



**Establishment and Operation of a Regional System of  
Fisheries *Refugia* in the South China Sea and Gulf of Thailand**

**REPORT**

**COLLECTION OF FISH EGGS AND LARVAE IN BOLINAO BAY,  
PANGASINAN, FROM JANUARY TO DECEMBER 2019**

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**1. Objective**

To process and analyze the fish eggs and larvae samples collected in Bplinao bay every quarter for 2019.

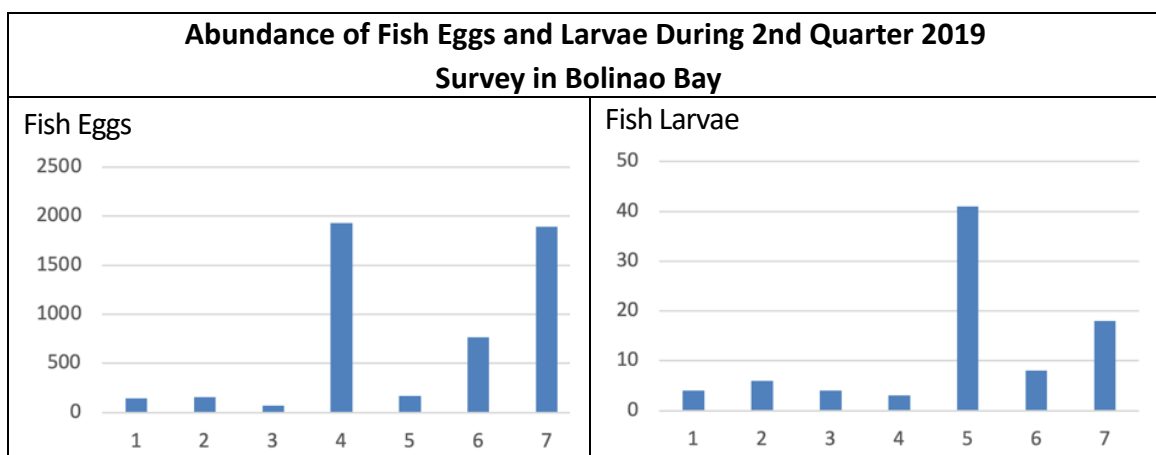
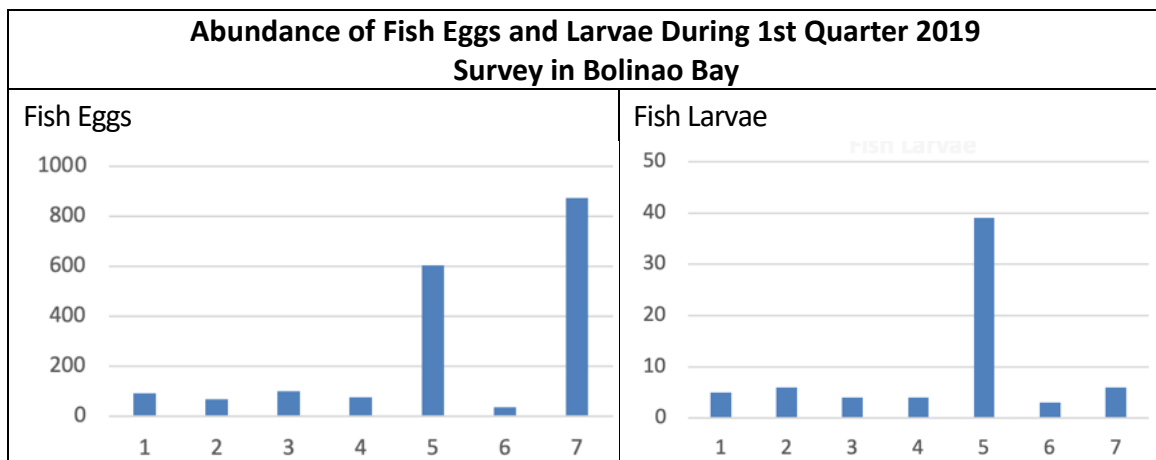
**2. Methodology**

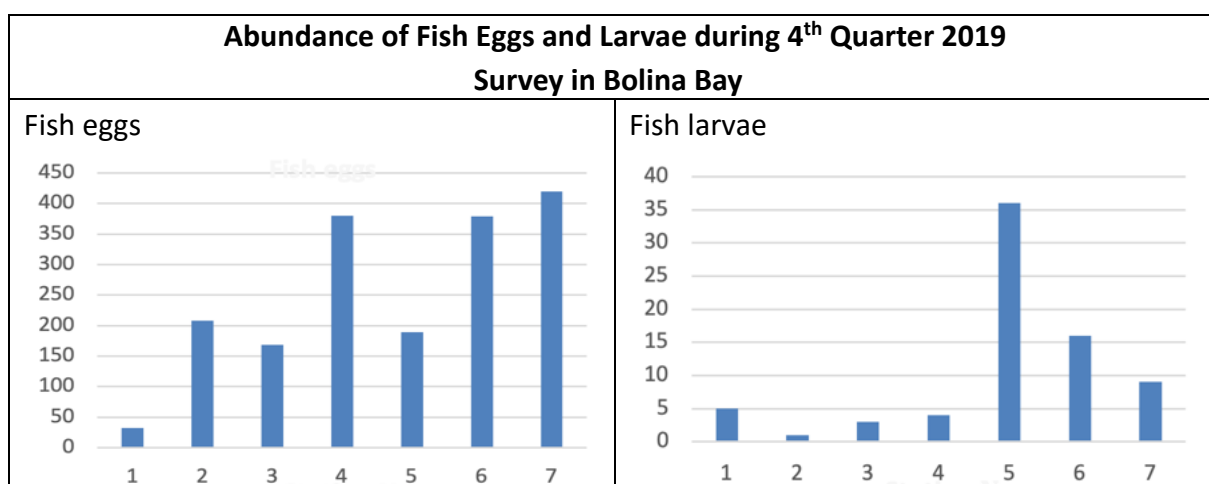
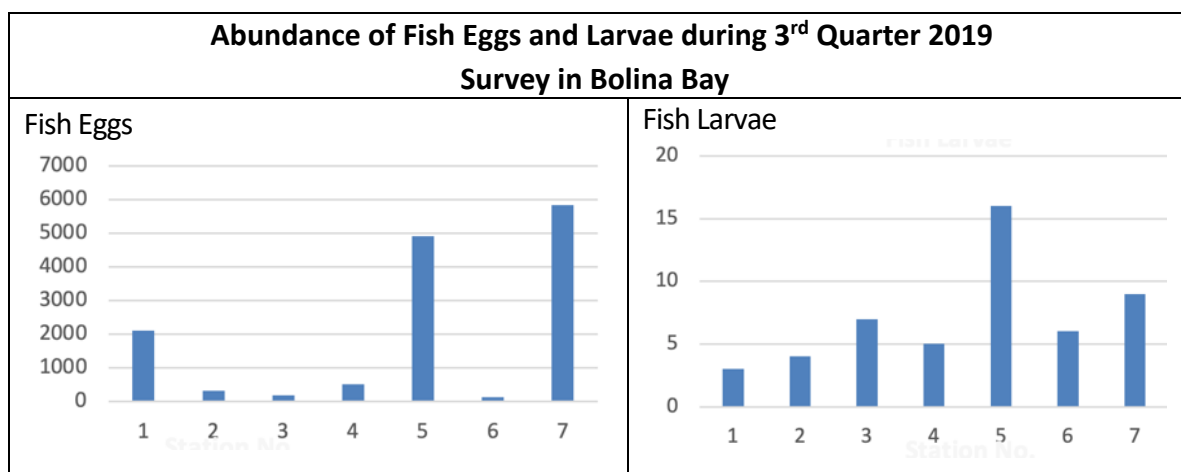
Quarterly monitoring of fish eggs and larvae in Bolinao bay was conducted in 2019. The samples were collected by horizontal towing of a bongo net for 10 minutes with a 0.5m diameter, 1.5 meters length, 350µm mesh size, and a flowmeter centrally attached to the center of the net.

**3. Results**

The concentration of planktonic fish eggs collected in the coastal water of Bolinao bay during four surveys in 2019 was constantly observed in station 7. A high abundance of planktonic fish eggs was observed in stations 5, 6, and 7, and a low concentration of fish eggs was recorded in stations 1, 2, 3, and 4, respectively. The abundance of fish eggs ranged from 32 ind. to 848 ind. during the 2019 survey.

The concentration of fish larvae in Bolinao bay was observed in station 5 during the four sampling period of 2019 regardless of seasonal patterns. Larval fish specimens were represented by 30 different families. The most dominant families were Siganidae, Carangidae, Acanthuridae, Caesionidae, Serranidae, and Trichiuridae, among others..





**Distributions of Fish Larvae by quarterly and families in Bolinao Bay 2019.**

Bolinao Bay	Q1-2019	Q2-2019	Q3-2019	Q4-2019	Total
Family Larvae					
<i>Acanthuridae</i>	6	10	5	7	28
<i>Apogonidae</i>	2	2	2		6
<i>Belonidae</i>	4	2	3	2	11
<i>Caesionidae</i>	4	4	1	6	15
<i>Carangidae</i>	6	11	9	11	37
<i>Clupeidae</i>	2	1		1	4
<i>Engraulidae</i>	2		1	2	5
<i>Ephippidae</i>		1			1
<i>Exocoetidae</i>			2		2
<i>Haemullidae</i>	1		1	1	3
<i>Hemiramphidae</i>		1	1	1	3
<i>Istiophoridae</i>		1		1	2
<i>Labridae</i>		3		1	4
<i>Leiognathidae</i>		3		1	4

<i>Lethrinidae</i>		3	1	2	6
<i>Lutjanidae</i>	1	2	1	1	5
<i>Monacanthidae</i>					
<i>Mugilidae</i>		1		1	2
<i>Mullidae</i>	3	1	1	1	6
<i>Myctopidae</i>					
<i>Nemipteridae</i>	2	3	1	2	8
<i>Paralepididae</i>			1		1
<i>Scaridae</i>	2	3	1	2	8
<i>Scathopahgidae</i>					
<i>Scombridae</i>	2	1		1	4
<i>Serranidae</i>	4	2	2	1	9
<i>Siganidae</i>	18	25	7	20	70
<i>Sparidae</i>	1	1	1		3
<i>Syngnathidae</i>		5		1	6
<i>Trichiuridae</i>	4	2	1	2	9
<i>Unidentified</i>		14	19	4	37

## Annex 1

Processing fish larvae samples collected in Bolinao Bay, Pangasinan, during four sampling periods in the year 2019.



