

IMPACT OF CLIMATE CHANGE

# BIODIVERSITY & ENVIRONMENT

Ajay Kumar Vashisht  
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# **Impact of Climate Change Biodiversity and Environment**

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## Chapter 19

# Phytoplankton Diversity of Kottakayal Wetland of South Kerala

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Biodiversity indices are measures of biological quality. Biodiversity changes are a gauge of the community structure, while productivity changes reflect its function. In the present study, biodiversity indices such as Shannon Weiner index, Simpson index, Margalef index and Pielou index for phytoplankton community were assessed from November 2016 to October 2017. Plankton samples were collected bimonthly from 6 sites early in the morning using plankton net of mesh size 20 micron, concentrated and fixed in 2 per cent formalin and Lugol's iodine solution. Quantitative analysis was done using Sedgewick Rafter counting chamber method. Total 98 species of phytoplanktons belonging to 12 different classes and 33 genera were identified. Seasonal variation in the biodiversity index was well recorded in this study.

### Introduction

Wetlands are defined as transitional lands between terrestrial and aquatic ecosystem. They are the most productive ecosystem on earth as they receive water from sources such as rivers, streams, precipitation, overland flow, infiltration from surface and sub-surface, and from underground as well. Productivity of wetlands is enhanced due to the immense nutrient and organic load. A global decline in freshwater biodiversity is evident in recent decades (Strayer and Dudgeon, 2010). A number of ecological principles are associated with the concept diversity. Higher species diversity is evident in communities found in a stable environment than those subjected to seasonal or periodic perturbations by man or nature (Dheera et al., 2005). Biodiversity indices are measures of biological quality.