

ISSN 1686-770X

The Thailand Natural History Museum Journal



Published by

Natural History Museum
The National Science Museum, Thailand
Technopolis, Khlong 5, Khlong Luang, Pathum Thani 12120 THAILAND

Volume 6, Number 1

May 2012

A Study of the Diversity of Freshwater Fish in the Nong Han Reservoir, Sakon Nakhon Province, Thailand

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ABSTRACT: Freshwater fish in the Nong Han reservoir provide a source of food and livelihood for local people who live in this unique aquatic ecosystem. The diversity, in terms of species of freshwater fish, needs to be assessed regularly in order to understand the available fisheries resource. The objectives of this study were to determine the species diversity of freshwater fish in the littoral and limnetic zones. Gill nets (about 2,000 m length and 2 m deep) in different mesh sizes were used to collect freshwater fish in March and April 2011. We found that currently there are at least 23 species (12 families) of freshwater fish in the Nong Han reservoir. We also found that the littoral zone shows a higher species richness and number of individuals than the limnetic zone. Cyprinidae was the major family, with *Puntius brevis* and *Cyclocheilichthys apogon* being the most common species. The results of this study provide valuable information, particularly on the biodiversity, and are relevant to the conservation and restoration of the fisheries in this large body of water.

KEY WORDS: biodiversity, freshwater fish, Nong Han, aquatic environment, Sakon Nakhon Province.

INTRODUCTION

The Nong Han reservoir is the largest wetland ecosystem in the Northeast of Thailand, with an area of about 123 km². The local ecosystem has been affected by the alteration of the natural flow system with man-made dams (DOF, 1993; Koranantakul and Doungsawas, 1993) which has influenced the natural biodiversity, including fisheries resources. This ecosystem is very important to the local communities. It serves as a

source of water and a source of food and income for local people (Doungsawas *et al.*, 2003). It is for this reason important to understand the functioning of the aquatic ecosystem. For conservation purposes and sustainable use, a biodiversity study at different locations is necessary (Smith and Smith, 2004; Doydee *et al.*, 2012). There are various species of aquatic flora in the Nong Han aquatic ecosystem which create the habitats and the niches occupied by many

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