

# **NITROGEN AND PHOSPHORUS LOADING FROM THE STRIPED CATFISH (*Pangasianodon hypophthalmus*) FARMING NEAR MAIN RIVERS AND NEAR CANALS IN THE MEKONG DELTA**

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## **Summary**

The amounts of nitrogen (N) and phosphorus (P) loading from intensive striped catfish (*Pangasianodon hypophthalmus*) ponds were estimated by nutrient-balance models and direct measurement on farm. The nutrient balance model was calculated based on input P and N (mainly in feed) and nutrient contents in harvested fish to estimate amounts of N and P discharge. The direct measurement was based on the total N and P in wastewater and sludge. Therefore, the nutrients loading from catfish ponds were mainly dependent on fish development stages, feed types, stocking density, water change frequency, pond characteristics. Total N (TN) and P (TP) discharged of catfish intensive farming were 25.19-46.6 and 9.9-18.4 kg/tonne fish, respectively, which were mainly from wastewater (over 80%) in ponds near the main rivers, but they were higher from the sludge (over 90%) in ponds near canals. The results show that the TN and TP loading from catfish intensive culture in the Mekong delta in Vietnam from 2007 to 2017 rang 45,800-58,624 tonnes N/year and 12,150-15,552 tonnes P/year, respectively. Therefore, it is imperative that a further solution should be given to effectively use input nutrients, degrade or reuse output nutrients to reduce environmental pollution and sustainably develop aquaculture.

**Keywords:** *Pollutant load, total nitrogen, total phosphorus, wastewater, sludge, intensive striped catfish ponds.*