

Utilization and economic importance of native and non-native freshwater fishes in the lowermost Chao Phraya River Basin, Thailand

Daiki Tomojiri, Prachya Musikasinthorn and Akihisa Iwata

Abstract

We conducted semi-structured interviews at 44 local markets in the lowermost Chao Phraya River basin, Thailand to examine: 1) species compositions, 2) the economic importance and, 3) the utilization of native and non-native freshwater fish sold by local vendors. Four geographical areas were sampled: Rangsit, the East Coastal Area, West Bank, and the West Coastal Area. We recorded a total of 19 families, 33 genera, and 43 species of fish (70% native and 30% non-native). We found little species diversity and localization of fish species sold in the areas compared. Most fish sold in the markets were imported from other provinces in central Thailand, while locally caught/produced fish were rare. Non-native species had higher economic value and larger sales volumes than native species, indicating that non-native fish currently form the major food source for local inhabitants. These findings indicate that non-native fish provide ecosystem services as a member of the ecosystem of the lowermost Chao Phraya River basin. Furthermore, our findings suggest that such ecosystem services could include disservices depending on the species and regional/temporal contexts. Therefore, management of non-native fish should comprise a species- and site-specific approach from multiple perspectives. This study contributes to a better understanding of the interrelationships between people and non-native fish, which may be a significant antecedent to efficient management of ecosystems in the lowermost Chao Phraya River basin.

Keywords

Chao Phraya River, cichlid, economic importance, local market, non-native fish