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STUDY ON THE SUSTAINABLE DEVELOPMENT OF WETLAND RESOURCES IN THE USSURI /WUSULI RIVER BASIN

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ABSTRACT: The Ussuri/Wusuli River basin joins the border between the Northeast region of Heilongjiang Province of China and the Far East region of Russia. The watershed consists of approximately 26 000 000 ha and the shared border stretches more than 1100 km. The Ussuri River forms part of the border between Russia and China. Two-thirds of the watershed ecosystem is in Russia, one-third in China. Khanka / Xingkai Lake is the border Lake of Russia and China, with the area of 4380 km^2. The Ussuri / Wusuli River Basin is rich in wetland resources, including surface water resources and wetlands. There are about more than 100 rivers belonging to one and two branch rivers, wetlands are mainly distributed in the Sanjiang Plain in China, which is the largest marsh area in China, with an area of 114 million ha. Human activities and agriculture reclamation for many years have led to many environment problems: 1) decreasing of wetland area led to loss of wetland environment functions, decreasing of biodiversity and increasing the number of natural disasters such as disastrous drought and waterlogging, which affect directly sustainable utilization of resources and economical development. 2) water supply is not evenly distributed, water pollution in rivers, marshes and lakes are more serious than before. Based on above study, some suggests of sustainable development in the basin have been made, which include: 1) developing the international wetland natural reserve and domestic comprehensive protected area to prevent wetlands from destruction and disturbance by human activities, 2) strengthening the protection and management of wetlands in lake shorelines and riparian zones (rivers and streams) to prevent water quality of rivers and lakes from pollution, 3) restoring the destroyed marsh in riparian zones and the "island-like forests" of wetlands 4) developing positively transnational ecological tourist trade to promote the economic development in the river basin scope, 5) developing international cooperation research to promote sustainable utilization and protection of wetland resources.

KEY WORDS: wetland resources; sustainable development; the Ussuri River; water resources

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1 INTRODUCTION

The Ussuri / Wusuli River watershed is located in the southeast part of Heilongjiang Province of China, which joins remote regions of Russia. The watershed consists of approximately 26000 000 ha, which is about two-thirds of the watershed ecosystem in Russia, one -third in China.

The Ussuri River forms part of the border between

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of lake, rivers and streams are limited and not allowed to new reclamation. Protection of water quality and critical habitats in these areas should be put in place on all tributaries to Xingkai Lake and the Ussuri River.

3.5 Restoring Wetlands and "Island-like Forest" of Wetlands

Preservation wetlands are obviously fundamental to conserving biological diversity, but it is not adequate to do so. Vast portions of wetlands have been drastically altered by human activity, it is not enough merely to save the remaining intact pieces of wetlands. A number of the broken and damaged pieces are indispensable, and they must be repaired and used.

In the Ussuri River basin, many species are close to extinction and few of their habitats are left, so they will survive in that location only by recreation of habitat. The Sanjiang Plain of China, has been decreased more than half of the marshy area in the past decades, wetland plant cover and most forests have been destroyed. Thus, the former balance among wetland animal and plant resources, soil, climate and the ecology has been lost, therefore, in order to protect of wetlands and maintain ecological balance, one important action to be taken is to restore the "island-like forests" of wetlands and some important position wetlands.

3.6 Opening and Developing Ecotour Activates of Border Crossing Points

The opening and developing eco-tour activates of border crossing points at the Ussri River, Xingkai Lake has been positive for Russian-Chinese travel. One way can strengthen the propagating and education of wetland protection and rational utilization, promote wetland protection of the public and know wetland ecological value, another can increase the economical consciousness, develop wetland protection and restoration, promote regional economical development and sustainable utilization of wetlands.

3.7 Developing International Cooperation Research

International cooperation research should be developed in the whole basin, which can maintain the regional landscape ecological system integrity: 1) to study the situation of wetland resources of the whole basin, and make a common protective plan 2) to investigate wetlands species resources especial rare and endangered plant and animals, make protective measures and policies, 3) to establish decision-support GIS system, to mornitor and analyze the pollution of wetland and water quality of rivers and streams.

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