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## Factors Related to Nesting Sites of *Oreochromis niloticus* (Linnaeus 1758; Cichlidae) in Irrigation Reservoirs, Sri Lanka

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### Abstract:

The nesting sites of *Oreochromis niloticus* (Linnaeus 1758) were studied in 10 irrigation reservoirs of Sri Lanka from April 2014 to April 2016 to understand the influencing factors. The optimal nesting depth and nest diameter varied across reservoirs. Nest density (*ND*) was negatively related to slope of the littoral area (in degrees) according to  $ND = -0.070 \text{ Slope} + 0.536$  ( $R^2 = 0.415$ ) and positively to water turbidity (*Turb* in NTU) according to  $ND = 0.033 \text{ Turb} + 0.083$  ( $R^2 = 0.598$ ). The optimal nesting depth ( $NDP_{opt}$  in cm) was also negatively related to turbidity as  $NDP_{opt} = -5.133 \text{ Turb} + 154.660$  ( $R^2 = 0.509$ ). Mean relative reservoir water level fluctuation [ $RRLF = (\text{Mean reservoir level amplitude} / \text{Mean depth}) \times 100$ ] had a significant negative relationship with *ND* according to  $\ln ND = -1.185 \ln RRLF + 5.231$  ( $R^2 = 0.518$ ). As hydrological regimes in reservoirs are mainly influenced by irrigation requirements of command areas, effective dialog between multiple users of reservoirs to achieve a win-win situation could possibly be adopted to optimise fish yield.

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