

SUPERVISION OF ENVIRONMENTAL ASPECTS OF THE UTILIZATION OF TELUK LAKE, JAMBI CITY FOR AQUACULTURE IN FLOATING NET CAGE

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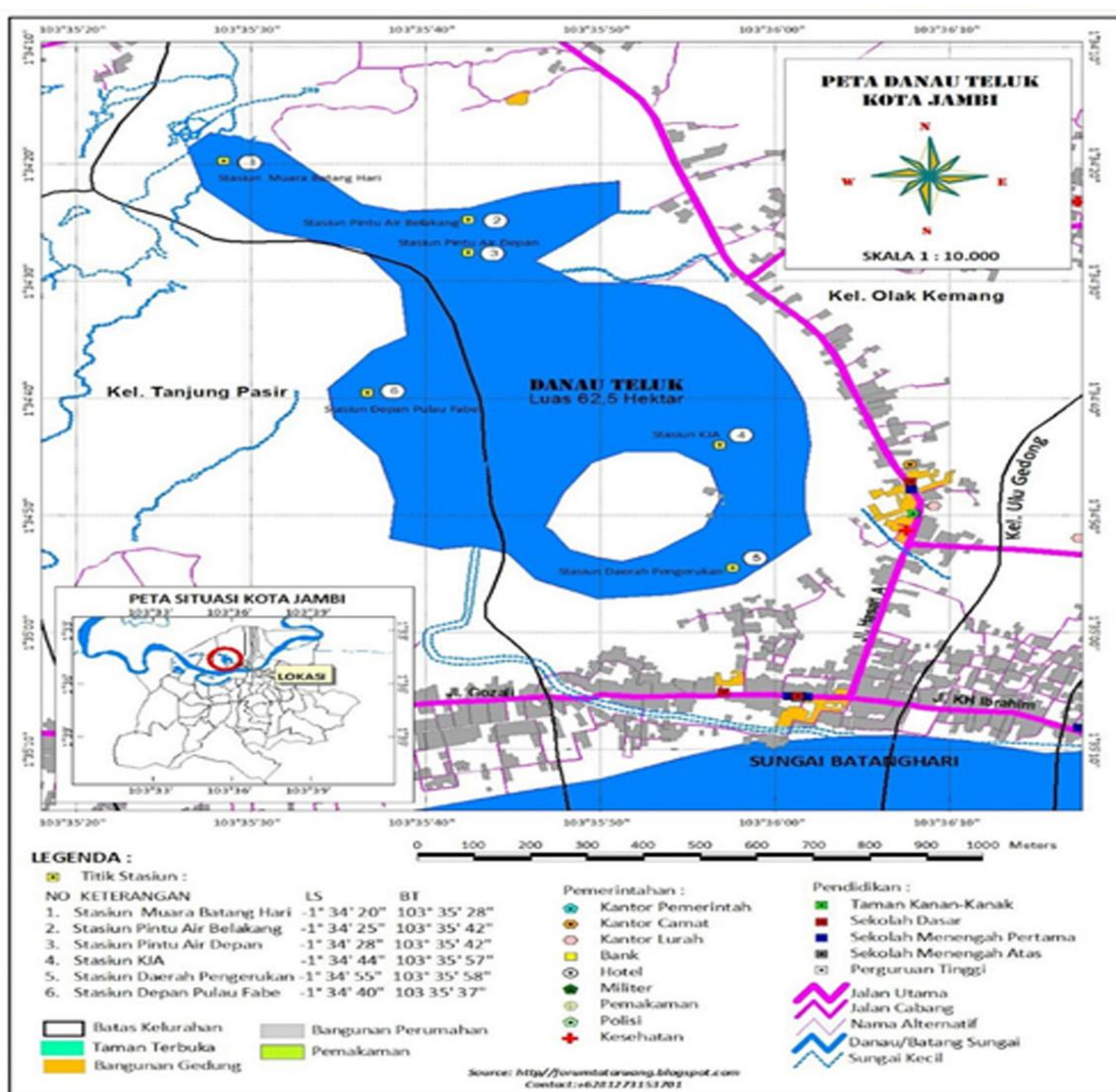
INTRODUCTION

Lake is one of ecosystem form than occupies a relative small area on the surface of the earth as compared to sea and land habitats. For humans, utilization is more important than the expanse of lands. Since 1985, Teluk Lake began to be used as the location of fish cultivation with floating net cage.

Nowadays, there are 878 FNC plots and it will increased. Utilization Teluk Lake for fish aquaculture provides positive and negative impact. It is necessary to encourage the management of this common property resources. Sustainable management of the lake have to be conducted so that the sustainability of this resource can support fish farming activities. Based on this background, three are some problem;

- 1 how did carrying capacity of teluk lake support fish aquaculture in cage today;
- 2 how did utilization of teluk lake for fish aquaculture in FNC carried out by communities around the lake;
- 3 how did recommendation made for management pattern of teluk lake for fish aquaculture on FNC based sustainable community

METHODS



Type of research used in this research is descriptive that describe the issue is qualitative and supported by quantitative methods. Qualitative approach is used to describe how the lake utilization for fish farming in the FNC-based community. Quantitative approach is used to determine the amount of the carrying capacity of Teluk Lake supporting fish farming in cage. Location of the research located in Teluk Lake, District of Danau Teluk, Jambi City, Jambi Province. It was conducted during the five (5) months.



through the calculation of water pollution load capacity (WPLC) lake for aquaculture.

Analysis of water quality used storet method, a method for determining water quality status based on the Ministry of Environment RI No. 115/2003. Analysis of carrying capacity on Teluk Lake in FNC fish farming activities was measured by the presence of total phosphorus (total - P)

RESULTS

Tabel 1. LCWP analysis for Teluk Lake for Red Tilapia Aquaculture activities in cage 2020

Lake Characteristics	Symbol	Value
D. Carrying amount FNC Aquaculture for Red Tilapia in Teluk Lake		
➢ FCR Red Tilapia	FCR	1,8 ton feed/ton fish
➢ Total P content in the feed	P _{pakan}	13 Kg P/ ton feed
➢ Levels of P-total in the Red Tilapia	P _{ikan}	3,4 Kg P/ ton fish
➢ Total P coming from fish waste	$P_{LP} = FCR * P_{ pakan} - P_{ ikan}$	20 Kg P/ ton fish
➢ FNC Fish production	$L_i = L_{a ikan} / P_{ LP}$	517,617 Ton fish/years
➢ The amount of fish feed in FNC	$LP = L_i * FCR$	931,710 Ton feed/years
➢ The mean estimate of Harvest Fish in FNC	-	0,6 Ton fish/years/units
➢ Ideal number FNC	$L_{a ikan} / \text{Estimasi Rerata panen Ikan KJA}$	862,695 unit

Description ¹⁾ DLH Kota Jambi, 2020,

²⁾ Analisa Laboratorium Kesehatan Ikan dan Lingkungan BPBAT Jambi, 2020

Result showed that carrying capacity of Teluk lake for fish farming in FNCC is equal 517,617 tons of fish per year with estimate amount of feed given to fish in floating cage is as many as 931,710 ton per year assuming total P were entered into the lake through fish waste as much 20 k P/ton of fish. Ideal number of floating cage based on lake carrying capacity accounting should be 862,695 unit ~ 863 unit

CONCLUSIONS



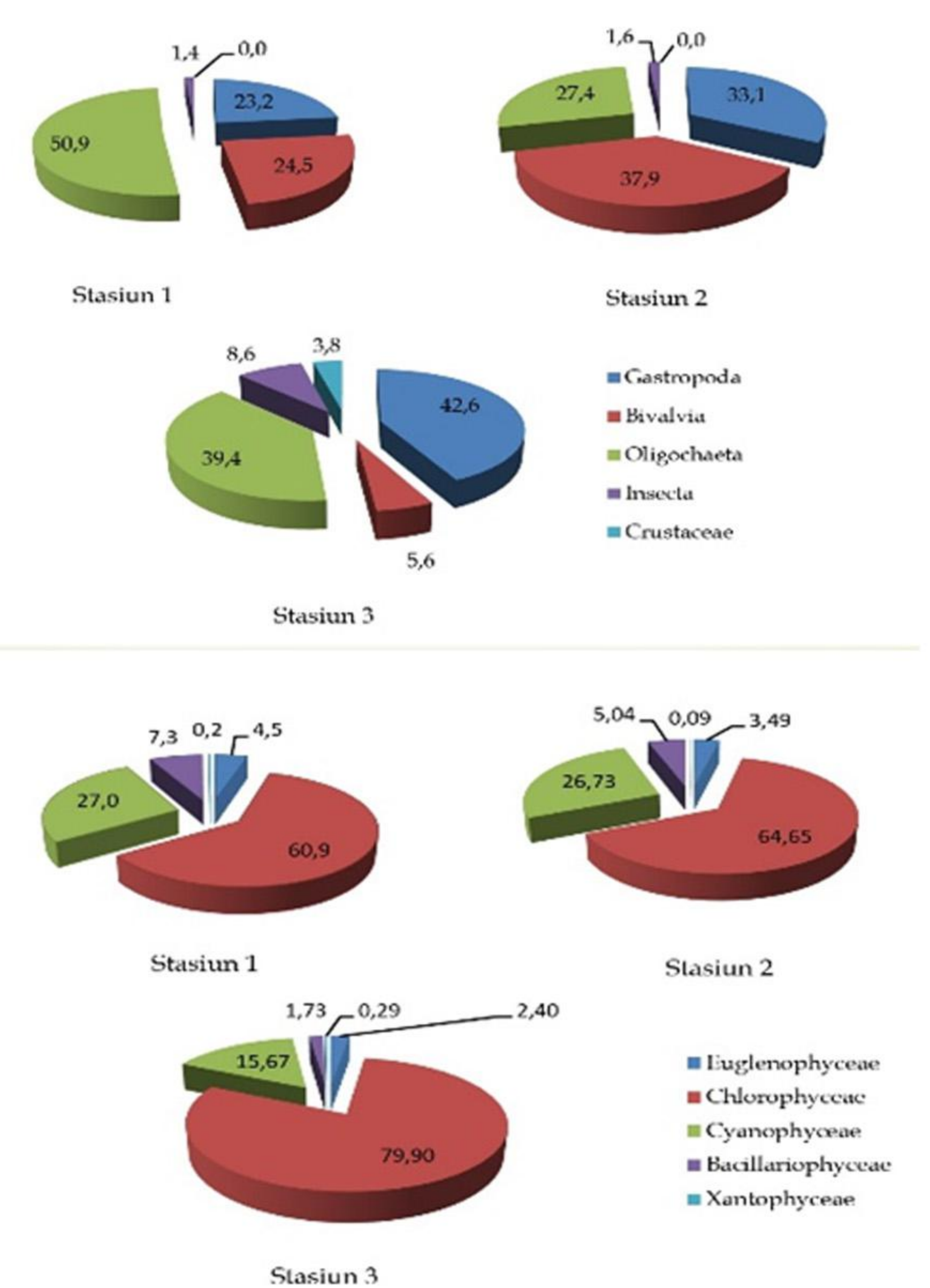
Operating floating cage currently is 878 unit so that it is necessary reduction in the amount of 15 unit and if they want to add a new one, it should be an improvement or replacement of existing floating cage

OBJECTIVES

Studies on supervision of environmental aspects utilization of Teluk Lake Jambi City for fish cultivation in FNCC aims to know how the use of this lake that have been implemented by the local community and to find out how the carrying capacity Teluk lake that used to fish farming activities in floating cage. Carrying capacity is determined by calculating water pollution load capacity of lake for fish farming activities in floating cage

There is have 2 (two) benefits of the research,

- 1 Theoretical benefit this information is expected to contribute the scientific development of natural resource management planning and environmental management systems in particular information about utilization system of lake ecosystem for fish aquaculture in comprehensive and integrated study and;
- 2 Practical benefits, the results of this study are expected to be recommendation/information for Jambi Government and community / fish farmers in designing development of Teluk Lake management for the Fish aquaculture activities based community with sustainable development considerations



at lake. Utilization of Teluk Lake for fish farming is done simple by local communities and number of existing floating cage already slightly exceed the carrying capacity of lake if related from existing concentration of total P in water.

Utilization of Teluk Lake for fish aquaculture in cage based on technological aspect, social economic, enviromental and institutional aspect not meet prerequisites fish aquaculture based community. This is indicated by the placement pattern of adjacent cages, high stocking density (compared with SNI), conflict between fish farmers and other users of lake, over carrying capacity, and not active fish farmer institution in Teluk Lake. Beside that, external involvement (in this case local government) in lake management for fish aquaculture is still low.