

The Value of Urban Wetland Parks and Suggestions for Development Countermeasures

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Abstract

The value of urban wetland parks is analyzed from three aspects: economic, environmental and humanistic, and the importance of urban wetland parks for sustainable urban development is argued from multiple perspectives. The problems highlighted in the development of urban wetland parks are also pointed out, and corresponding suggestions are made in order to provide reference for promoting better development of urban wetland parks in the future.

Keywords

Urban Wetland Park, Value

1. Introduction

In today's society, with the development of society and the progress of science and technology, people have begun to pay attention to the improvement of the quality of life, and then influenced by urbanization, often citizens living in cities have been surrounded by steel and concrete, and it is difficult to realize people's nature to aspire to nature (Zhang et al., 2013). Urban wetland parks are an important part of urban green space and play an important role in the urban green space system. However, the recognition of the value of urban wetland parks is still superficial and has not received sufficient attention. Some studies have shown that urban wetlands are one of the fastest degraded land types by human industrial activities along with urbanization (Yan & Ma, 2010). This paper explores the value of urban wetland parks from three different perspectives (Qiu, 2006), shows more comprehensively and three-dimensionally that urban wetland parks are important for sustainable urban development, and analyzes the problems that exist in the development of urban wetland parks, hoping to help provide reference for the future construction and development of wetland parks.

2. The Value of Urban Wetland Parks

2.1. Economic Value

The huge economic losses caused by global warming, melting glaciers, flooding of coastal lands, and increased pests and diseases in the world today are due to excessive carbon emissions, and wetland ecosystems play an important role in mitigating global warming by sequestering carbon (Chen et al., 2018). There are two main methods of carbon sequestration in wetland systems: one is through the absorption of carbon dioxide and water in the air by plants and their storage in organic matter, during which light energy is transformed into active chemical energy within the plant, and then into stable chemical energy. The other is through the chemical energy synthesis reaction of microorganisms in the soil, which synthesizes the absorbed carbon dioxide and water from the air into sugars required for life, thus achieving carbon sequestration. Wetland plants are generally aquatic herbaceous plants with fast growth rate and short cycle, which have high sink capacity for carbon dioxide in the air, and the economic valuation of this carbon sink value is very high. For example, the value of carbon sequestration and oxygen release in Nanhe National Wetland Park is about 20.83 million yuan per year; the value of carbon sequestration and oxygen release in Quanzhou West Lake Urban Wetland Park is about 108.1 million yuan per year (Zhang & Li, 2011). Studies by American scholars have concluded that the value created per hectare of wetlands amounts to US\$4000 - 14,000 per year, which is 2 - 7 and 45 - 160 times higher than that of tropical rainforest and agricultural ecosystems, respectively (Zhao, 2013). Therefore, the value created by urban wetland parks for the economy is huge and concerns sustainable urban development.

2.2. Ecological and Environmental Values

An urban wetland park is a special type of park with the ecological functions and typical characteristics of a wetland, which is incorporated into the urban green space system planning (Yu & Wan, 2013). Its special characteristics are mainly expressed in the word "wetland", because wetlands are unique ecosystems formed by the interaction of land and water, and have a powerful role in environmental regulation and purification and control. Ecological environment refers to the collection of all ecological factors surrounding the organism or community, that is, the collection of factors that have an impact on living things in the environment. The ecological environment value of urban wetland parks includes both the impact on the living environment of people and the living environment of other species groups around the wetland. Wetland systems in urban wetland parks can slow down river runoff, and the marsh and aquatic plants in them can promote the settlement of solids, which facilitates the full combination of heavy metal pollutants in water with and attached to sediments in water and stored in combination with soil to achieve energy conversion with nature, thus purifying water quality (Zhang et al., 2008). Wetland water evaporation and vegetation

transpiration, can transport a large amount of water to the atmosphere, in a certain area to maintain stable air humidity, can reduce the temperature, adsorption of dust in the air, which is to regulate the local area microclimate, increase the negative air ions, to alleviate the urban heat island effect has an important role.

2.3. Humanistic Values

Urban wetland parks have the value of scientific education, urban wetland parks for people to understand the important role played by wetlands on global ecological protection provides a platform to show science education, Sichuan Province held wetlands “Love Birds Week”, “Wetland Day” and other public welfare science activities, help Raise the ecological awareness of young people, environmental awareness, to demonstrate the protection of rare and endangered wetland flora and fauna scientific research has a wide range of influence. At the same time, urban wetland parks as a place for visitors to enjoy recreation, with aesthetic value of the landscape, through the naturalization of the shape of the landscape, such as some bird watching houses using natural reeds prepared by the wall and the surrounding natural environment into one, both environmentally friendly and wild, to bring visitors to the natural experience, wetland water and sky natural scenery more relaxed, soothing anxiety, also has a certain positive effect on human mental health (Chen et al., 2011). It also has a positive effect on people’s mental health.

3. The Development Status of Urban Wetland Parks in China

In 1982, Hunan Zhangjiajie Forestry was officially named “Zhangjiajie National Wetland Park” by the State Council, marking the emergence of China’s first wetland park. 1992, China became a signatory to the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the “Wetlands Convention”). 1994 On February 11, 2004, the Ministry of Construction of the People’s Republic of China officially approved the Rongcheng Sanggouwan Urban Coastal Wetland Park as a national urban wetland park. This is the first national urban wetland park approved by the Ministry of Construction in China. 2004, Hangzhou Xixi Wetland Park as China’s first national wetland park pilot declaration of success, this historic practice also officially put wetland development declaration on the agenda, after this, China emerged a large number of wetland resources and have the construction of qualified park declaration. As of March 2020, the country has established a total of 899 national wetland parks (including the pilot).

4. Suggestions for the Development of Urban Wetland Parks

In recent years, under the advocacy of national policies, the construction and protection of urban wetland parks have made considerable progress, and governments at all levels have introduced relevant policies to maximize the eco-

nomic and ecological benefits of urban wetland parks. However, due to the late start of China's construction in this field, many problems have been exposed in the sustainable development of urban wetland parks, such as the uniformity of park themes, the lack of proper management at a later stage, and the blind increase of commercial areas.

4.1. Solve the Problem of Unreasonable Zoning

The main goal of urban wetland parks is to protect urban wetland resources and prevent the disappearance of wetland resources as the city grows. Therefore, in the project of urban wetland park construction, it is necessary to adhere to the core area of ecological protection from outside interference (Lin & Luan, 2009). The area for tourists to visit as well as rest should be kept separate from the core area. According to the functional zoning and wetland protection considerations, it is recommended that urban wetland parks be divided into key protection areas, wetland display areas, tour activity areas, management service areas, non-artificial interference areas and corridors.

4.2. Solve the Problem of Homogenization

Urban wetland parks have received the attention of all walks of life, and the number has proliferated in recent years, but the development of the park appears in the theme is not clear, the lack of regional cultural characteristics and blind imitation of successful cases and other problems, easy to cause the landscape of urban wetland parks around the same situation (Ye, 2011). In the planning and design, for the long-term development of urban wetland parks, we should try our best to explore the regional cultural characteristics, the integration of wetland culture and local culture, to bring visitors a cultural wetland park with a sense of belonging. For example, the Meishan Dongpo Urban Wetland Park is located in Meishan City, Sichuan Province, which has rich cultural resources, such as health culture, Taoist culture and bamboo culture with Pengzu culture as the core. The culture is integrated into the landscape design of the urban wetland park, forming the "Moon Phase Trail", "Moon Watching Tower", "Old Spring Bridge", "Drunken Moon Bridge "Yingbin Bridge" and other characteristic landscapes to increase the uniqueness of the urban wetland park (Lu, 2019).

4.3. Solve the Problem of Blindly Adding Commercial Areas

Urban wetland parks are mainly for the protection of wetland resources, supplemented by the play of park recreation function. In terms of function, the commercial function does not blend well (Xu, Zhu, & Cai, 2013). The snacks contained in the commercial sector have a great negative impact on the environment, such as a large amount of fumes, food packaging bags, etc., which tend to bring great sanitary pressure on the environment. The environmental noise of the commercial area is likely to have an impact on the organisms in the wetland,

which will abandon living in the wetland and affect the biodiversity function of the wetland. Commercial areas should be set up in conjunction with the zoning of urban wetland parks, in areas for touring activities, and with large enough spaces as buffer zones at the borders with other areas to reduce the impact of human commercial activities on the environment.

5. Conclusion

Urban wetland parks are important to the economic value of cities, ecological value and humanistic scientific and educational value. As the development of society tends to be intelligent, the problems in management and construction can be monitored in real time with the help of digital technology, indicators such as water quality and species of wetland parks, integrating science and management. At the same time, the government should improve the protection mechanism, improve the legal system, and strengthen law enforcement, scientific planning, coordinated development, so that urban wetland parks for the sustainable development of the city constantly injected power.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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