# Research on Biodiversity Conservation Efficiency Based on Data Inclusion Analysis

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**Abstract:** Biodiversity Refers to the Total Diversity of Strains, Species and Ecosystems of Biological Genetic Genes in Different Environments on Earth the Progress of Human Society Poses a Serious Challenge to Biodiversity Environmental Damage and Predatory Overuse Are the Main Reasons for the Reduction of Species Resources Biodiversity is an Important Resource for Human Survival, Which Maintains the Health and Efficiency of the Ecosystem and Has Many Functions and Potential Values. Biodiversity is a Broad Concept to Describe the Degree of Natural Diversity, Which Refers to All the Organisms on the Earth and the Natural Complex Composed of These Organisms. the Relatively Limited Financial, Human and Material Resources Force Us to Evaluate the Biodiversity of Our Country Quickly and Effectively on a Large Scale, and Determine the Priority Areas for Protection, So as to Provide the Basis for the Effective Protection of the Biodiversity of Our Country. Based on the Data Including Analysis Methods, This Paper Discusses the Efficiency of Biodiversity Conservation.

## 1. Introduction

Biodiversity Refers to the Total Diversity of Strains, Species and Ecosystems of Biological Genetic Genes in Different Environments on Earth [1] It is Divided into Gene Diversity, Species Diversity and Ecosystem Diversity Biodiversity is a Broad Concept to Describe the Degree of Diversity in Nature. It Refers to All Living Things on the Earth and the Natural Complex Formed by These Living Things [2] Fully Understanding the Value of Ecological Services and Taking Reasonable Measures to Protect Biodiversity Are Sacred Missions Entrusted by History Identifying the Priority Areas That Need Protection Most Urgently Can Guide the Relevant Departments to Allocate the Protection Resources to the Areas with the Most Protection Intention, and Carry out Effective Protection System Planning to Realize the Goal of Maximizing Protection Benefits [3] Due to Insufficient Understanding of the Value of Biodiversity and Unsound Biodiversity Protection Policies, China's Protection Investment is Much Lower Than That of Other Developed and Even Developing Countries, and the Trend of Biodiversity Loss in China Has Not Been Effectively Controlled [4].

Many Ecological Service Values Have the Attribute of Public Goods, So They Have Been Excluded from the Economic System for a Long Time. Therefore, They Need to Be Identified, Displayed and Captured in a Specific Way Biodiversity is an Important Resource for Human Survival, Which Maintains the Health and Efficiency of the Ecosystem and Has Many Functions and Potential Values [5]. These Include Economic Function, Social Function, Ecological Function, Genetic Value, Aesthetic Value, Ethical Value, Etc., Which Are the Basis for the Ecosystem to Play Its Service Function [6]. Biodiversity is the Result of the Evolution of Earth's Life over Billions of Years. It is a Core Component of the Earth's Life Support System and Provides Living Resources and Living Environment for Human Beings.

In the Past 100 Years, an Average of One Animal Has Been Extinct Every Two Years, and the Rate of Species Extinction Has Been Accelerating. the Habitat of Living Things Has Also Been Greatly Damaged, and Biodiversity Has Been Challenged Unprecedentedly [7]. China is Not Only One of the Countries with High Biodiversity in the World, But Also One of the Countries with the Most Serious Threat to Biodiversity and Its Loss [8]. Relatively Limited Capital, Manpower, and

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Material Resources Force Us to Assess China's Biodiversity Quickly and Effectively from a Large Scale, Identify Priority Areas for Conservation, and Provide a Basis for Effectively Protecting China's Biodiversity [9]. Protecting Biodiversity is an Important Part of China's Urban Construction. It Understands the Formation Mechanism of Regional Species Richness and Evaluates the Biodiversity of Different Scale Landscapes and Their Impact on the Environment, Effectively Carrying out Biodiversity Conservation and Ecological Planning and Management. Has a Very Important Meaning [10]. This Paper Explores the Efficiency of Biodiversity Conservation Based on Data Including Analytical Methods.

## 2. Factors Affecting Biodiversity

### 2.1 Destruction of Ecological Environment

Our Earth is a Colorful Planet. Different Species Play Different Roles in This Homeland. All Things Coexist Harmoniously and Multiply Marketization of the Value Capture of Ecological Services is a Means by Which Human Beings Rely on the Market the Process of Comprehensive Protection of Biodiversity is the Best Way to Restore the Value of Ecological Services in the Economic System and Realize the Harmonious Development between Human Beings and Nature the Reduction of Forest Area Due to Deforestation and Deforestation is a Worldwide Problem and an Important Reason for the Reduction or Even Extinction of Many Species At Present, the Tropical Rain Forest is Decreasing At a Rate of 0.6% Per Year. If It Continues, the Suitable Habitats for Animals and Plants Living Here Will Become Less and Less [11] the Number of Some Precious Birds and Animals Will Decline Year by Year, Eventually Leading to Extinction Organisms Are Interdependent, for Example, Plants Provide Habitats for Animals and Nectar for Insects, Which Spread Pollen to Plants, and Many Animals Such as Birds Provide Nutrition for Plants [12]. Only by Choosing the Price Oriented Function and Embedding the Value of Ecological Services in the Economic System Can We Achieve the Most Efficient Protection of Biodiversity.

The Traditional Biodiversity Protection Mainly Focuses on the Diversity of Species Level, and There Are Some Problems Such as the Lack of Representation of Biodiversity, Which Can Not Reflect the Changes of Biodiversity on the Ecosystem Level in Time. If Environmental Damage Causes Damage to Human Health and Life, It is Even More Difficult to Recover. Any Kind of Organism Can Not Be Separated from the Specific Living Environment, Which is Composed of Many Ecological Factors. the Marketization of Value Capture of Ecological Services is a New Development of Biodiversity Protection. in Order to Protect Biodiversity, the Chinese Government Has Actively Carried out a Series of Fruitful Work, Including Establishing a National Coordination Mechanism, Strengthening Legislation and Law Enforcement, Strengthening Local Protection, Attaching Importance to Publicity and Education, and Promoting Global Cooperation, Which Has Effectively Promoted the Sustainable Development of the National Economy and Society. Vegetation is the First Producer in the Ecosystem, Which Plays a Key Role in Determining the Structure and Dexterity of the Ecosystem. in Different Vegetation Areas of Pinus Tabulaeformis Forest, Its Species Composition, Community Structure, Community Ecological Service Value Capture Marketization Breaks the Traditional Understanding That Ecological Service Value Can Not Be Realized through Market Exchange, and Represents the Future Trend of Biodiversity Protection. There May Also Be Some Differences in Productivity and Ecosystem Functions, with Different Particularities.

### 2.2 Predatory Overuse

Many resources are on the verge of exhaustion due to excessive hunting and over exploitation. The resources of ginseng and mink in the three treasures of Northeast China are very limited. Biodiversity provides us with food, fiber, wood, medicinal materials and a variety of industrial raw materials. All our food comes from nature. Habitat loss or fragmentation, invasion of alien species, environmental pollution, population explosion and overuse are recognized as the causes of biodiversity destruction, which are all caused by human factors without exception. The

marketization of value capture can meet these basic requirements, which is a new way to solve the problem of biodiversity protection. Although we have only explored a few parts of the value of ecological services, we still lack effective means of value capture. The existing measures are not enough to effectively protect biodiversity, so we need to re-examine and reconstruct a more effective protection system. In order to make the formulation of laws and regulations more feasible and the establishment of protected areas more scientific and reasonable, it is necessary to provide more scientific and accurate information for decision makers and scientific researchers Only by protecting and maintaining the diversity of life on earth can we have sufficient means of production and living, human society can develop healthily, and people's quality of life can be continuously improved.

In reality, even if the damage to the environment has not occurred, it does not hinder the survival of other species, but the behavior does have the possibility of causing damage consequences, and the threat to other species is objective Through a social implementation mechanism such as cluster network, a cluster trust mechanism can be established to improve the environment At different stages, the strength of industrial cluster competitiveness and the specific performance of industrial cluster competitiveness at different stages can be shown in Figure 1.

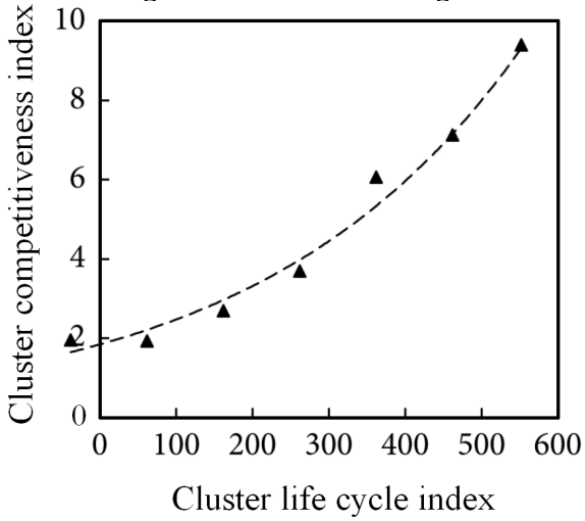


Fig.1 Trends in Cluster Competitiveness

Through the performance state of the environment, the main effects of each dimension under environmental change are given:

$$BH(p,q)=\sum_{u=1}^{n}\sqrt{p_u(f)q_u} \tag{1}$$

Divide it into two distinct phases, expressed as:

$$Mu=f(x)=Mu_{\max}(1-\frac{x}{x_{\max}}) \tag{2}$$

$$p_{ij}=x_{ij}^{'}/\sum_{i=1}^{m}x_{ij}^{'} \tag{3}$$

Biodiversity is a prerequisite for the existence and development of human society. The deterioration of biodiversity will inevitably lead to irreversible losses to ecological services and economic development. Promoting the marketization of value capture is not simply to realize the commercialization of the value of ecological services, but more importantly, to restore the inherent value of ecological services. Biodiversity plays an important role in maintaining soil fertility, ensuring water quality, and regulating climate [13]. The construction at the institutional level needs to be supported by matching science and technology. Especially in the field of environmental law,

environmental damage and pollution must be improved by the development of environmental science, and the application of science and technology is also indispensable in the implementation process of eliminating hazards. Due to long-term over exploitation and utilization, biodiversity has been seriously damaged and desertification is very serious. Our environmental appraisal department and environmental scientific means need to be continuously optimized to serve the construction of environmental system. The protection goal is to choose different index weight proportion according to the importance of the selected protection object to determine the corresponding protection standard. The determination of the protection goal can provide quantitative basis for the protection decision-making, and then lay the foundation for the identification of the priority area of biodiversity protection.

## 3. Analysis on Conservation Efficiency of Biodiversity Conservation

It is precisely because the value property right of ecological services is unclear and there is no marketization that the imbalance between the exchange subjects is caused, resulting in the sharp degradation of biodiversity as a vulnerable party Once any species becomes extinct, it will never regenerate If the species that still exist on the earth today, especially the endangered species on the verge of extinction, disappear, mankind will lose these precious biological resources forever The information of biodiversity is huge in number, and the data structure is complex. There are various connections between data and data at different levels Similar habitat patches can increase gene exchange and species flow through corridors, providing a continuous habitat network for species lacking spatial diffusion capacity, increasing the chances of species re-immigration and providing the chances of native species survival If photosynthesis of plants is cut off, the oxygen in the atmosphere will be exhausted in thousands of years due to oxidation reaction How to effectively find the required information resources in massive data and provide valuable data reference for scientific research and scientific decision-making is an urgent problem to be solved.

According to theoretical analysis, for different regions, the frequency components of the characteristic points in the direction of the positive weight coefficient are generally quite different and the distribution dispersion is high However, in general, the difference of frequency components of feature points in the direction of negative weight coefficient is small and the distribution dispersion is low In this paper, five groups are randomly selected again to find the average mean square deviation of frequency components in the direction of general weight coefficients of each group As shown in Table 1 and Figure 2.

Table 1 Variance of Frequency Components in the Direction of the General Weight Coefficient of Each Group

| Priority of power | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 |
|---|---|---|---|---|---|
| Focus on positive rights | 215.33 | 215.42 | 227.65 | 237.76 | 223.37 |
| Focus on negative rights | 90.47 | 97.65 | 87.53 | 76.75 | 82.82 |

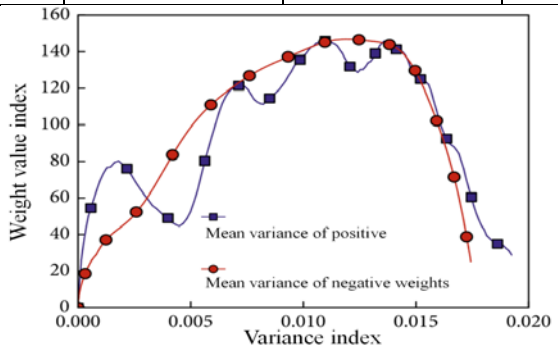


Fig.2 Variance of Frequency Components in the Direction of the General Weight Coefficient of Each Group

Information entropy is called the average information amount in the environmental infringement characteristic system. The information transmitted in the information source includes a limited number of mutually exclusive and jointly complete events, which all occur with a certain probability The average value is the information entropy, that is:

$$\tilde{E}(u_{ij}\left|\varepsilon_{ij}\right.)=\frac{\lambda\sigma}{1+\lambda^2}\left[\frac{\varphi(\varepsilon_{ij}\lambda/\sigma)}{\phi(\varepsilon_{ij}\lambda/\sigma)}+\frac{\varepsilon_{ij}\lambda}{\sigma}\right], \tag{4}$$

The amount of information a decision tree can make to determine the correct category for an instance:

$$CPV(k)=\sum_{j=1}^{k}\lambda_j\Big/\sum_{j=1}^{m}\lambda_j \tag{5}$$

If the attribute is used as the root of the decision tree, assuming a positive case and a counter case, the information entropy of the subset is:

$$F_{ik}=\sum_{j=1}^{m}q_j x_{ij} \tag{6}$$

Through the establishment of a risk index system for environmental tort hazards, the analytic hierarchy process is used to comprehensively evaluate the risks of the project. Compare the peer indicators and give the scale scale score according to the relative importance of the indicators. Construct a judgment matrix of weights. According to the sample data, the statistical results of the comparison of the obtained indicators are shown in Table 2. The relationship between the weight value and the evaluation value data is shown in Figure 3.

Table 2 Environmental Risk Comparison Data Results

| | Safety performance | Ambient pressure | Impact on biology |
|---|---|---|---|
| Safety performance | 1 | 0.62 | 0.48 |
| Ambient pressure | 0.55 | 1 | 0.72 |
| Impact on biology | 0.67 | 0.58 | 1 |

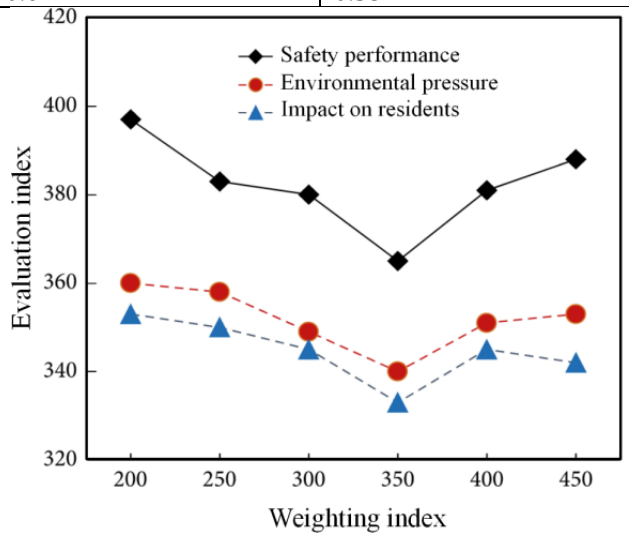


Fig.3 Relationship between Weight Value and Evaluation Value Data

The high-altitude terrain is rich in terrain types and diverse in habitat types, providing a good living environment for wildlife. Because of the high altitude, there are few human activities, so rare animals and plants are preserved. The nature reserve is a modern human protection ecosystem, wildlife resources and natural relics. It is a major innovation in the face of ecological destruction. It is a symbol of human progress and civilization, and one of the most important measures to protect natural resources and biodiversity. Similar to the ecosystem, the cold-wet-temperate forest

vegetation in the Changbai Mountains in the northeastern part of China, the grasslands in the western Inner Mongolia, and the desert grasslands in the northwestern part of Xinjiang are less damaged by humans, and the ecosystem is preserved. The establishment of an effective network system of protected areas is the key work of biodiversity protection. The biggest feature of an effective network system is that it can protect the biodiversity in the area to the maximum extent with limited resources. It is suggested to build and expand some protection areas, and establish ecological corridors to link the protection areas and form a protection network system. So as to protect biodiversity resources more effectively and achieve the goal of biodiversity protection in China.

## 4. Conclusion

China is one of the countries with the most abundant animal and plant resources in the world. At the same time, it is also one of the countries with the most damaged biological resources and the most rare and endangered species. Strengthening the protection of biological diversity in China is an important work website and client software package that can exchange data, and the client software package can also exchange data directly. In this way, the purpose of data sharing is achieved, and gradually developed into a distributed database platform that integrates text, map, picture, sound and image, and can simultaneously publish biodiversity information on the Internet and hardware carrier. Ecosystem is an indicator of ecological process and ecological service function. The combination of various types of protection objectives can better represent the entire biodiversity Only by guiding and mobilizing people's enthusiasm and sense of responsibility for caring for and caring for their surrounding landscapes, enabling people to acquire identity and cohesion, and introducing the influence of human activities on landscape evolution into a virtuous circle, can the protection of landscape biodiversity be facilitated Protecting the biological resources on the earth is a great undertaking that can benefit the present and the future Only by effectively protecting biodiversity can the sustainable utilization and development of biological resources be realized.

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