

**FIELD PRACTICE REPORT ON THE HATCHERY PRODUCTION OF
ABALONE (*Haliotis asinina*) AT THE BUREAU OF FISHERIES AND
AQUATIC RESOURCES REGIONAL I MARICULTURE
TECHNOLOGY CENTER (RMATDEC) AT BRGY.
LUCAP ALAMINOS CITY, PANGASINAN**

by

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Science City of Munoz, Nueva Ecija
Philippines**

2018

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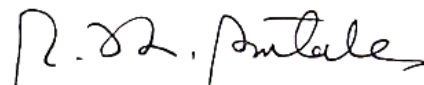
**Undergraduate Field Practice Report presented to the faculty of
College of Fisheries, Central Luzon State University in
partial fulfillment of requirements for the degree**

of

BACHELOR OF SCIENCE IN FISHERIES

Approved:

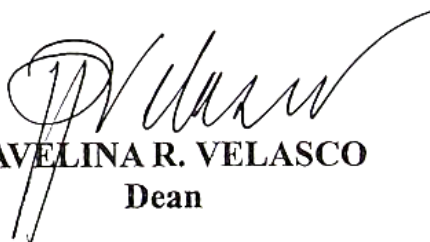

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EXECUTIVE SUMMARY

The field practice was conducted at RMATDEC Bureau of Fisheries and Aquatic Resources (BFAR) Region 1 located in Barangay Lucap, Alaminos City, Pangasinan, from June 13, 2016 to July 22, 2016. The aim of the farm is to maintain one thousand broodstock and produce fifty eight thousand quality juveniles for technology demonstration and stock enhancement.

The activities involved in hatchery production of Abalone (*Haliotis asinina*) are cleaning of tanks, conditioning of abalone, selecting of breeders, spontaneous spawning of breeders, egg collection and incubation, veliger and egg stocking in settlement tank, feeding of abalone, culture of benthic diatom (*Amphora sp.* and *Navicula sp.*), daily monitoring of water quality parameters.

The strengths of the hatchery are good security, production of natural food and power supply while weaknesses of the hatchery are lack of technical knowledge of laborers and lack of equipment for water quality monitoring.

^{1/} Undergraduate Field Practice Report presented in partial fulfillment of the requirements for graduation with the degree of Bachelor of Science in Fisheries. Prepared at the Department of Aquaculture, College of Fisheries, Central Luzon State University under the supervision of Dr. Karl Marx A. Quiazon.

REFERENCES

- Bryan, P.J. and P.Y. Qian. 1998. Induction of larval attachment and metamorphosis in the abalone *Haliotis diversicolor* (Reeve). J. Exp. Mar. Biol. Ecol. 223: 39-51.
- Daume, S., S.B. Gardner and W.J. Woelkerling. 1999. Settlement of abalone larvae (*Haliotis laevigata* Donovan) in response to nongeniculate coralline red algae (*Corallinales, rhodophyta*). J. Exp. Mar. Biol. Ecol. 234: 125-143.
- Fallu, R. 1991. Abalone Farming pp. 22. Fishing News Book/Blackwell Science, UK. p. 1-192.
- FAO/UNDP. 1990. Training Manual on Artificial Breeding of Abalone (*Haliotis discus hannai*) in Korea DPR. Training Manual 7, FAO/UNDP Regional Seafarming Project. 105 pp.
- Westaway, C. and J. Norriss. 1997. Abalone Aquaculture in Western Australia. Fisheries Western Australia. 24 pp.

<https://en.wikipedia.org>

<http://creationwiki.org>