

Abstract

Keywords

1. Introduction

2. Methods

2.1. Study area



2.2. Analysis of land utilization

2.3. Ecosystem components sampling and analysis

2.3.1. Vegetation

2.3.2. Soil and soil fauna

2.3.3. Water, zooplankton, and fish

2.3.4. Sediment and benthic fauna

2.3.5. Birds

2.3.6. Environmental quality assessment

2.4. Ecosystem services identification and valuation

2.4.1. Ecosystem services identification



Table 1

Ecosystem service values and restoration in the urban Sanyang wetland of Wenzhou, China

Chunfu Tong^a, Rusty A. Feagin^b, Jianjian Lu^a, Xiufeng Zhang^a, Xiaojun Zhu^a, Wei Wang^a, Wenshan He^a

^a State Key Laboratory of Estuarine and Coastal Research, East China Normal University, Shanghai 200062, P.R. China

^b Spatial Sciences Laboratory, Department of Forest Science, Texas A&M University, 1500 Research Parkway, Ste. B223 College Station, TX 77843-2120, USA

<http://dx.doi.org/10.1016/j.ecoleng.2006.03.002>, How to Cite or Link Using DOI

[Permissions & Reprints](#)

[View full text](#)



Purchase \$31.50

Abstract

Over the course of a year, we conducted a study on future restoration work in the Sanyang wetland, a degraded permanent river wetland that is close to the center of Wenzhou city, China. Our main objective was to plan the restoration by using both structural indices and a valuation of the wetland's ecosystem services, thereby linking the science to human welfare. Based on field surveys and research into the history of the study area, we calculated both the potential and current values of the main ecosystem services. The results showed that the potential value at the Sanyang wetland was 55,332 yuan ha⁻¹ yr⁻¹, while the current value was only 5807 yuan ha⁻¹ yr⁻¹. In other words, 89.5% of the service value needs to be restored for the wetland to reach its potential value. We recommend that the service provided by the wetland's ability to purify the environment needs to be the top priority in restoration. In addition, water and sediment quality should also be greatly improved.

Keywords

Ecosystem service value; Wetland restoration; Urbanizing area; Sanyang wetland