



Bird Conservation for Economic Growth, and Science Popularization for an Enlivened Society

Exploring the cooperative model between nature conservation communities and science popularization and education institutions in Wuyuan County (Jiangxi Province)

Abstract: As an important supplement to the biodiversity conservation network, community-level nature reserves play a vital role in protecting scattered populations of rare and endangered animals and plants, as well as typical plant communities in China. However, their sustainable maintenance urgently requires further efforts to mobilize more resources and social forces and translate ecological dividends into people's well-being. Wuyuan, Jiangxi Province, has explored a cooperative model of resource complementarity between community-level nature reserves and institutions of nature-based popular science education. Focusing on the habitat conservation of the blue-crowned laughingthrush (*Garrulax courtoisi*)—a species endemic to China and Jiangxi Province—Wuyuan has not only created a stable home for the bird through scientific planning and ecological restoration but has also driven the development of the bird-watching economy. Meanwhile, relying on facilities such as the reserve's laboratories, Wuyuan carries out nature education and popular science activities, attracting a large number of tourists and jointly promoting the improvement of ecological conservation awareness and the collaborative development of the “conservation-education-economy” model. This practice provides a reference for a sustainable conservation model featuring ecologically beautiful landscapes and prosperous people for biodiversity conservation in mountainous cities and counties.

Keywords: Natural Conservation Villages; Natural Science Popularization and Education Institutions; Blue-Crowned Laughingthrush; Biodiversity Conservation

1. Background

The natural conservation communities in Wuyuan County focus on protecting local rare species and especially on building a suitable ecological home for the blue-crowned laughingthrush, a species endemic to China and Jiangxi. The blue-crowned laughingthrush has strict requirements for its habitat, preferring dense arbour forests surrounded by streams. The natural conservation villages provide a stable living environment for the bird by demarcating exclusive protected areas, implementing vegetation restoration, and conducting ecological monitoring. The population of the blue-crowned laughingthrush has gradually recovered, becoming a landmark achievement of ecological protection in Wuyuan.

The natural science popularization and education institutions in Wuyuan aim to inherit the spirit of natural science and provide public welfare publicity and education activities for local people. The institutions are equipped with facilities such as biological exhibition areas, professional laboratories, and green spaces. With rich science popularization resources, these sites have each become a landmark for natural education in Wuyuan, attracting a large number of learners and tourists.



Figure 1 "Natural Conservation Villages" in Wuyuan
(Credit: China Environment News)



Figure 2 Wuyuan Natural Science Popularization and Education Institutions Investigating the Cave Ecosystem
(Credit: China Youth Daily)

2. Main Practices

(1) Protecting Rare Species With Diverse Entities

Community-level nature reserves have demarcated core protected areas based on the habits of the blue-crowned laughingthrush (*Garrulax courtoisi*). The reserves' activities include the following:

- Closing mountains for forest and wetland restoration.
- Planting native plants that the blue-crowned laughingthrush likes.
- Establishing a regular monitoring mechanism using infrared cameras and regular patrol teams, enabling the reserves to track population size and activity trajectories.
- Carrying out the restoration of habitat connectivity to reduce human interference.
- Building 193 natural conservation communities, with a total area of 109,800 hectares.

The natural science popularization and education institutions have also carried out wildlife rescue with government support:

- Independently carry out temporary wildlife rescue.
- Develop artificial breeding technology, and built Wuyuan County's first conservation green space for local rare butterflies.

(2) Encouraging Local Citizens to Participate in Conservation Actions Through Awareness-Raising Activities

- Based on the protection case of the blue-crowned laughingthrush, the natural conservation villages carry out the “guardians of rare birds” themed publicity, guiding residents to actively participate in the maintenance of the surrounding environment and reducing interference with the habitat.

- The natural science popularization and education institutions design differentiated science popularization content and host public welfare lectures in combination with local issues, such as the invasion of alien species and the prevention and control of agricultural pests and diseases. For example, in 2022, 12 lectures on the ecological hazards of the golden apple snail (*Pomacea canaliculata*) were held, encouraging nearly a thousand people to participate in the removal action. Simultaneously, through science education on native species such as the Blue-crowned Laughingthrush, Wuyuan enhanced the public's attention to rare species

(3) Activating the Value of Research Tourism and Cultural Tourism With Characteristic Biodiversity Scenic Spots

- Relying on the scarcity of the blue-crowned laughingthrush, the natural conservation communities attract bird-watching enthusiasts and photography teams, driving the development of supporting industries, such as homestays and restaurants, in the surrounding areas and forming a characteristic “bird-watching economy” chain. which has directly benefited local residents. The annual income of ecological tourism in the villages where the conservation communities are located can reach RMB 3.5 million.

- The natural science popularization and education institutions independently carry out research and cultural tourism activities. They have completed an annual average of 12,000 public science sessions and hosted about 13,000 youth participants over the past 3 years. In cooperation with 17 natural villages, they have also organized field research camps that welcomed over 2 million bird-watching and study-tour participants in the past 3 years. This has helped 50 local households raise their incomes by nearly RMB 2.9 million collectively. Through natural education and community cooperation, they have aligned the value of science popularization value with improvements to local livelihoods.

3. Insights

The natural conservation communities focus on species habitat protection, and the natural science popularization and education institutions focus on science popularization and education. They form a closed loop of “conservation practice + public awareness” through their respective advantages. It proves that collaboration among diverse independent entities is an effective model for biodiversity conservation. Professional science popularization institutions can effectively connect scientific research with society and help the public shift from being bystanders to participants, while promoting the improvement of ecological conservation awareness as well as the collaborative development of the “conservation-education-economy” model. This provides a reference for a sustainable conservation model featuring ecologically beautiful landscapes and prosperous people for biodiversity conservation in mountainous cities and counties.

Case provided by CCICED Special Policy Study on Governance System for a Harmonious Coexistence between Humans and Nature

China Council for International Cooperation on Environment and Development
Report on Successful Experiences and Case Studies of Green Transition (2024-2025)

