FISH ASSEMBLAGES IN ABANDONED PONDS AND WATERWAYS SURROUNDING BRACKISH WATER AQUACULTURE PONDS

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Conversion of mangrove forests to brackish water aquaculture ponds for shrimp and fish is considered to be one of the major causes for mangrove destructions occurring in many tropic countries. Loss of mangrove habitats may deteriorate coastal fish stocks because the mangrove estuaries are important as nursery or feeding site for fishes including commercially utilized species. However, only limited information is available on the influence of aquaculture pond construction on estuarine fish. In general conversion of mangroves to culture ponds is considered as complete loss of nursery habitats for fish. However, waterways connecting culture ponds and abandoned ponds may provide shallow and protected intertidal habitat, which can possibly play a role as nursery for juvenile fish. Indeed, esturaries in temperate regions without any vegetation such as mangrove or saltmarsh can also function as good nurseries. This study was undertaken to investigate the fish assemblage structure in abandoned culture ponds and waterways with the comparison to mangrove habitats. Juvenile and small resident fishes were collected with a small seine net at 10 sites set in waterways and abandoned culture ponds at two sampling locations with no mangroves and with mangroves in Panay Island, The Philippines. Collected fishes were identified, counted and weighed, then species richness abundance and biomass were compared among sites. Preliminary investigation showed fish diversity was highest at the waterways with mangroves, followed by waterways with no mangroves and lowest at abandoned ponds (no mangroves). On the other hand, abundance was highest in abandoned ponds, with dominance of a few species of Gobiidae. The results suggest that fish diversity is decreased by pond construction, but the new habitats are suitable for certain species. Differences of species composition and nursery role of different sites are also discussed in the presentation.