National parks aim to ensure ecological security

Officials also tout Chinese characteristics in promoting harmonious coexistence of people and nature

By YUAN SHENGGAO

A bird's-eye view of the Three-River-Source National Park, Qinghai province. PROVIDED TO CHINA DAILY

The establishment of a protected area system with national parks as the main body and a unified, standardized and efficient national park system with Chinese characteristics is an important way to ensure national ecological security. It's also vital for realizing the harmonious coexistence of humans and nature.

National parks in China refer to specific land or sea areas approved by government officials to protect a large area of natural ecosystems. Naming an area a national park considers national representativeness as its main purpose, but officials also hope to realize scientific protection and rational use of natural resources.

The primary function of a national park is to protect the authenticity and integrity of important natural ecosystems. It also has comprehensive functions such as scientific research, education and recreation.

China has established a pilot system for 10 national parks of the Three-River-Source, Northeast China Tiger and Leopard, Giant Pandas, Qilian Mountain, Hainan Tropical Rainforest, Shennongjia, Wuyishan, Qianjiangyuan, Nanshan, and Pudacuo.

They comprise a variety of animals, landscapes and plants, and cover 12 provinces including Qinghai, Jilin and Hainan, with a combined area of more than 220,000 square kilometers, accounting for 2.3 percent of the country's total land area.

Tian Yongchen, deputy director of the National Park Administration of the National Forestry and Grassland Administration, said: "The national park is not a park in the general sense that the public understands. The main purpose is to protect a large area of natural ecosystems with national representativeness. It is a specific land or sea area and is one of the most important types of nature reserves."

Tian said that national parks have three major concepts: overall protection of natural ecosystems, important natural ecosystems with unique natural landscapes and rich scientific connotations, and adherence to public welfare.

In November 2013, the Chinese government proposed for the first time the establishment of a national park system. In December 2015, a pilot national park system was launched.

In December 2020, the National Forestry and Grassland Administration completed the third-party assessment and acceptance of the pilot national park system. In October 2021, China officially established the first group of national parks, opening a new chapter in their construction.

Yang Rui, dean of the National Park Research Institute of Tsinghua University, said national parks are the first concept of ecological protection.

"They are the most critical areas in protective shields for ecological security. The ecosystem has no national boundaries. Many of the national parks we have established are precious pieces of natural heritage, and we will protect them," Yang said.

"For example, Wuyi Mountain is regarded as the most important area for ecological protection and provides a model for ecological protection and restoration. It has played a demonstrative and leading role in the international community.

"We plan to divide the national parks into two control areas One is called the core protection area, in which man-made activities are forbidden. Other places are called general control areas, which are said to be open areas," Yang said.

"I think that the strictest protection of national parks is consistent with the ecological experience and nature education of national parks.

"The national park actually allows ecological experience and nature education," he added. "Otherwise, it would be classified as a nature reserve, which is to distinguish the nature education and ecological experience of the national park from the tourism industry we traditionally think of."

Significant results have been achieved in the construction and management of national parks, natural forest protection, grassland restoration, and forest resource management and protection.

Since the nation's pilot program launched, the National Development and Reform Commission and the Ministry of Finance have allocated a total of 6.26 billion yuan ($967.44 million) to support the construction of infrastructure in natural parks, such as facilities for patrol and monitoring, forest and grassland fire prevention, field rescue and epidemic prevention and control as well as publicity and education, and national park surveys.

A total of 44,300 positions for ecological management and protection have been set up in 10 pilot areas, participating in park patrol work, and becoming the main force in national park ecological protection.

Hao Yujun, director of the Science and Technology Department of the National Forestry and Grassland Administration, said national parks are rich in popular science resources. Their development allows people to experience nature and increase their knowledge.

Hunchun native finds in wildlife conservation

By HAO NAN
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Northeast China Tiger and Leopard National Park is located in Jilin and Heilongjiang provinces. PROVIDED TO CHINA DAILY

Li Dongwei had developed a lifelong love affair with mountains. So the 29-year-old made a vow in August 2012 to join a wild animal protection volunteer group in Hunchun city, Jilin province.

"I volunteer in glorious wildlife conservation," Li said. "I promise that my fate will be connected with nature, and to do what I do without remuneration. I will practice the spirit of volunteering, protect clear water and green mountains, and build an ecological home."

Growing up in a mountainous village in Hunchun, Li has had a strong affection for mountains. In November 2012, he officially began his volunteer work as a ranger assisting the city's forestry bureau. A month later, Li was promoted to head of one of the bureau's forest ranger teams thanks to his outstanding performance.

Li's team is mainly in charge of routine patrols and removing traps placed to catch wild animals at a 2,000-sqaure-kilometer mountainous area neighboring the Hunchun Siberian tiger nature reserve. Walking an average of 10 km every day, the team's main duty is to set up infrared cameras for wildlife surveillance in spring and autumn, conduct camera maintenance during summer, and fight against illegal hunting during the winter.

Over the past decade, Li has walked the area countless times, leading his team to clean away more than 13,000 hunting tools such as steel traps and wire snares. The team has also seized eight illegal hunters.

Hunchun carried out the infrared camera monitoring project in early 2013. Through hard work and a short period of study with Russian experts, Li set up 20 infrared cameras in 10 locations in May that year and successfully captured the images of an adult Siberian tiger.

"I was very excited because it was the first time I had to set up cameras," he said.

Li has had a few memorable brushes with danger over the years.

"The most dangerous one was passing by a lactating Siberian tiger. I couldn't dare to think about what would happen if I left the camera five minutes later that day," he said.

During a weekend in October 2013, Li received a phone call from a forest frog farmer saying that a tiger appeared near his farm last night. Excited by the news, Li immediately called his team members but could not reach any of them.

Li said he could never give up on this great opportunity and decided to go there alone. After hours of walking, tracking footprints, measuring and observing, he found a satisfying location for setting up a camera. When he got home, it was already 8 pm.

A month and a half later, the camera successfully recorded 12 videos, seven of which included the images of a lactating Siberian tiger. However, a video also showed that the tiger chased the camera by following Li's smell less than five minutes after he left.

Tigers are most likely to attack humans when they are nursing or injured. Li said he still remembered his fear when seeing the video, even several years later. The good news is that this mother tiger has given birth to three cubs, all of which are quite healthy.

From an ordinary farmer to a professional forest ranger, Li has recruited more than 400 volunteers from other provinces through the internet.

He and his team have also won many prizes and honorary titles, such as advanced individuals and excellent rangers for infrared camera monitoring awarded by World Wildlife Fund.

They've also won the championship of Siberian tiger habitat ranger competitions.

In 2017, China launched a pilot national park project for Siberian tigers and Amur leopards — two species noted as critically endangered on the International Union for Conservation of Nature's Red List of Threatened Species. It has also put forward the most stringent protection requirements for wildlife in the park.

Research team contributes to giant panda preservation

By LI YOU
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Shi Xiaogang's team conducts a snow leopard survey and ecological research for rare species. PROVIDED TO CHINA DAILY

Despite the harsh conditions when doing field investigations in Wolong National Nature Reserve in Southwest China's Sichuan province, Shi Xiaogang had no hesitation in becoming a research team member there for the preservation of pandas and other endangered animals.

With the help of digital tools, they carried out the sampling and monitoring of giant pandas, made up the animals' DNA files, conducted snow leopard surveys and ecological research for rare species.

Through routine monitoring, they acquired the information of the behavior and habitat changes of giant pandas and their associated animals, observed and recorded their number, activity traces and populations distributed in the area.

They launched an investigation into edible bamboo, analyzed the effect of human interference and published new findings about giant pandas' courtship behavior, new features about their distribution and gender ratio and discovered the world's first white giant panda and the world's first subadult twins in the wild. They collected the images of giant pandas and snow leopards, which have become the vivid photos people can see today.

Some of the pictures were collected when they came across rivers, stepped on cliffs, waded through rocky beaches or climbed over ridges and beams.

Wolong, located at the deepest cut in Hengduan Mountains Canyon, is principally renowned for its significance in the conservation of the giant panda and some other endemic and threatened species including snow leopards.

Shi has been engaged in biodiversity protection work for 29 years and led a team with nearly 100 members. After years of research and record, they have made significant contributions to the ecosystem protection strategy and the giant panda and snow leopard protection plan in the Wolong area.

They spend more than 200 days a year in the wild, facing the difficulties of huge temperature differences and body pains brought by hypoxia in high mountains.

Besides, they are used to insect and snake bites all year round and get ready to encounter various dangerous wild animals every second and some severe weather such as avalanches will also hamper their field work.

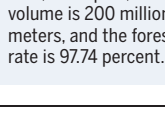
The longest journey for field work once lasted 15 days, and the team's capita walk is recorded at more than 500 kilometers a year. They also serve multiple tasks, such as driving away poachers, forest fire prevention and pest control, serving a higher goal of protecting all the ecological resources in the Wolong area.

In 2017, Shi led his team to carry out scientific investigation on 436 square kilometers for the research on snow leopards, the first action for the animal's research in Hengduan Mountains. He then became the first one to initiate the protection of snow leopards in Sichuan province.

"Most of the time, our camouflage clothes can't stay dry. When the weather is good, they are soaked with sweat; when the weather is bad or it rains, the clothes are wet; or it can also get wet in the river," according to Shi.

Vast areas conserve resources

Three-River-Source National Park

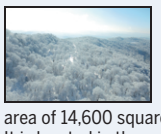


One of the most concentrated areas in Asia and even the world where large rivers are bred, Sanjiangyuan, or the Three-River-Source, in Qinghai province, is an important region for water conservation. It has the highest and largest plateau wetland ecosystem in the world. The Three-River-Source National Park has a total area of 190,700 square kilometers and is located in the southwest of Qinghai, with Huanghe township in Madoi county in the east, the Qiangtang Plateau in the west, the Tangula Mountains in the south, and the Kunlun Mountains in the north. It is divided into three sections: the source of the Yangtze River, the source of the Yellow River, and the source of the Lancang River. The unique plateau alpine climate gave birth to the natural ecosystem of the park, which integrates grasslands, wetlands, forests, rivers, lakes, snow-capped mountains, glaciers, wild animals and world natural heritage, showing the original natural features and natural space.

Giant Panda National Park

The Giant Panda National Park has a total area of 22,000 square kilometers, spanning Sichuan, Shaanxi and Gansu provinces. The park is dominated by forest ecosystems, with an area of 27,134 sq km, a forest coverage rate of 68.37 percent, and a forest stock volume of 212 million cubic meters. The natural forest area is 13,500 sq km, accounting for 90.09 percent of the forest area. The artificial forest area is 1,490 square kilometers, accounting for 9.91 percent of the forest area. The land use type is mainly woodland, accounting for 84.56 percent of the total area of the national park.

Northeast China Tiger and Leopard National Park



Northeast China Tiger and Leopard National Park has a total area of 14,600 square kilometers. It is located in the southern Laoyeling area at the junction of the two provinces of Jilin and Heilongjiang, adjacent to Russia and the Democratic People's Republic of Korea. The forest area in the park is 13,700 sq km, the forest stock volume is 200 million cubic meters, and the forest coverage rate is 97.74 percent. The natural forest area is 13,100 sq km, accounting for 95.62 percent of the forest area. The artificial forest area is 637 sq km, accounting for 4.38 percent of the forest area. The water resources are abundant and the water system is well developed, including the Gaya, Huapidianzi, Dawangqing and Minjiang rivers.

National Park of Hainan Tropical Rainforest

The Hainan Tropical Rainforest National Park has a total area of 4,269 square kilometers and is located in the central part of Hainan Island. The park can be found in the dome structure area. It forms layered topography with the Wuzhishan-Yingeling central mountain as the high point and descends layer-by-layer to the periphery. There are tropical rainforest ecosystems with obvious vertical distribution such as lowland rainforests, mountain rainforests and tropical cloud forest. The total area of tropical rainforest in the park is 3,154 sq km, accounting for 73.88 percent of the national park's total area.

Wuyishan National Park

Wuyi Mountains is the boundary between the southeast coastal hills of the country and the south of the Yangtze River, and the natural watershed of the Minjiang River, Tingjiang River and Poyang Lake. Wuyishan National Park has a total area of 1,280 square kilometers, and is located in the northern section of Wuyi Mountains at the junction of Fujian and Jiangxi provinces. The Wuyi Mountain range is the most important mountain range in the southeast coastal region of the country. There are more than 30 peaks above 1,800 meters in the park, of which Huanggang Mountain is 2,160.8 meters above sea level. The main creeks and rivers include Tongmu Creek, Huangbai Creek, Mayang Creek, Chongyang Creek, Qingxi River in the upper reaches of the Minjiang River, and the Qianshan River, as well as Zixishui and Yangcunshui in the upper reaches of Xinjiang River in the Yangtze River. The forest area in the park is 1,254 sq km, and the forest coverage rate is 97.97 percent. The vegetation has obvious zonal distribution, including evergreen broad-leaved forest belts, coniferous and broad-leaved mixed forest belts and temperate coniferous forest belts.