

PREPARATION OF A CONSERVATION AND MANAGEMENT PLAN FOR BOLGODA ENVIRONMENTAL PROTECTION AREA

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Abstract

The Bolgoda water body is the only natural lake in the Sri Lanka situated in the western province, spreading over six divisional secretaries divisions of Rathmalana, Kesbawa, Moratuwa, Panadura, Bandaragama and Kalutara. This body is a lake but it is a basin estuary brackish water body and categorized as a semi-closed lagoon. This wetland plays a vital role on preventing of floods by retaining of excess water in wet season and support a number of endemic fauna and flora. However presently the Bolgoda ecosystem is faced to many threats and to overcome those threats it was declared as a Bolgoda Environmental Protection Area. However, there is no any management plan for the conservation of this valuable ecosystem. Therefore this study focused on identifying and estimating the damage to Bolgoda Environmental Protection Area and to propose conservation and management plan.

For identifying existing threats a field inspection and survey was conducted covering 127 locations in the Bolgoda EPA and through the records at Central Environmental Authority and Divisional Secretariats. Further survey plans obtained from the Department of Survey were analyzed to identify encroached area of the water body. Through the data analysis areas of illegal land filling, encroachments, spreading of invasive species, mangrove destructions and waste dumping sites were identified. Before preparing a conservation and management plan for addressing above threats developed a zoning map according to the identified damage levels.

The study has found out the Bolgoda EPA was threatened by many encroachments, lands filling mangrove destruction unauthorized constructions, discharge of effluents, dumping of solid waste and spreading of invasive species. After analyzing data, identified approximate illegal land filling of the water body reservation and approximate total water body encroachment was 18.76 acres (0.0756 km^2) and 1.9 acres ($0.0077 \text{ square kilometer}$) respectively. Bolgoda EPA in Moratuwa, Kesbawa, Rathmalane, and Panadura DSs have seriously damaged rather than Bandaragama and Kalutara DSs. Identified other main issues were dumping of waste, mangrove destruction, spreading of invasive species due to nutrients discharge into the lake were main threats within Moratuwa, Kesbawa, Rathmalane, and Panadura DSs, while Kalutara and Bandaragama DSs have less vulnerability to those issues. However spreading of *Allocacia* spp were observed in all visited sites.

Based on the findings of this study a zoning map was developed highlighting the level of damages occurred and then introduced a conservation and management plan for addressing the existing threats.