

PROGRESS REPORT
MARICAO FISH HATCHERY OPERATIONS AND MAINTENANCE

State : Puerto Rico
Grant Title : Maricao Fish Hatchery Operations and Maintenance
Grant Number : F-35-11
Period Covered : Jan 1, 2009 to Dec 31, 2009

A – MAINTENANCE

Job 1 - Facilities Maintenance

OBJECTIVE 1

To maintain and improve hatchery facilities.

a. Activities

1.1- Maintenance of ponds, water supply system, gabions and hatchery grounds

Control undesirable vegetation in spawning pond (two times per month) and hatchery surroundings (once a week). Clean plastic liners, kettles and valves (after each harvest). Repair and clean sediment trap at the dam (as required). Maintain sidewalks, roads, landscaping and parking gate (once a week), dikes (two times per month), and repair gabions (as required).

- Completed but not as scheduled

1.2- Maintenance of structures

Includes routine maintenance (daily), reparations (as required) and painting (2 times per year) of the following structures: restrooms, office, future visitor center, nursery, feed and materials storage building, electrical pedestal on the six growout pond kettles, and railing at each walkway above the kettles.

- Completed but not as scheduled

1.3- Maintenance of concrete tanks

Includes draining and cleaning (two times per month), repair (as necessary), and painting (once per year) five rectangular tanks (three 60' x 17' x 4' and two 60' x 21' x 5'), and twenty-four rectangular tanks (12' x 5' x 2 1/2').

- As scheduled

1.4- Maintenance of equipment

Perform maintenance on the following hatchery equipment:

two pick-up trucks, two mule vehicles, trimmers, lawnmowers, blowers, aerators, live hauler tank, water pumps, welder, electrical generator, manholes at the dam, tools, (as necessary).

Perform maintenance on the following nursery equipment:

hatching jars, pumps, tanks, filters, glass aquaria, refrigerator, generator, air blower, piping, etc. (as necessary).

- As scheduled

b. Job Summary Maintenance was performed on the hatchery facilities according to established schedules and procedures whenever possible. Grass and bushes were trimmed on a biweekly basis. Routine maintenance was performed on the structures. In the same way, concrete tanks were drained, cleaned and repaired as needed.

c. Significant Deviations

Between October and December 2009, the maintenance activities were performed somewhat irregularly due to the lack of personnel. Some of them during this trimester were on vacation or sick leave and one of them was unexpectedly dismissed under the Fiscal Emergency Law due to the fiscal crisis of the government, although the dismissal did not become effective until January 8, 2010.

B – OPERATION

Job 2 - Operation of Maricao Fish Hatchery

OBJECTIVE 2

To achieve optimum hatchery production of fingerling fish under prevailing conditions.

a. Activities

2.1- Water quality and pond preparation

Measure and record dissolved oxygen and temperature (every day), secchi disk transparency, nitrite and pH of growout pond water (three times per week), measure and record dissolved oxygen and temperature (before stocking) at each reservoir or private pond stocking site (as required), pond fertilization (as required), and zooplankton sampling and identification in growout ponds (once per week).

- As scheduled

2.2- Fish production

Coordination of broodstock capture, broodstock capture and maintenance, broodstock reproduction, egg disease treatment, coordination of fingerling stocking, stockings of fingerlings, fry transfer to growout ponds, fingerling

harvest and transport to reservoir and tilapia and sunfish feeding (as required).

- As scheduled

2.5- Data analysis and computerization

Acquisition and computerization of water quality data, broodstock records, fingerling production and stocking records, analysis and integration of information (as required).

- As scheduled

2.6- Annual Report

Prepare annual report, by Dec 2009

- As scheduled

b. Job Summary

Water quality was measured as proposed. For pond fertilization, we used a combination of inorganic fertilizers and Alfalfa pellets to promote microorganism growth. Adult largemouth bass were fed with tilapia fingerlings.

The following table shows a summary of T(°C), D.O. and pH for the growout ponds, for January to December 2009.

		Jan 09 – Dec 09
T(°C)	Mean	24.99
	Std Dev	1.61
	Max	29.90
	Min	20.10
O₂ mg/l	Mean	5.42
	Std Dev	1.12
	Max	9.67
	Min	2.96
pH	Mean	8.69
	Std Dev	0.49
	Max	9.50
	Min	8.00

During this year, a total of **118,856** fingerlings were produced at the hatchery. Of this quantity, approximately 17,716 were tilapias, which are mainly used for to feed broodstock at the hatchery or are stocked in private ponds. Nearly 101,140 fingerlings were stocked in 4 reservoirs and private ponds. Among the stocked

reservoirs are Caonillas, Cerrillos, La Plata and Guajataca. From this amount, 47,380 (46.85%) were largemouth bass, 53,700 (53.09%) were sunfish (bluegill, redear and redbreast) and 60 (0.06%) were tilapias.

b. Significant Deviations

No significant deviations occurred.

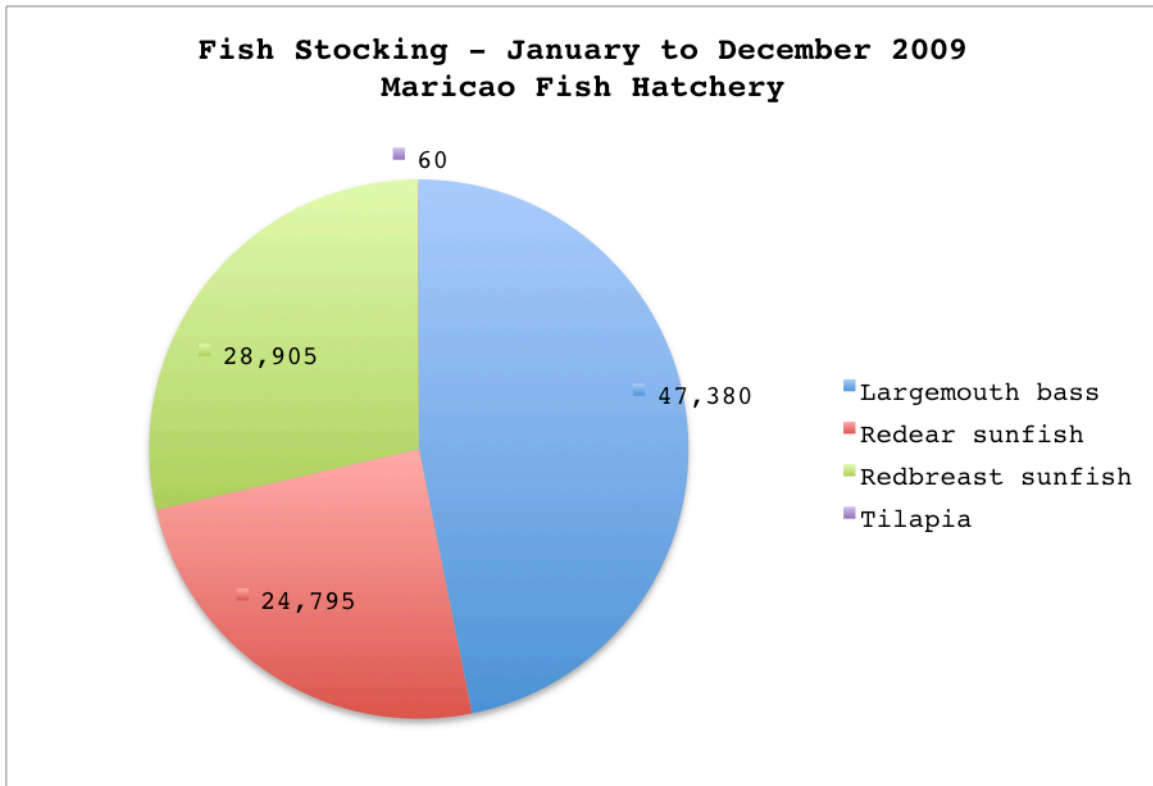


Figure 1. Quantity of fingerlings stocked per species from January to December 2009.

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