Thakkina Moeikum 2009: Genetic Diversity of Hatchery Stocks of Striped Catfish, *Pangasianodon hypophthalmus* (Sauvage 1878) in Thailand. Master of Science (Aquaculture), Major Field: Aquaculture, Department of Aquaculture. Thesis Advisor: Professor Uthairat Na - Nakorn, Ph.D. 70 pages.

The stocks of striped catfish cultured in Thailand have been domesticated for many generations without application of genetic theory. Therefore, there is a concern that the stocks could have lost the genetic diversity. The study was conducted to evaluate the genetic diversity of five hatchery stocks comparing to the natural stocks using five microsatellite loci. The results showed that genetic variation of the hatchery stocks was as follow, average number of alleles per locus (A) = 3.6 - 11.0, average number of alleles per locus independent of sample size (allelic richness, A_r) = 3.18 - 8.06, observed heterozygosity (H_o) = 0.63 - 0.76, expected heterozygosity (H_e) = 0.59 - 0.83 and those of the natural stocks was A = 5.0 - 7.4, A_r = 4.89 - 5.98, H_o = 0.68 - 0.79 and H_e = 0.72 - 0.76. All hatchery stocks and natural stocks (The Chaophraya River, Ayuthaya) deviated from Hardy - Weinberg Equilibrium. Pair - wise comparisons and the F_{ST} values revealed significant genetic differentiation across all populations. The Neighbor - joining dendrogram separated the populations into two groups. One group consisted of hatchery stocks from Nakornsawan and Suphanburi Provinces, the other consisted of the hatchery stocks in Chachoengsao Province and all natural stocks. The results also indicated that the hatchery stocks possessed sufficient genetic diversity, hence can facilitate sustainability of the stocks.

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