

Thesis Title A Study on Sodium Chloride Related to Water Turbidity
 in Northeast Fisheries Ponds

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ABSTRACT

To bring about growth in fish production in both public and private ponds in the Northeast is not up to how the new technique is and how much money is spent. Because of its physical constraints: amount and distribution of rainfall, poor fertile soil, and effects of salt bearing bed rock on soil and water quality. Water turbidity and saline soil are the major complaints of which the first effects the respiration and the other effects osmoregulation. The author impress overall view for increasing fish production in the Northeast is to find out and bound the suitable area under natural surrounding that gives benefit for raising fish and environment.

Map overlaying is used for site selection. Eleven mapping units are located distributed in the region. Salinity of all soil samples are low. Salinity of pond waters are varied between 0.7-3.11 ppt which do not affect fish. Water turbidity and water salinity analysis show significantly correlated in mapping unit 1-8 at 0.05 probability level. But there is no significant between them in mapping unit 9 and 10.

Every pond except in mapping unit 9 between quantity of rainfall and turbidity at 95 % confidence level. As well as the relation of rainfall and water salinity, all ponds but mapping unit 10 show significantly correlated at $\alpha = 0.05$. Finally, it can be rewritten in the terms of water salinity and water turbidity effects into four grouping areas. The first (mapping unit 2, 6 and 10 with 5,606 km² in total) suitably use for both aquaculture and agriculture. The second are just suitable for aquaculture and located in mapping unit 1,3 and 7 (4,194 km²). The third (mapping unit 4, 8 and 9 as a whole 4,719 km²) are contrarily favorable for agriculture. The last is found in mapping unit 5 (794 km²) and unfavorable for both of them.

The author gives three recommendations for activities in high turbid water and even low saline water. First, Turbidity > 100 ppt is not recommended for fish rearing without species selection and reducing turbidity number before. Second, Avoid from more turbid water in rainy season by giving the breeding and rearing period at suitable time to avoid the turbidity effect. Third is water salinity, even shown low and do not affect fish but it should be interested and studied in its effect on phytoplankton and zooplankton which give primary productivity in fish ponds.