

### Impact of riverine connectivity on ecology and fisheries of selected floodplain wetlands in Assam

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Ecology and fisheries in two floodplain wetlands (beels) located in Nagaon district of Assam viz., Samaguri beel (N 26° 25' 36" and E 92° 51' 27"; 60 ha; seasonally open) and Sibasthan-Potakolong beel (N 26° 30' 37" and E 92° 52' 22"; 92 ha; closed) in relation to riverine connection are discussed. Physico-chemical parameters of water indicated better water quality regimes in Samaguri than Sibasthan-Potakolong beel. Total phosphorous ( $\mu\text{g/l}$ ), chlorophyll-a ( $\mu\text{g/l}$ ) and net primary productivity was slightly higher in Samaguri (53.7-83.3; 18.7-63.2 and 930.5-1008.0) than Sibasthan-Potakolong beel (30.3-142.2; 14.2-23.8; 538.4-880.0). T-test showed Chl-a, pH and dissolved oxygen was significantly ( $p < 0.05$ ) different between the beels. Trophic Status Index indicated eutrophic conditions (60-70) of the beels. Soil was sandy-clayey in nature. Phytoplankton population was higher in Samaguri than Sibasthan-potakolong beel mainly because of low macrophyte infestation and competition for nutrient and space. Macrophyte coverage as well as macrophyte-associated fauna was higher during the monsoon seasons. Abundance of benthos was found to be higher in Sibasthan-Potakolong beel in winter season. Average fish yield rate was higher in Samaguri (698 kg/ha/yr) than Sibasthan-Potakolong beel (483 kg/ha/yr); supplementary stocking was practiced in both the beels. Higher fin-fish diversity (53nos.) was recorded in Samaguri than Sibasthan-Potakolong beel (42nos.) apparently because of riverine input in the former. Cypriniformes dominated the diversity in both the beel. Stocked fishes contributed 55% of the total catch in Samaguri, whereas it was 70% in Sibasthan-Potakolong beel. Among indigenous fishes, Indian river shad (35%) and small catfishes (10%) dominated the catch in Samaguri and Sibasthan-Potakolong beel, respectively. The study indicated that the seasonal riverine connectivity had positive influence on ecology and fin fish diversity of the beels.

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