The Adjacent Right of Environmental Protection in Nature Reserves

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Abstract: Protecting the adjacent right of the environment is an important means to maintain the balance of the ecological environment and promote economic development. As an indispensable part of China's ecological civilization construction, nature reserves play a positive role in environmental protection and the harmonious coexistence of human beings and nature. However, there are many problems in the process of practice. From the perspective of environmental protection system, this paper expounds the importance of protecting and utilizing the rights of wild animals and plants for achieving sustainable development. Secondly, it analyzes the current domestic and international legislation on nature reserves and the existing problems, and puts forward relevant suggestions to safeguard their legitimate rights and interests and improve the management system and mechanism of ecotourism scenic spots. After that, this paper also used remote sensing technology to study the natural area protection model, and tested it. The test results showed that the database processing time of this model was fast, the model processing data delay was low, and the overall classification accuracy was up to 80%.

1. Introduction

With the development of economy and society, people pay more and more attention to natural resources and ecological environment, and the contradiction between protection and development is becoming increasingly serious. The nature reserve is a complex and huge system project [1, 2]. It not only involves biodiversity, ecological balance, natural productivity and other aspects, but also includes the damage to the natural environment caused by human activities and the changes in the ecosystem structure within the scope of impact, as well as the increase or decrease in the number of species, the increase in the number of extinct animals, serious population degradation and a series of comprehensive environmental factors, which lead to the deterioration of the ecological environment and social crisis and conflict, Therefore, it is particularly important to protect the adjacent relationship around the natural reserve [3, 4].

Many scholars have conducted relevant research on environmental protection. The protection and management of nature reserves by foreign scholars is relatively mature and systematic, but they have not made a unified, comprehensive and in-depth study [5, 6]. Domestic scholars mainly discuss it from the legal perspective. The first point is to take the provisions on rights and obligations in the Constitution as the precondition, the second point is to take the relevant provisions in the civil law as the basis, and the third point is to determine its scope and interest distribution according to the specific situation, so that a complete protection system has been formed in the whole region, and reasonable and scientific arrangements have been made for the use of resources, maintenance of ecological balance and other contents [7, 8]. Therefore, this paper studies the adjacent right of environmental protection in nature reserves.

The nature reserve is an important part of the natural protection ecosystem, which has a significant impact on biodiversity and ecological environment. However, the current laws and regulations in China do not clearly stipulate how to exercise rights. This paper draws a conclusion by analyzing relevant foreign legislation and domestic practical experience. In the right theory, it is believed that the basic concepts such as "citizens enjoy priority" and "the principle of environmental neighboring rights" are recognized by the Environmental Protection Law. At the same time, combining the research results of scholars at home and abroad, it is suggested that natural reserves should adhere to the consistency of protective natural attributes and ecological values, and the people-oriented concept runs through the entire legal system to achieve effective management and rational use of the ecological environment.

2. Discussion on the Adjacent Right of Environmental Protection in Nature Reserves

2.1. Adjacency Right of Environmental Protection

The adjacent right of environmental protection refers to that when the protection, utilization and management of environmental resources involve the rights of other people or things, they should be prohibited or restricted [9, 10]. For example, the state has the ownership of natural resources. If it does not distinguish between them and make rational use of them, they belong to the scope of "environmental protection" within the scope of ecological protection zones. If the residents or wage earners living in the nature reserves own natural resources rather than property rights and interests, it is regarded as personal behavior, which is also called the boundary of environmental neighboring rights. The purpose of protecting the adjacent right to the environment is to maintain the ecological balance and keep the ecological environment in a better state. The specific contents include: first, maintaining the ecosystem and biodiversity. The species in the Reserve can enhance their ability to exchange materials with the outside world through the light cooperation of plants. Second, restore the natural ecosystem. There are many animal and plant communities and population components in the Reserve, which are rich in resources and have certain economic value or social influence. Third, the right to protect the adjacent environment is a right to take measures to maintain ecological balance and ecological security [11, 12]. Figure 1 shows the data flow of environmental protection.
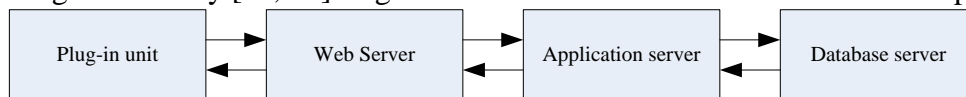

Figure 1. Environmental protection process

Environmental neighboring right refers to the rights enjoyed by specific people and objects, namely, ecological resources, biodiversity and natural resources. The ecological environment itself is irreplaceable. In the natural ecosystem, there are many species competing or symbiotic relationships with other animals. Human activities will also affect the structure and function of the

natural ecological environment system. At the same time, due to the different production and living styles of human beings, the biological community will change or lose its original balance, resulting in destruction and degradation, This is one of the basic characteristics of the right of environmental adjacency, namely, ecological resources, biological diversity and biological diversity [13, 14].

2.2. Protection Scope of Nature Reserves

The scope of protection of a nature reserve refers to the degree of impact on the natural ecosystem. It determines the survival ability and reproduction level of the species in the environment, and also provides a relatively stable amount, quality and quantity of ecological resources for its ecological environment system. When studying the types of plant communities, it is considered that the proportion of different species of plants and the characteristics of composition and structure will be different. Some plant species can decompose and produce correspondingly rich and diverse ecosystem substances [15, 16]. At present, the protection scope of natural reserves in China is mainly the destruction of natural ecosystems by the state, but some areas have not included it in the natural reserves, which makes it ambiguous in practice to some extent. For example, in order to attract more funds and promote economic development, some local governments have implemented the policy of "closing mountains to cultivate forests", and some local government departments have adopted excessive grazing or predatory development to protect biodiversity. At present, there is no clear definition of the scope of wildlife reserves in China. Some laws restrict and even prohibit the rational use of wildlife in nature reserves. The object of protection is the natural ecosystem. All species, including biodiversity and ecological function reserves, belong to a series of laws and regulations formulated and implemented by the national or local governments to safeguard their legitimate rights and interests to ensure the safe and stable development of the ecological environment, while other types of areas are not strictly controlled within the above scope. The protection content is mainly for the interests of the natural reserves, that is, for the natural environment the rational utilization and development of resources and human environment will maximize its role [17, 18].

2.3. Remote Sensing Technology in Protected Areas

In the protection process of natural reserves, it is crucial to make rational use of biological resources, because it is related to human survival and development. At present, China has made great achievements in wetland protection, but there are still many deficiencies. For example: First, due to the lack of relevant laws, regulations and policies. The second is the lack of relevant professional and technical personnel, equipment and technology, and the third is the lack of improvement of wetland environmental protection management system, management mechanism and supervision system. Maximum likelihood classification is one of the most widely used and common supervised classification methods. Figure 2 is the remote sensing technology framework of the Reserve.
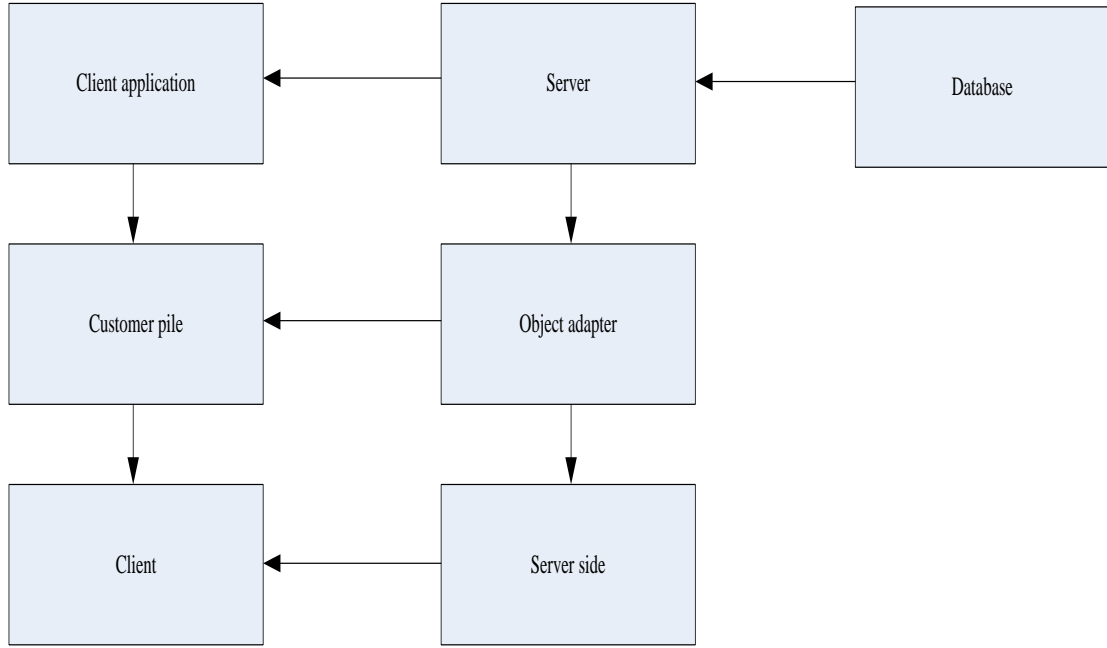
Figure 2. Remote sensing technical framework of protected areas

This method assumes that in the area to be classified, all kinds of training samples are approximately subject to normal distribution, calculates the similarity between each pixel and the category in the image one by one, establishes a set of discrimination functions, calculates the attribution probability of the pixel through this function set, and then divides it into the category with the highest probability. First, the probability density function should be calculated to obtain the probability information of training sample data. For the remote sensing data of a single band, the probability density function of a certain land type O follows the following equation:

$$p(x|\varpi_i) = \frac{1}{(2\pi)^{\frac{1}{2}}\sigma} \exp\left[-\frac{1}{2}\frac{(x-\mu_i)^2}{\sigma_i^{\ 2}}\right]$$

(1)

In the process of resource development and utilization in nature reserves, due to the lack of theoretical understanding of environmental adjacent right protection, many problems have been caused. For example, natural resources and ecological environment are interdependent, indivisible and independent of each other. However, if the relationship between natural geographical conditions and ecological conditions is ignored, the ecosystem will be damaged; at the same time, it may also occur that environmental pollution and other phenomena caused by human factors cannot be reasonably and effectively coordinated or solved in a timely manner. In formula (1), x is the luminance value of the pixel, u is the estimated mean value of all training samples in category i, σ Is the estimated variance of the observed values in this category. For multi band remote sensing data, the n-dimensional multivariate normal density function can be calculated using equation (2):

$$p(x|\omega_i) = \frac{1}{(2\pi)^{\frac{n}{2}}|v_i|^{\frac{1}{2}}} \exp\left[-\frac{1}{2}(X-M_i)^T V_i^{-1}(X-M_i)\right]$$

(2)

In this formula, | v | is the determinant of the covariance matrix, X is the inverse matrix of the covariance matrix, and M is the mean vector.

3. Investigation Process on the Adjacent Right of Environmental Protection in Nature Reserves

3.1. Data Model of Nature Conservation Based on Remote Sensing Technology of Protected Areas

Figure 3. Nature conservation data model based on reserve remote sensing technology

When building the remote sensing data model of a natural reserve(As shown in Figure 3), it is necessary to first convert each region within the space of the reserve to each other, and then obtain the data values of each region through analysis and calculation, and determine the corresponding weight of each level using the analytic hierarchy process. According to the hierarchical structure, the expert evaluation indicators of each level are divided into different levels. When conducting spatial analysis on them, it can be found that different types and different time periods have obvious different effects on each landscape element in the study area. These differences are used to determine the relationship between various natural factors, climate and environment changes in the study area and the protected objects. After calculating the remote sensing data model of the protected area in each period, it is also necessary to combine other relevant technical means and methods to achieve the sustainable development goals in the region. Then use AHP to determine the importance of each factor in each level in the whole research process, and finally compare, judge and comprehensively evaluate each level.

3.2. Research and Test of Environmental Protection Adjacent Right Bbased on Natural Protection Data Model

The research and test based on the natural protection data model mainly analyzes different types of environmental elements, including biological species, population structure and quantity changes. In this process, the dynamic characteristics and ecological balance of the ecosystem need to be considered. Due to the close relationship between biodiversity and ecological environment and their mutual influence on human social life, it is necessary to investigate the coordinated development between biodiversity and natural environment from an ecological perspective. In addition, it is also important to note that the biological community itself has a certain degree of vulnerability, such as plant species, microbial species, gene mutation and other factors will cause huge damage and threat to the ecosystem.

4. Investigation and Analysis on the Adjacent Right of Environmental Protection in Nature Reserves

4.1. Test and Analysis of Environmental Protection Adjacent RightBased on Natural Protection Data Model

Table 1 shows the test data of the nature conservation data model.

Table 1. Research and test of adjacent rights for environmental protection

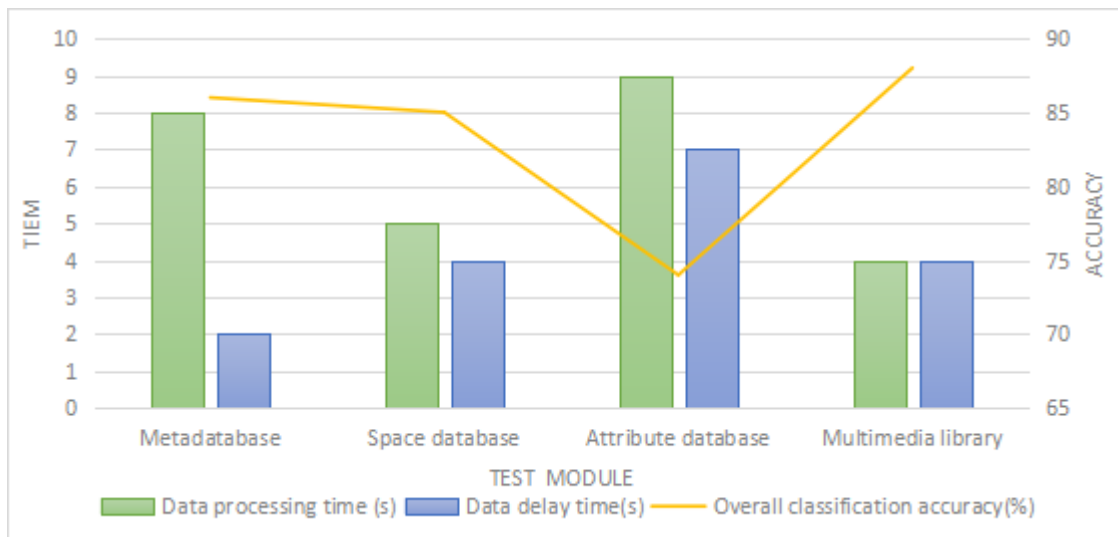| Test module	Data processing time (s)	Data delay time(s)	Overall classification accuracy(%)
Metadatabase	8	2	86
Space database	5	4	85
Attribute database	9	7	74
Multimedia library	4	4	88

Figure 4. Study and test of environmental protection adjacent rights based on Nature Protection data model

The research content of this paper is based on the systematic analysis of the natural protection data model. In view of the actual situation, the two should be considered together when analyzing

the natural protection data model. The impact degree should be studied from the space conditions, time dimensions, etc. This paper establishes the ecological right attribute analysis method in the protection right evaluation system based on the protection remote sensing technology, By constructing the relationship index, standard deviation and each index weight of China's nature reserves and adjacent protection areas, and combining with the actual data model, calculate the environmental protection rights of the main tourist attractions in the protection area, so as to provide reference and basis for the protection of nature reserves, in order to further improve the protection and management level of China's nature reserves. It can be seen from Figure 4 that the database processing time of this model is fast, the model processing data delay is low, and the overall classification accuracy is up to more than 80%.

5. Conclusion

Nature reserves are the homeland and development space for human survival. Protecting the ecological environment and controlling environmental pollution to achieve sustainable development has become a topic of concern in China's socio-economic, political and other fields. At the legal level, China's regulations on its environmental protection neighboring right system are relatively rough. This paper starts with the concept of natural reserves, discusses the theory of conflict of rights, the theory of natural endowment and the construction of relevant legislative systems, expounds the conflicts and problems among various interest subjects in the protection area from the perspective of rights, and finally puts forward suggestions on protecting the adjacent right of ecological environment.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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