

Southeast Asian Fisheries Development Center

Aquaculture Department

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01 SEAFDEC/AQD Publications

Brochures and flyers

2017

Binangonan Freshwater Station

Aquaculture Department, Southeast Asian Fisheries Development Center

SEAFDEC Aquaculture Department. (2017). Binangonan Freshwater Station [Brochure].

Tigbauan, Iloilo, Philippines: Author.

<http://hdl.handle.net/10862/3542>

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Lake ecology

Ecological research such as the biological control of *Microcystis* algae have been conducted. The Rinconada lakes project (2006-2009) in Camarines Sur with funds from Australian Center for International Agriculture Research (ACIAR) was designed to assist the integration and implementation phase of ecosystem-based sustainable management plans for the Rinconada lake system in the Bicol Region. In 2012, an initial trial of the *Cage aquaculture decision support tool* (CADS Tool) has been done for Lake Bato and other lakes. This tool is designed to help cage aquaculture managers optimise their choice of sites for placement of cages.



Training and extension

To disseminate the technologies developed and verified by the station, BFS takes an active part in the Department's training programs:

- Training course on freshwater aquaculture for local participants and representatives from SEAFDEC member countries

List of BFS Training Courses

- » Tilapia Hatchery & Grow-out Operations
- » Catfish Hatchery and Grow-out Operations
- » Freshwater Prawn Hatchery & Grow-out Operations
- » Community-based Freshwater Aquaculture for Remote Rural Areas of Southeast Asia
- » Carp Hatchery & Grow-out Operations

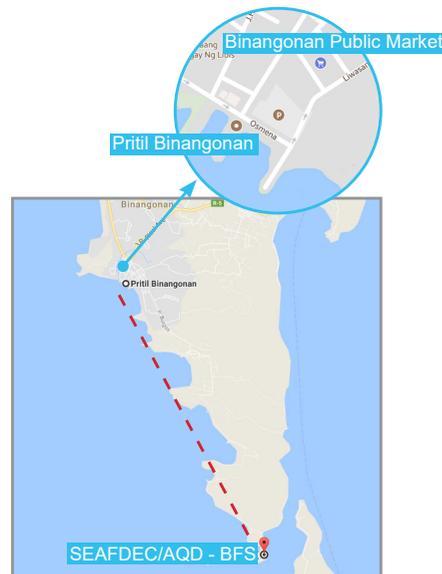
- On-the-job training for undergraduate students
- Internship training for college graduates
- Special training arranged for foreign and local participants
- Graduate student thesis program

BFS also established partnerships with other institutions and private investors to assist them in freshwater aquaculture from site selection, construction of facilities, production run to harvest.



How to get there

BFS is located at Tapao Point, Binangonan, Rizal. From Pritil Port in Binangonan, visitors travel by boat to BFS. Public boat leaves the port every hour from 6:30 am until 8:00 pm daily. An AQD boat service is also available daily leaving the port at 7:30 am.



About SEAFDEC

The Southeast Asian Fisheries Development Center (SEAFDEC) is an autonomous intergovernmental body established as a regional treaty organization in December 1967 to promote fisheries development in the region through research, training and information services. Its Member Countries include Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam.

The Aquaculture Department (AQD), one of SEAFDEC's five departments, is mandated to implement programs in research, technology verification and demonstration, and training and information dissemination in order to promote responsible aquaculture in Southeast Asia.

www.seafdec.org.ph

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Southeast Asian Fisheries Development Center
AQUACULTURE DEPARTMENT
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Binangonan Freshwater Station



The **Binangonan Freshwater Station (BFS)** of SEAFDEC Aquaculture Department is strategically located in Tapao point along the north shore of Laguna de Bay. BFS was established in 1976 to undertake research on freshwater aquaculture and lake ecology. It also offers extension services and trainings on fish farming in pens, ponds, tanks, and cages.



Aerial photos by Chad Aralar

BFS facilities



laboratory



natural food laboratory



land-based tanks



lake-based cages



hatchery



dormitory/housing



library



training room

Research accomplishments and priorities

SEAFDEC/AQD's research studies at BFS focus on bighead carp (*Aristichthys nobilis*), catfish (*Clarias macrocephalus*), tilapia (*Oreochromis niloticus*), giant freshwater prawn (*Macrobrachium rosenbergii*) and indigenous freshwater species. Other researches conducted at the station include the propagation of natural food and development of feeds for freshwater species, as well as water quality monitoring of freshwater lakes.

Bighead carp

BFS pioneered the research and development of the culture and artificial propagation of bighead carp in the Philippines, particularly in Laguna Lake where it is a significant aquaculture commodity. The station also conducts training courses on the breeding and farming of bighead carp. BFS's work on bighead carp includes refinement of broodstock and nursery technology for the commercial production of its fingerlings in cages in Laguna de Bay.



Catfish

BFS research activities on native catfish focused on the development of broodstock management, breeding, hatchery, and nursery techniques. Recent research on catfish includes verification of the grow-out culture in net cages in Laguna de Bay.



Giant freshwater prawn

Several studies were done on the domestication and improvement of local stocks of giant freshwater prawn (GFP). Likewise, development of its farming techniques suitable for lake conditions was also done in the station. Current works on giant freshwater prawn focus on the improvement of the seed production method and lake-based cage culture. Demonstration of grow-out culture to potential technology adoptors is also being undertaken in the station. Several studies successfully tested the potential of indigenous feed ingredients such as cowpea meal as an alternative protein source for diets of GFP postlarvae to replace sardine fishmeal. The study on biofloc, which makes use of heterotrophic system, is also done in the station. It is being tested for the grow-out of GFP with minimal water replacement for the entire rearing cycle.



Tilapia

The station introduced the lake-based culture of tilapia in Laguna de Bay and promoted the farming of hybrid red tilapia. The technology for modular system of tilapia culture in lake-based net cages and freshwater dam/reservoir have been verified and are now promoted for adoption by fishfarmers. Studies on genetic variation among Nile tilapia strains have also been conducted. BFS also developed a method for selecting broodstock that small-scale farmers can use.



Indigenous freshwater species

BFS started to conduct research on the breeding and larval rearing methods for several indigenous freshwater species that have aquaculture potential. Recent work on indigenous freshwater prawn (*Macrobrachium lar*) focuses on the domestication and evaluation of its potential for culture. For silver therapon (*Leiopotherapon plumbeus*) artificial spawning and larval rearing are being conducted. The reproductive biology of the climbing perch (*Anabas testudineus*) is also being studied in the station.



Macrobrachium lar



Silver therapon

Natural food and feed development

BFS evaluates and selects alternative live feed as replacement for *Artemia* for larval rearing of freshwater fish. In addition, evaluation of nutrient requirements for mass production of freshwater microalgae and development of low-cost formulated feed for freshwater species (nile tilapia, catfish, bighead carp, giant freshwater prawn and ayungin, (mainly natural food so far) have been studied here.



Available planktons:

Phytoplankton

- » *Chlorella sorokiana* - Php 300/L
- » *Spirulina platensis* - Php 300/L
- » *Microcystis aeruginosa* - Php 400/L
- » *Chroococcus* sp.
- » *Nannochloropsis* sp.

Zooplankton

- » *Moina* sp.
- » Freshwater rotifer - *Brachionus* sp.