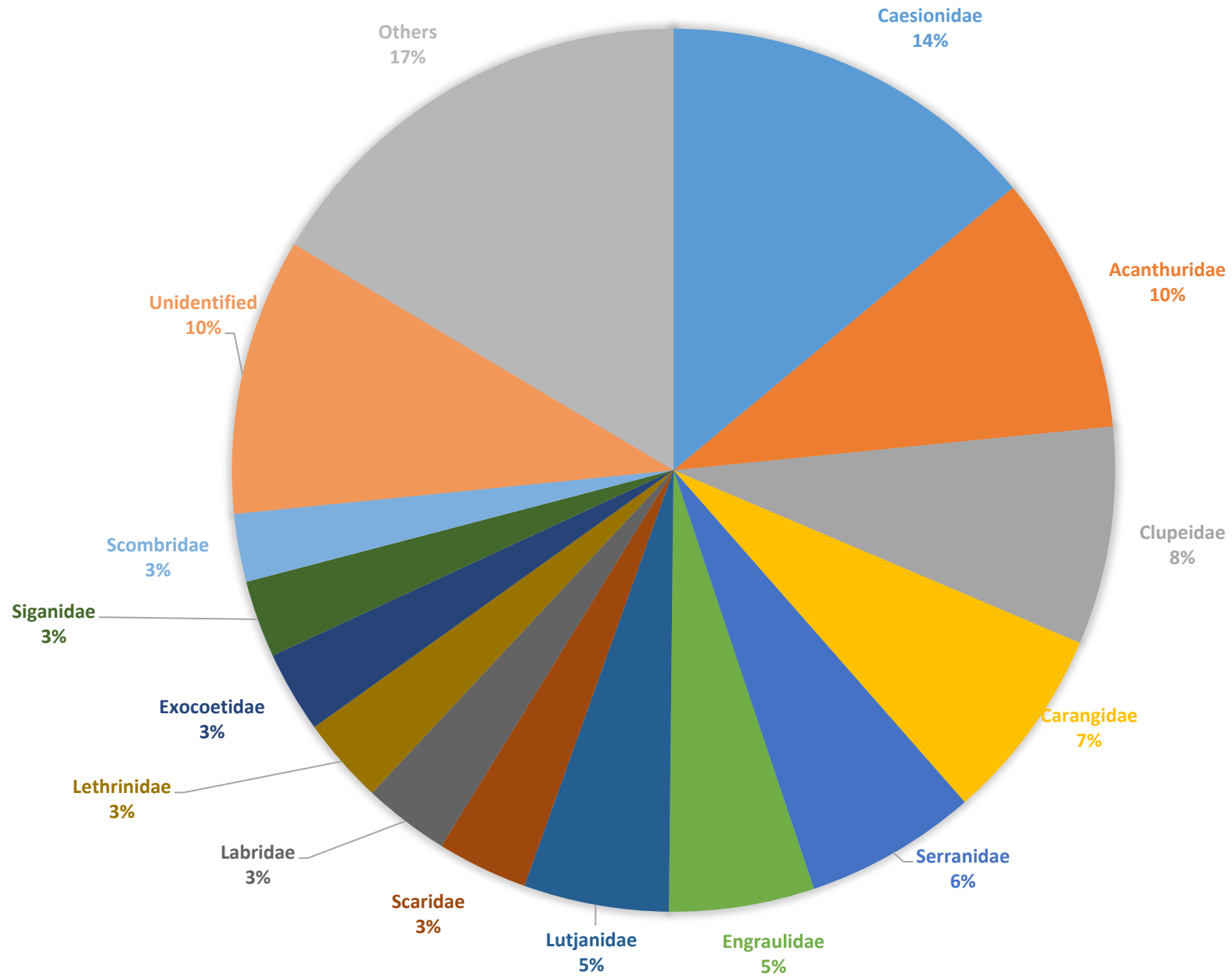
Coron

Culion

Target Habitat: Mangrove



FISH FAMILY COMPOSITION IN CORON BAY 2018-2019



Top Fish Larvae Family in Coron Bay, Palawan 2018-2019



Fam: Caesionidae Dalagang bukid



Fam. Acanthuridae Labahita



Fam. Clupidae Sardines



Fam. Carangidae (Trevally)
Talakitok



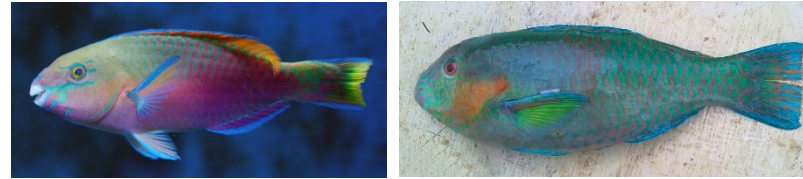
Fam. Siganidae Samaral/Malaga



Fam. Engraulidae Dilis



Fam. Lutjanidae Maya maya



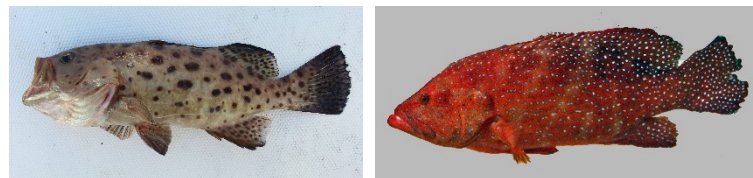
Fam. Scaridae Parrot Fish/Molmol



Fam. Labridae Wrasses/ Manmeng



Fam. Exocoetidae Flying fish

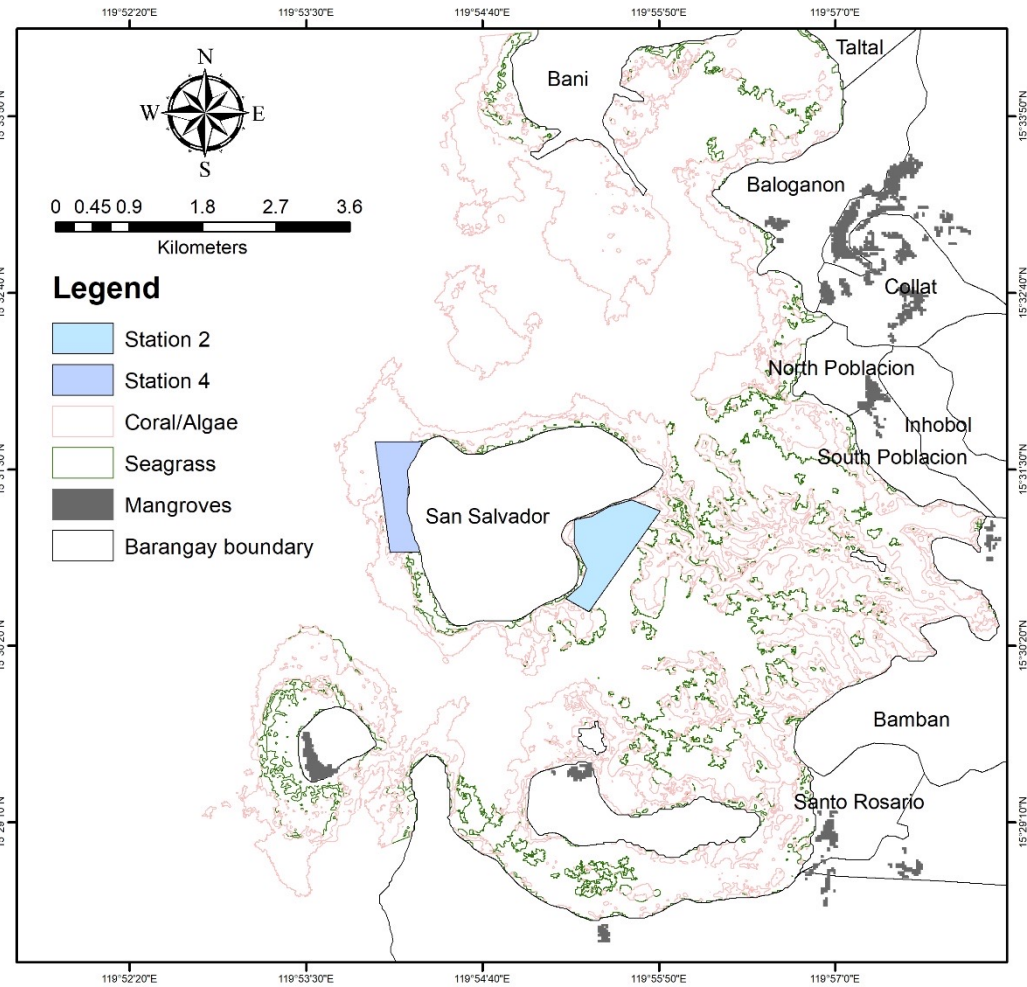


Fam. Serranidae Lapu-lapu



Fam. Lithrinidae-Emperor Fish



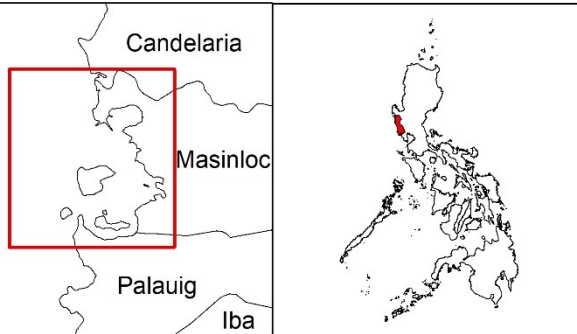


MASINLOC, ZAMBALES PHILIPPINES

Proposed Refugia Sites

Station 2: 71.68 hectares
 Station 4: 49.01 hectares

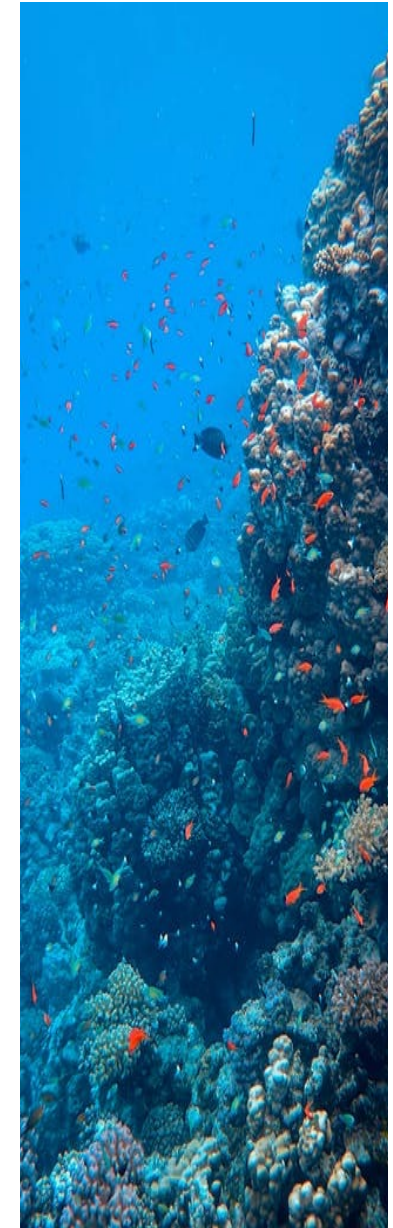
Coordinate System: GCS WGS 1984
 Datum: WGS 1984
 Units: Degree



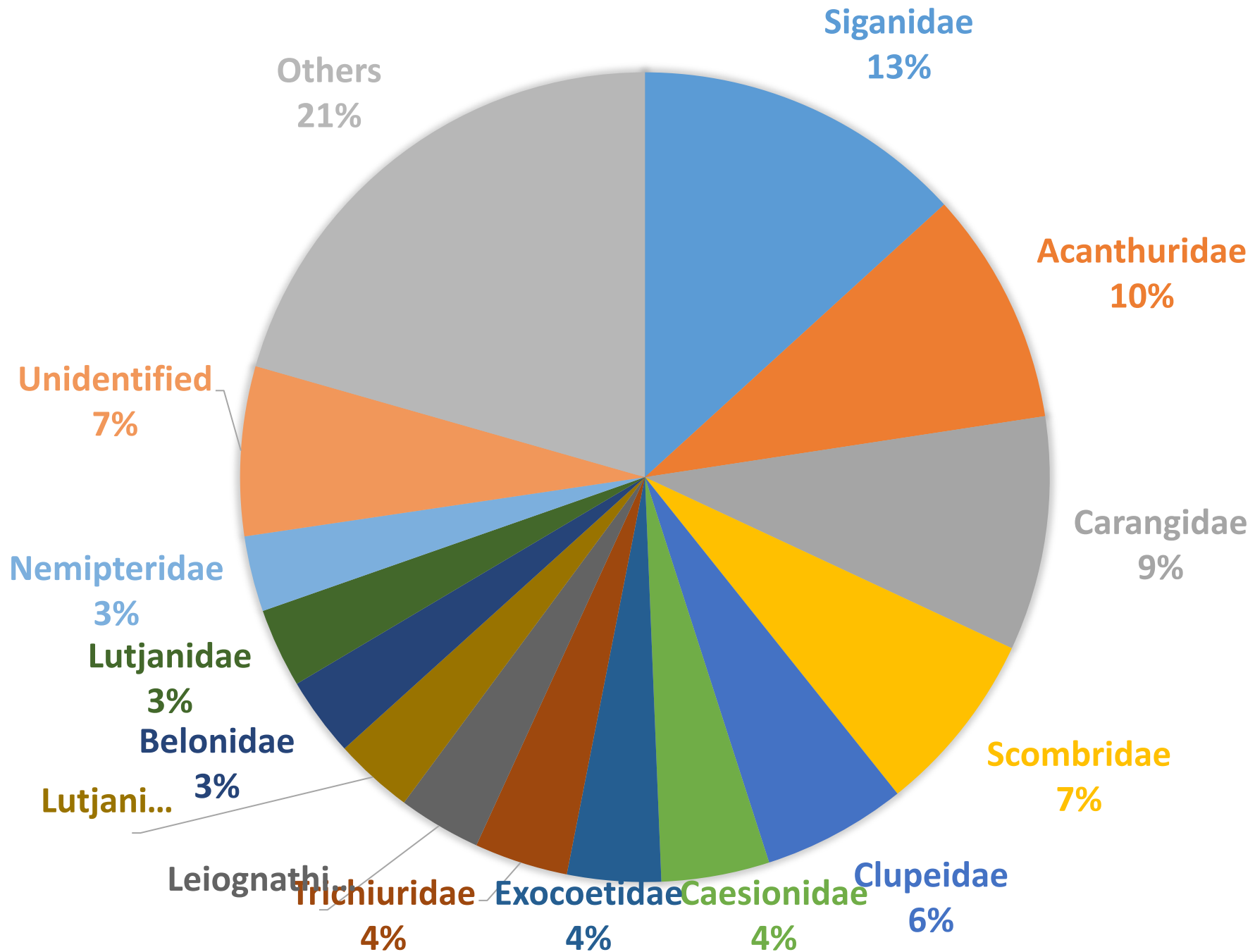
Masinloc Site

Masinloc, Zambales		
Point	Latitude	Longitude
1	15.52806111	119.89927222
2	15.52808333	119.90447500
3	15.52285556	119.90286667
4	15.52033889	119.90299722
5	15.51811667	119.90340556
6	15.51594444	119.90427222
7	15.51584444	119.90090000
8	15.52806111	119.89927222
1	15.52039167	119.93071111
2	15.50928056	119.92285556
3	15.51077500	119.92029722
4	15.51228056	119.92198333
5	15.51406389	119.92255833
6	15.51688611	119.92120278
7	15.51941944	119.92123056
8	15.51982222	119.92311389
9	15.52088611	119.92507222
10	15.52163333	119.92755556

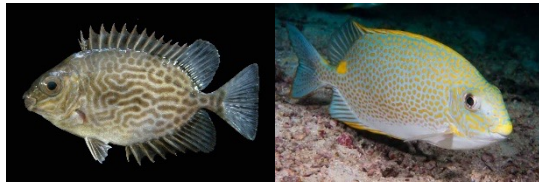
Target Habitat: Coral Reef



FISH FAMILY COMPOSITION IN MASINLOC BAY



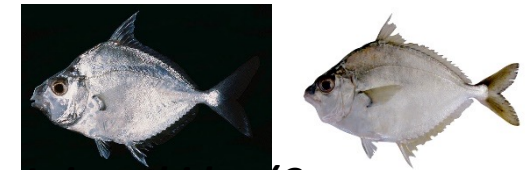
Top Fish Larvae Family in Masinloc Bay, Zambales 2018-2019



Fam. Siganidae (Siganids)
Samaral/Malaga



Fam. Clupidae (Sardines)
Tulis/Tamban



Fam. Leignathidae (Common ponyfish)
Sapsap



Fam. Acanthuridae (Surgeon Fish)
Labahita/Papakol/Tarian



Fam: Caesionidae (Fusilier)
Dalagang bukid/Tirong



Fam. Belonidae (Neddle fish)
Duwal



Fam. Carangidae (Trevally)
Talakitok



Fam.Exocoetidae (Flying fish)



Fam. Lutjanidae (Snapper)
Maya maya/Lugho



Fam. Scombridae (Tuna, Mackerel),
Tambakol/Gulyasan/Tulingan



Fam.Trichiuridae (Hairtail)
Espada/Balila



Siganidae

- Siganids or rabbitfishes are diurnal herbivores that feed on benthic algae
- They naturally thrive in mangroves areas, seagrass beds, and reef flats
- In the Philippines, it is now being favored commodity over milkfish and tilapia
- 2 of 27 species present in the country are being cultured
(*Siganus guttatus* and *Siganus vermiculatus*)
- Bolinao fishing closure from March to May every year (siganids)



Future Plans

- Conduct of oceanographic assessment including ichthyoplankton in Fisheries Management Areas (FMA's)
- Continuous ichthyoplankton collection in Manila Bay
- Study on Siganid Larval Distribution in Lingayen Gulf



**MARAMING
SALAMAT!!!**

(Thank You Very Much)

