ARTICLE

Sci. and Cult. 91 (3-4) : 178-186 (2025)

PLANKTON DYNAMICS AND ITS INFLUENCE ON HILSA AVAILABILITY IN THE ESTUARINE REGION OF GANGA

ARKA MONDAL¹, BASANTA KUMAR DAS^{1*}, TRUPTI RANI MOHANTY¹ AND MITESH H. RAMTEKE¹

This study investigates seasonal variations in plankton composition and their impact on Hilsa shad (Tenualosa ilisha) availability in the Ganga River over four years. Significant fluctuations in water quality parameters, such as temperature $(31.05 \pm 4.37^{\circ}C)$, salinity (up to 27.41 ppt), and dissolved oxygen (4.48 \pm 1.08 mg/L), were observed. The research identified 56 plankton types, with diatoms dominating in Godakhali, and an abundance of cyanophytes in Fraserganj, indicating potential eutrophication. These findings highlight the critical relationship between plankton dynamics and Hilsa populations, emphasizing the need for targeted management strategies to sustain this vital fishery resource.

Keywords: Seasonal variation, Water quality, Phytoplankton, Population dynamics