

**THE 14<sup>TH</sup> FIVE-YEAR PLAN  
FOR PROTECTION AND DEVELOPMENT IN  
THE FOREST AND GRASSLAND SECTOR OF  
THE PEOPLE'S REPUBLIC OF CHINA**

**(2021-2025)**

**National Forestry and Grassland Administration  
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## ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AIIB	Asian Infrastructure Investment Bank
APEC	Asia-Pacific Economic Cooperation
APFNet	Asia-Pacific Network for Sustainable Forest Management and Rehabilitation
ASEAN	Association for Southeast Asian Nations
BCM	China-EU Bilateral Coordination Mechanism on Forest Law Enforcement and Governance
CAF	Chinese Academy of Forestry
CBD	Convention on Biological Diversity
CEEC	Central and Eastern European Countries
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPC	Community Party of China
EIB	European Investment Bank
FAO	Food and Agriculture Organization of the United Nations
GEF	Global Environment Facility
GFFFN	Global Forest Financing Facilitation Network
INBAR	International Network for Bamboo and Rattan
INDCs	Intended Nationally Determined Contributions
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature
NEASPEC	North-East Asian Subregional Program for Environmental Cooperation
NFGA	National Forestry and Grassland Administration
TNC	The Nature Conservancy
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFI	United Nations Forest Instrument
UNIDO	United Nations Industrial Development Organization
WEF	World Economic Forum
WWF	World Wide Fund

# Chapter 1 Usher in a New Era of Integrated Development of Forestry, Grasslands, and National Parks

Under the strong leadership of the Central Committee of the Community Party of China (CPC) with Comrade Xi Jinping at its core, we have been dedicated to strengthening ecological conservation and restoration, and strived to promote land greening, improve forest quality, and develop forest cities and national parks. This has greatly contributed to building ecological civilization (or “eco-civilization”), fighting a decisive battle against poverty, and building a moderately prosperous society in all aspects, which has helped us usher in the three-sphered integrated development of forestry, grasslands and national parks.

## 1. The Development Environment

**Achievements during the period of the 13th Five-Year Plan.** The main tasks set out in the *13th Five-Year Plan* were fully completed, with obligatory indicators achieved successfully, and a significant improvement in the ecological situation. Forest coverage has reached 23.04%, forest stock volume 17.56 billion m<sup>3</sup>, comprehensive vegetation cover of grasslands 56.1%, conservation rate of wetlands 52%, and 150 million *mu* (10 million hectares [ha]) of desertified lands were taken under control.

Figure 1-1 Change of Forest Area and Stock Volume according to Forest Resource Inventories

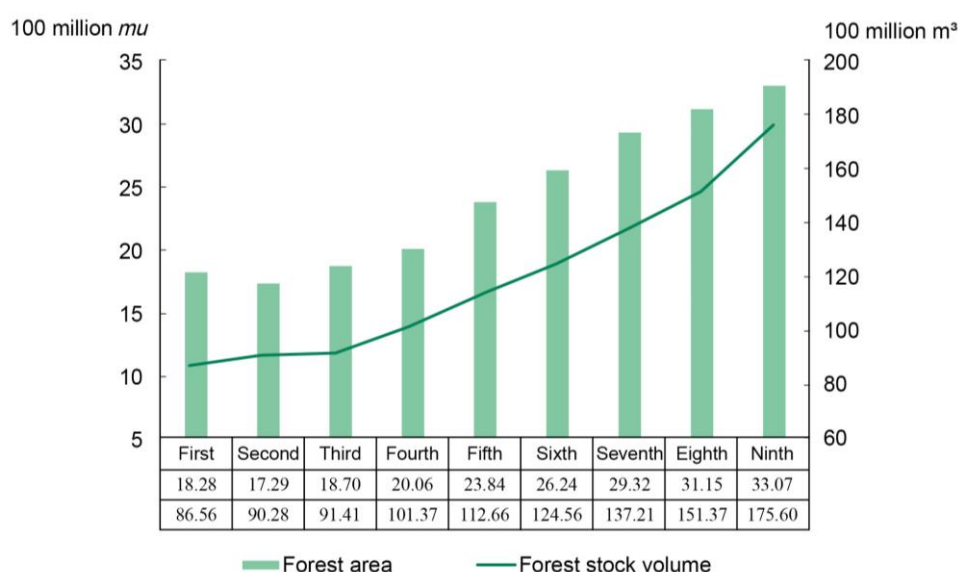


Figure 1-2 Changes to Area and Number of Wetlands of International Importance

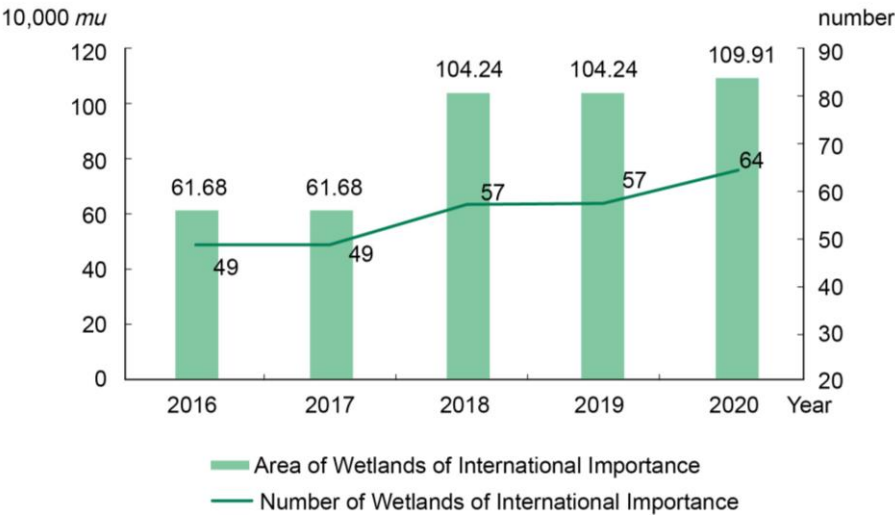
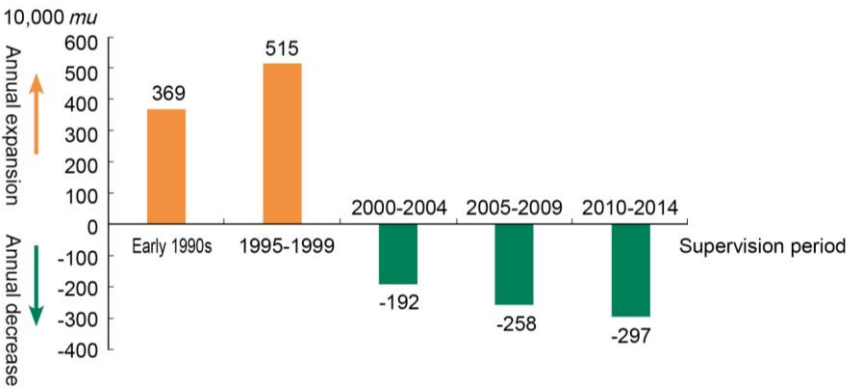


Figure 1-3 Average Area Change of Desertified Lands per Annum in Different Periods



*Remarkable achievements were made in greening land.* 748 million mu (49.87 million ha) of afforestation and grass planting were completed, and both the forest area and stock volume has increased in the past 30 years consecutively. Key national ecological rehabilitation projects, such as the Three-North Shelterbelt Project, Natural Forest Protection Project, Returning Farmland to Forest and Grassland projects, Returning Grazing Land to Grassland projects, and Beijing-Tianjin Sandstorm Source Control projects, were implemented at an in-depth level. A voluntary tree-planting campaign was carried out widely, and 98 new cities were given the title of National Forest Cities.

*The conservation system has been improving gradually.* The pilot task of setting up a national park system was completed, and steady progress has been made in the consolidation and optimization of natural protected areas. Four protected areas were listed as World Natural Heritage Sites and eight as World Geological Parks, and the



populations of over 300 endangered wild species have stabilized and started to increase. The commercial logging of natural forests was completely banned, with 1.944 billion *mu* (129.6 million ha) of natural forests rehabilitated. The annual damage rate of forest fires on average was controlled below 0.9‰. The *Forest Law* and the *Wild Animal Protection Law* were amended.

Table 1-1 Pilot Projects of the National Park System

Serial number	Name	Provinces Involved
1	Sanjiangyuan National Park (NP)	Qinghai
2	Northeast China Tiger and Leopard NP	Jilin and Heilongjiang
3	Qilian Mountain NP	Gansu and Qinghai
4	Giant Panda NP	Sichuan, Gansu and Shaanxi
5	Hainan Tropical Rainforest NP	Hainan
6	Wuyishan NP	Fujian
7	Shennongjia NP	Hubei
8	Shangri-La Potatso NP	Yunnan
9	Qianjiangyuan NP	Zhejiang
10	Nanshan NP	Hunan

Table 1-2 Annual Change of the Number of Ecological Forest Rangers and the Number of People Lifted out of Poverty

Year	Number of Rangers Recruited (10,000 people)	Number of People Lifted out of Poverty (10,000 people)	Input by Central Budget (RMB 100 million)
2016	30	70	20
2017	35	100	25
2018	50	180	35
2019	100	300	60
2020	110	300	64

*The forest and grassland industry has developed steadily.* Its total output value exceeded RMB 8 trillion, with three pillar industries, i.e., commercial forests, wood processing and forest tourism, whose annual output value exceeded RMB 1 trillion each. The production and trade of forest products ranked first in the world, and the foreign trade volume of forest products reached USD 160 billion. Remarkable achievements have been accomplished in the field of poverty alleviation through various methods such as ecological compensation, land greening, and the development of ecological industries, which have driven more than 20 million people out of poverty and increased their income. We have recruited 1.102 million people who were registered in the poverty files as ecological forest rangers, established 23,000 professional cooperatives on afforestation and grass planting with the aim to eliminate poverty, and developed ecological industries such as *Camellia oleifera* which have benefited more than 16 million poor people.

*The sector has continued to reform and open up.* The reforms of state-owned forest areas and state-owned forest farms were completed. Steady progress was made in the reform of the collective forest tenure system. Administration was streamlined through reducing the government approval items step by step. Eighteen achievements won the second National Prize for Progress in Science and Technology. We successfully hosted the 13th Conference of the Parties to the United Nations Convention to Combat Desertification (UNCCD) and the International Horticultural Exhibition 2019 Beijing.

**Development opportunities.** The CPC Central Committee with Comrade Xi Jinping at its core attaches great importance to the development of eco-civilization, and prioritizes it in overall socioeconomic development. A series of fundamental, pioneering and long-term experiments were carried out, which achieved a historic transition and overall changes in the development of eco-civilization from theory to practice. Both the *CPC Central Committee's Proposals for the Formulation of the 14th Five-Year Plan* and the *Plan* itself require improving the quality and stability of ecosystems, and promoting harmonious co-existence between man and nature. As China is ushering in a new stage of development, implementing new development concepts and building a new development dynamic, we, the forest and grassland sector, are facing new development opportunities.

*Xi Jinping Thought on Ecological Civilization highlights the objectives and directions of forest and grassland activities.* From the strategic and overall standpoint of the “great rejuvenation of the Chinese nation” and its sustainable development, General Secretary Xi Jinping highly values the development of forests, grasslands and national parks, and has made a series of important instructions, comments and elaborations, which are fundamental principles and guidelines for the protection and development of forests and grasslands. We shall adhere to the holistic approach of promoting integrated ecosystem conservation and rehabilitation, which could ensure the forest and grassland sector plays a fundamental and strategic role in safeguarding national

ecological security and promoting eco-civilization. We will enhance and expand the achievements of poverty alleviation through ecological development and ensure those achievements feed into the strategy of “rural revitalization”. All these efforts will contribute to laying the ecological foundation for building a modern socialist country in a comprehensive way.

*Reaching a carbon emissions peak and carbon neutrality provides great opportunities for the forest and grassland sector.* Reaching a carbon emissions peak and carbon neutrality has been integrated into overall socioeconomic development and the construction of eco-civilization. We shall stick to the path of high-quality development that puts ecological conservation first and that is green and low-carbon. We will further increase forest area and improve forest quality, enhance ecosystem carbon sinks, and establish and perfect a value realization mechanism for ecological products, so as to make greater contributions to achieving the national goal of peaking carbon emissions, reaching carbon neutrality, and safeguarding global ecological security.

*The guidelines on science-based land greening will lead the high-quality development of forests and grasslands.* Forestry development is a fundamental issue for sustainable socioeconomic development. We shall adhere to the path of green development that is science-based, ecologically friendly and cost-efficient. Using the integrated One Map based on the findings of the Third National Land Resource Survey, we will plan and lay out the areas for greening, so we can better set aside mountains for natural regeneration, plant trees, shrubs, or grass, or conserve desertified lands, wherever appropriate. Measures and policies for large-scale land greening will be adapted to local conditions.

*Setting up a system of protected areas with national parks as the main component contributes to the optimization of the spatial layout of national territory.* The top-level design of the protected areas system, with national parks as the main component, has been continuously improved. We will speed up the establishment of national parks, protect the authenticity and integrity of ecosystems, and promote the steady integration and optimization of nature reserves and nature parks, in order to effectively protect the most vital part of China’s ecosystems, the most unique parts of the natural landscape, the most essential parts of natural heritage, and the richest parts of biodiversity, leaving precious natural heritage for the generations to come.

*The full implementation of the Forest Chief Scheme has provided a strong institutional guarantee for the conservation and development of forests and grasslands.* Rolling out the Forest Chief Scheme is a major innovation in the supervision and governance of forest and grassland resources. We will continue to ensure the local Party committees and governments at all levels take the main responsibility to protect and develop forest and grassland resources. We will establish a long-term and effective mechanism with shared responsibility between Party and

government leadership, jurisdiction responsibility, cross-sector coordination, source governance and whole-region coverage.

**Challenges faced.** The total volume and quality of China's forest and grassland resources are still not sufficient, and the ecosystems' carrying capacity is unstable and not strong. A holistic approach to rehabilitating the ecosystems of mountains, rivers, forests, farmlands, lakes, grasslands, and deserts has not been well understood and implemented. The natural conditions in arid and semi-arid areas in the western and northern parts of China are quite fragile, difficult for land greening. Hazards include forest and grassland fires, the pine wood nematode and invasion species, which could pose risks to forest and grassland resource protection and development. Reform in the forest and grassland sector needs to be further deepened. The law enforcement system and the grassroots workforce have been weakened. The policy support system is yet to be improved and a value realization mechanism for ecological products has not been put in place. Innovation in science and technology, and technical facilities, still lag behind.

## **2. General Requirements**

**Guiding thinking.** We will hold high the banner of socialism with Chinese characteristics, and fully implement the guiding principles from the 19th CPC National Congress in 2017, and from the second, third, fourth, and fifth plenary sessions of the 19th CPC Central Committee. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will implement Xi Jinping Thought on Eco-Civilization, firmly establish the concept that “mountains and rivers green are mountains of silver and gold”, and adhere to the principle of respecting, protecting and following the law of nature. We will give priority to the conservation, protection and restoration of nature, take the implementation of the Forest Chief Scheme as an effective means to achieve these goals, enable the three-sphered integrated development of forestry, grassland and national parks, and adopt a holistic approach to conserving our mountains, rivers, forests, farmlands, lakes, grassland and deserts. We will scale up land greening in a scientific manner, build a system of protected areas with national parks as the main component, speed up scientific and technological innovation, and deepen reform and opening up. Through those measures, we will increase the carbon sinks of ecosystems, promote the high-quality development of the forest and grassland sector, making new contributions to building eco-civilization, a beautiful China, and modernization in which man and nature coexist in harmony.

### **Major objectives:**

*Long-range objectives through the year 2035.* The quality and stability of forest, grassland, wetland and desert ecosystems will be improved, and ecosystem carbon sinks will be enhanced, making greater contributions to achieving the goals of the carbon emissions peak and carbon neutrality. A system of natural protected areas, with

national parks as the main component, will be in place, and wildlife and biodiversity conservation will be significantly strengthened. More high-quality ecological products will be provided; national ecological security barriers will be more solid; the ecological environment will be fundamentally improved; and the goal of building a beautiful China will be basically reached.

*Major objectives for next five years.* By 2025, forest cover will reach 24.1%, the forest stock volume 18 billion m<sup>3</sup>, the comprehensive vegetation coverage of grassland 57%, and the protection rate of wetlands 55%. Natural protected areas including national parks will cover more than 18% of the land area, and around 100 million *mu* (6.67 million ha) of desertified land will be under control.

Table 1-3 Main Indicators of Forest and Grassland Protection and Development for the 14th Five-Year Plan Period

NO.	Indicator	2020	2025	Type of Indicator
1	Forest cover (%)	-	24.1	Obligatory
2	Forest stock volume (100 million m <sup>3</sup> )	-	180	Obligatory
3	Forest stock volume per unit (m <sup>3</sup> /ha)	96.17	99.52	Anticipatory
4	Comprehensive vegetation coverage of grassland (%)	56.1	57	Anticipatory
5	Protection range of wetland (%)	52	55	Anticipatory
6	Land cover of protected areas including national parks (%)	-	>18	Anticipatory
7	Area of desertified land treated (100 million <i>mu</i> [6.67 million ha]) <sup>①</sup>	-	1	Anticipatory
8	Protection rate of the number of species of national key wild animals/plants (%)	73/66	75/80	Anticipatory
9	Forest/grassland fire damage rate (‰)	≤0.9/≤3	≤0.9/≤2	Anticipatory
10	Forest/grassland pest disturbance rate (‰/‰)	≤8.5/≤10.33	≤8.2/≤9.5	Anticipatory
11	Gross output value of the forest and grassland sector (RMB trillion)	8.17	9	Anticipatory
12	Value of forest ecosystem services (RMB trillion) <sup>②</sup>	15.88	18	Anticipatory

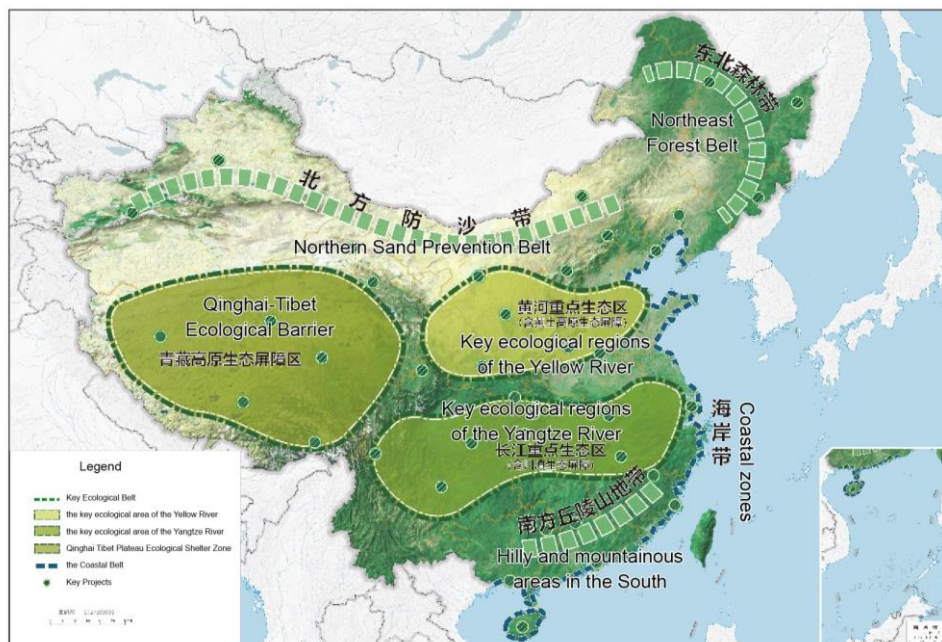
Note: ①Refers to the total area of desertified land treated during the five years.

②The value of forest ecosystem services mainly comprises eight categories: forest water conservation, soil conservation, carbon fixation and oxygen release, forest nutrient fixation,

atmospheric purification, farmland protection through wind prevention and sand fixation, biodiversity protection, forest therapy.

**The geographic layout of protection and development.** Following national territory spatial planning and the *Master Plan for the Major Projects for the Protection and Restoration of National Key Ecosystems (2021-2035)*, we will focus on key national ecological function zones, ecological conservation redlining areas, and national nature reserves. We will carry out major projects on ecological protection and restoration covering seven key ecosystems, i.e. the ecological barrier area of the Qinghai-Tibet Plateau, key ecological regions of the Yellow River, key ecological regions of the Yangtze River, the northeast forest belt, northern sand prevention belt, hilly and mountainous areas in the South, and coastal zones, and speed up our efforts to build the system of protected areas with national parks as the main component. We will continue to implement major ecological restoration projects such as the Three-North Shelterbelt Project, the Natural Forest Protection Project, Returning Farmland to Forest and Grassland Project, and the Beijing-Tianjin Sandstorm Source Control Project.

Figure1-4 The Layout of the Major Projects on Key Ecosystem Conservation and Restoration



Box 1-1 Major Projects for the Protection and Restoration of Key Ecosystems	
1	<p><b>Ecological barrier of the Qinghai-Tibet Plateau</b></p> <p>Focusing on the source area of the Yangtze, Yellow, and Lancang Rivers, Qilian Mountains, Zoige and the important water supply areas of the Yellow River in Gannan Plateau, we will promote the implementation of the Three-North Forest Shelterbelt Project, the Natural Forest Protection Project and Returning Farmland to Forest and Grassland Project, strengthen the conservation of indigenous vegetation, rare species and their habitats, treat 15 million <i>mu</i> (1 million ha) of desertified land, rehabilitate 48 million <i>mu</i> (3.2 million ha) of degraded grassland, and enclose 3 million <i>mu</i> (200,000 ha) of desertified land for natural regeneration.</p>
2	<p><b>Key ecological regions of the Yellow River (including the ecological barrier of the Loess Plateau)</b></p> <p>Focusing on the source area of the Yellow River, Qinling Mountains, Helan Mountains, Loess Plateau, Fenhe River and Yellow River estuary area, we will promote the implementation of the Three-North Forest Shelterbelt Project, the Natural Forest Protection Project and Returning Farmland to Forest and Grassland Project, strengthen the rehabilitation of degraded, desertified and salinized grasslands, protect and restore wetlands such as the Yellow River Delta, protect and restore 12 million <i>mu</i> (800,000 ha) of forest and grassland vegetation, and treat 12 million <i>mu</i> (800,000 ha) of desertified land.</p>
3	<p><b>Key ecological regions of the Yangtze River (including the Sichuan-Yunnan ecological barrier)</b></p> <p>Focusing on the source area of the Yangtze River, Hengduan Mountain region, karst rocky desertification area, Three Gorges Reservoir area, Dongting Lake, and Poyang Lake, we will promote the implementation of the Natural Forest Protection Project and Returning Farmland to Forest and Grassland Project, promote targeted forest quality improvement, wetland restoration and integrated control of rocky desertification, strengthen the protection and restoration of rare and endangered wild species populations, establish national reserve forests, complete 16.5 million <i>mu</i> (1.1 million ha) of afforestation, and treat 15 million <i>mu</i> (1 million ha) of rocky desertified areas.</p>
4	<p><b>Northeast Forest Belt</b></p> <p>Focusing on the Da and Xiao Hinggan Mountains, Changbai Mountains, and the important wetlands in Sanjiang Plain and Songnen Plain, we will promote the implementation of the Three-North Forest Shelterbelt Project, the Natural Forest Protection Project and Returning Farmland to Forest and Grassland Project, protect key marsh-wetlands and the migratory habitats of rare birds, cultivate 10.5 million <i>mu</i> (700,000 ha) of natural forest reserve resources, and rehabilitate 4.5 million <i>mu</i> (300,000 ha) of degraded grassland.</p>

Box 1-1 Major Projects for the Protection and Restoration of Key Ecosystems	
5	<p><b>Northern Sand Prevention Belt</b></p> <p>Focusing on the Beijing-Tianjin-Hebei metropolitan area, the Inner Mongolia Plateau, the Hexi Corridor and the Tarim River basin, we will promote the implementation of the Three-North Forest Shelterbelt Project, the Natural Forest Protection Project, Returning Farmland to Forest and Grassland Project and Beijing-Tianjin Sandstorm Source Control Project, complete 33 million <i>mu</i> (2.13 million ha) of afforestation, treat 70 million <i>mu</i> (4.67 million ha) of desertified land, and rehabilitate 40.5 million <i>mu</i> (2.7 million ha) of degraded grassland.</p>
6	<p><b>Hilly and mountainous areas in the South</b></p> <p>Focusing on the Nanling mountainous area, Wuyi Mountain area, and karst rocky desertification areas in Hunan and Guangxi, we will promote the implementation of Returning Farmland to Forest and Grassland Project, carry out targeted forest quality improvement, promote integrated control of rocky desertification, protect endangered species and their habitats, establish 1.35 million <i>mu</i> (90,000 ha) of shelterbelt forests, and treat 4.5 million <i>mu</i> (300,000 ha) of rocky desertification areas.</p>
7	<p><b>Coastal zones</b></p> <p>Focusing on the Greater Bay area of Guangdong-Hong Kong-Macao, the Yangtze River Delta, Hainan Island, the Yellow Sea and Bohai Sea, the coastal areas of Guangdong, Fujian and Zhejiang, and the Beibu Gulf, we will promote integrated protection and restoration of forests and wetlands, restore 300,000 million <i>mu</i> (20,000 ha) of coastal wetlands, and establish 1.65 million <i>mu</i> (110,000 ha) of coastal shelterbelt forests.</p>
8	<p><b>Establishing natural protected areas including national parks and wildlife conservation</b></p> <p>We will improve the management of national parks such as the Sanjiangyuan National Park, Northeast China Tiger and Leopard National Park, Giant Panda National Park and National Park of Hainan Tropical Rainforest, and set up new national parks such as the Qinling National Park and the Yellow River Estuary National Park. We will build gene banks and rescue and breeding sites for rare and endangered wildlife, and specifically save 48 species of critically endangered wild animals and 50 plant species with extremely small populations.</p>
9	<p><b>Support system for ecological protection and restoration</b></p> <p>We will strengthen basic research, work on key technological breakthroughs, and enhance technology integration, demonstration, promotion, and application. We will strengthen the construction of key laboratories, ecological observation and research stations, germplasm banks, and other scientific research platforms. We will build an ecological sensing network, and strengthen capacity building on forest and grassland fire prevention and emergency response. We will strengthen the prevention and control of pests, especially the pine wood nematode, and improve patrolling facilities and relevant infrastructure.</p>



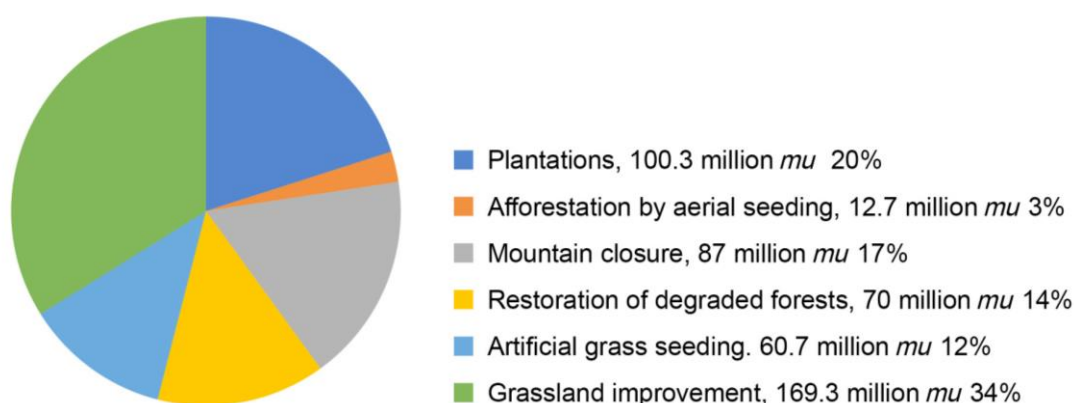
## Chapter 2 Carry out Large-scale Land Greening in a Scientific Way

We will implement the important instructions put by General Secretary Xi Jinping on “carrying out greening that is scientifically guided, ecologically friendly, and cost efficient”, pay equal emphasis to existing green areas and increase the number of new green areas, balance quantity and quality, and adopt scientific and targeted measures to improve the quality of land greening and increase forest and grassland carbon sinks. By 2025, we will complete 500 million *mu* (33.33 million ha) of land greening.

### 1. Promote Land Greening in a Scientific Way

**Strengthen the greening of key regions.** In keeping with major regional development strategies, we will adopt measures according to local conditions to further strengthen the restoration of forest and grassland vegetation in the regions of the Yellow River, the Yangtze River, and the Three-North Shelterbelt region, etc. For the western region, we will mainly focus on the control of soil erosion and rocky desertification, and accelerate the protection of natural forests, returning farmland to forests and grasslands, and the control of rocky desertification. For the northern region, we will combine greening and desertification control, and further develop the Three-North Shelterbelt Forest and rehabilitate degraded grasslands. For the central region, we will speed up the efforts to rehabilitate barren and damaged mountains, restore degraded forests, and develop farmland shelterbelt.

Figure 2-1 Target of Land Greening During the 14th Five-Year Plan Period



**Improve the quality of land greening in a scientific way.** We will plan land for greening in a scientific and reasonable manner, and strictly prohibit illegal occupation of farmland for greening. We will fully consider the temporal and spatial distribution and carrying capacity of water resources, restore forest and grassland vegetation based on water availability, combine trees, shrubs and grass, and integrate methods of natural regeneration, aerial seeding, and plantation. We will reasonably choose tree species and grass species, give priority to the use of indigenous tree and grass species, and build more mixed forests. We will strengthen the fencing, tending, and replanting of newly planted young forests for assisted natural regeneration, and establish and improve mechanisms for carrying out patrolling and protection. Land greening targets will be mapped out and assigned to county-level governments to ensure better/refined management.

Table 2-1 Pilot Demonstration of Land Greening in a Scientific Way

No.	List
1	Pilot demonstration in the lower reaches of the Yellow River in Shandong Province
2	Pilot demonstration in the Loess Plateau in Shanxi Province
3	Pilot demonstration along the Yellow River in Ningxia Hui Autonomous Region
4	Pilot demonstration in the hilly and mountainous areas along the Yangtze River in Hunan Province
5	Pilot demonstration in the upper reaches of the Yangtze River in Chongqing Municipality
6	Pilot demonstration in semi-arid sites in Liaoning Province
7	Pilot demonstration in the plains in Henan Province

**Promote urban and rural greening step by step.** We will carry out the development of forest cities in a scientific way, strengthen the dynamic management of forest cities, and steadily promote the development of national forest city clusters such as the Beijing-Tianjin-Hebei and Pearl River Delta metropolitan regions. We will transform urban and rural wasteland, small plots, the front and rear of houses, etc., into green spaces, so as to promote urban and rural greening where appropriate. It is strictly forbidden to transplant large trees into cities. It is recommended to avoid the excessive use of exotic flowers and rare plants to create artificial green landscapes, and to refrain from extravagance. We will carry out rural greening and beautification, encourage tree planting around houses, and protect ancient and rare trees. We will strengthen cross-sector coordination in land greening.

Table 2-2 Demonstration of Forest City Clusters

No.	List
1	Forest city cluster of the Beijing-Tianjin-Hebei metropolitan region
2	Forest city cluster of the Pearl River Delta metropolitan region

**Carry out national voluntary tree planting.** We will continue to mobilize the general public to engage in voluntary tree planting campaigns through organized activities, innovative working mechanisms, and more publicity and education. We will promote “Internet + voluntary tree planting” to inspire new participation in tree planting, establish various types of voluntary tree planting bases at all levels, and promote the integration of voluntary tree planting online and offline.

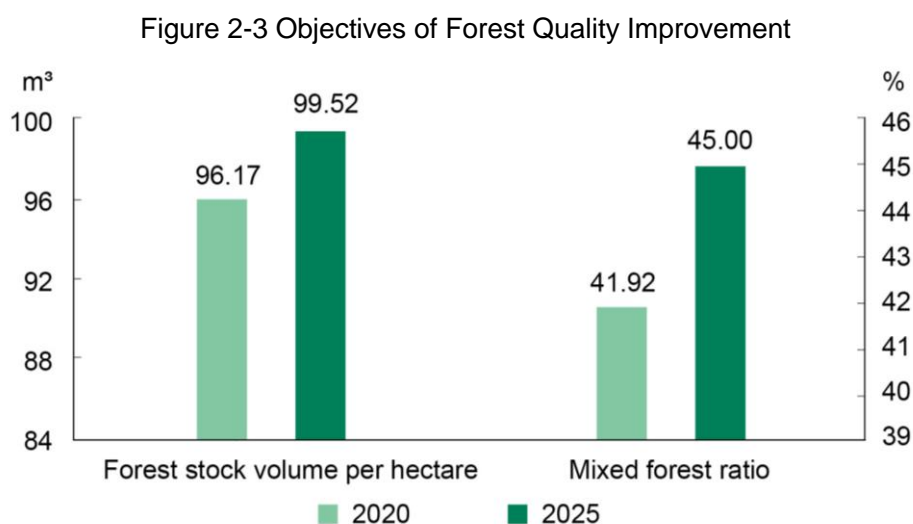
## 2. Take a Targeted Approach to Improve Forest Quality

**Carry out comprehensive protection of natural forests.** We will continue to maintain the ban on commercial logging of natural forests, carry out unified patrolling for natural forests and public welfare forests, and strengthen enclosures for natural regeneration, so as to increase natural forest resources. We will strengthen the tending of natural young and middle-aged forests and rehabilitate degraded secondary forests.

Figure 2-2 Natural Forest Protection



**Strengthen forest management.** We will establish and implement decision-making mechanisms for forest cultivation, protection, and utilization based on forest management plans and forest management strategies. We will implement projects to improve forest quality taking a targeted approach, which will focus on forest tending and degraded forest rehabilitation in the eastern and southern regions, strengthen the transformation of monoculture forests, cultivate mixed forests of different ages with several canopy layers, and establish national reserve forests.



### 3. Return Farmland to Forest and Grassland in a Steady and Orderly Manner

Focusing on the key ecological regions of the Yellow River, the Yangtze River and the Northern Sand Prevention Belt, we will complete the target of returning farmland to forest and grassland assigned by the State Council, and promote soil erosion control and ecological restoration. We will strengthen the cultivation and management of forests and grasslands converted from farmlands. We will improve investment policy and establish a long-term mechanism for consolidating results.

### 4. Consolidate the Foundation for Forest and Grassland Seeds and Seedlings

**Strengthen the protection of germplasm resources.** We will carry out a survey and collection of forest and grassland germplasm resources, and promote the construction of forest and grassland germplasm resources storage banks. We will identify and evaluate the germplasm resources of indigenous tree species and grass species, and publish a list of available germplasm resources. By 2025, 184 national forest and grassland germplasm resource storage banks will be built, and the main bank of *in vitro* conservation as well as branch banks in Shandong and Hunan will be set up.

**Speed up the selection and breeding of superior seedlings.** We will strengthen the development of tree and shrub species seed gardens, seed collecting forests, and grass seed production bases, and breed superior seedlings for high-quality timber, ecological restoration, commercial forests and fruit, landscape trees, etc. We will strengthen the selection, breeding, expansion, storage and promotion of superior grass species, especially high-quality indigenous grass species, to achieve self-sufficiency. We will review (recognize) a batch of native tree, shrub and grass species for land greening.

Table 2-3 The Tasks of Building National Key Tree and Grass Seeds Base

Tree Seeds		Grass Seeds		
Renovation and Expansion of National Key Tree Seed Bases	New Seed Collecting Bases	National Grass Seed Stock Bases	Production Bases	National-level Regional Experiment Stations for Grass Species
50	50	15	30	20

**Increase the supply of high-quality seedlings.** We will build superior forest and grass seed bases and seed collection bases, give priority to supporting state-owned forest farms (forest areas) to build seedling cultivation demonstration bases and nurseries, promote the establishment of a national seedling transaction information center, establish a seedling quality traceability system, and severely crack down on infringement and counterfeiting and other illegal seedlings-related behavior.

## Chapter 3 Establishing a Natural Protected Area System with National Parks as the Main Component

Chinese General Secretary Xi Jinping has underlined that the aim of establishing a national park system is to protect the authenticity and integrity of natural ecosystems, conserve biodiversity, safeguard eco-security barriers, and leave precious natural capital for future generations. In line with the spirit of General Secretary Xi's instruction, we will fully implement the *Guidelines for Establishing a Natural Protected Area System with National Parks as the Main Component* to improve conservation systems and innovate management mechanisms.

### 1. High-quality Development of National Parks

**Lay out national parks rationally.** We will regulate the procedures of setting up national parks, and release a spatial layout plan of national parks which will incorporate natural ecological zones with the most important natural ecosystems, the most unique natural landscapes, the best natural heritage, and the richest biodiversity, into the list of candidate national parks. The national parks will be established one after another once the qualifications are met.

**Improve the institutional framework of national park management.** We will promulgate the *Law of National Parks*. Two management modes of national parks will be carried out, including direct management by the central government and delegated management by the provincial government. We will set up unified, standard and efficient management organs and enforcement teams of national parks. We will formulate the list of rights and responsibilities of natural resources asset management in national parks, and establish a system for the protection and use of national park resources. According to the respective powers and spending responsibilities of the central and local governments, we will set up a diversified funding system with fiscal investment as the main channel. We will collaborate with the Chinese Academy of Sciences to set up a National Park Academy.

**Upgrade management of national parks.** We will conduct the inventory and registration of natural resource assets, conduct boundary surveys and erect marks for national parks, and develop a "Space-Sky-Surface" integrated monitoring system. We will: carry out ecosystem protection and restoration, conserve flagship species and restore their habitats, build ecological corridors, and protect natural landscapes as well as cultural and natural heritage. We will carry out popular science education and nature experiences.

Table 3-1 National Park Demonstration

No.	List
1	Qinghai pilot demonstration province for national park development
2	Tibet pilot demonstration region for national park development

## 2. Optimize the Layout of Nature Reserves

**Promote integration and optimization of natural protected areas.** We will define the boundaries and zones of natural protected areas in a scientific manner, and conduct demarcation of natural protected areas. We will strengthen research on a natural protected area system to identify, and reduce gaps in, conservation. We will build synergies on conservation matters and properly handle unresolved issues and current conflicts.

**Enhance capacity building in conservation management.** We will conduct a baseline inventory on nature reserves for developing an overall plan focusing on priority projects. We will restore seriously damaged natural ecosystems and habitats in a scientific way. We will step up infrastructure and facilities for patrolling, emergency response, disaster prevention and relief, and disease and pest prevention and control. We will establish a natural resource monitoring, evaluation and supervision system, and organize nature education and nature experiences.

## 3. Enhance the Ecosystem Service Functions of Nature Parks

**Enhance the ecological cultural value of nature parks.** We will designate the position and scope of all categories of nature parks, and ensure that the parks' natural resources and ecological, landscape, cultural and scientific values are protected effectively. We will conduct boundary surveys and erect marks for nature parks, and restore and maintain natural monument and natural landscapes which have been seriously damaged.

**Improve the quality of nature education and experiences.** We will improve public service facilities, including visitor centers and public education and demonstration facilities. We will establish nature education and experience sites such as field bases for nature education and camp sites. We will improve the system of guided tours in natural protected areas, and develop and promote research and learning activities in nature parks.



Box 3-1 Key Projects on National Parks and other Natural Protected Areas	
1	<p><b>Typical ecosystems and flagship species conservation in national parks</b></p> <p>We will upgrade the development and management of Sanjiangyuan National Park, Northeast China Tiger and Leopard National Park, Giant Panda National Park and Hainan Tropical Rainforest National Park, and set up the Qinling National Park and Yellow River Estuary National Park. We will conserve and restore typical ecosystems and habitats for priority species, and connect ecological corridors. We will set up public service facilities for a smart management system, administrative enforcement surveillance system, and ecological education and publicity. We will conduct boundary surveys and natural resource registration in national parks.</p>
2	<p><b>Key species and biodiversity conservation in nature reserves</b></p> <p>We will promote integration and optimization of nature reserves and their demarcation and marking. We will carry out rescue conservation of key species and habitats restoration, and build a biodiversity conservation network. We will establish resource and environment monitoring, evaluation and supervision platforms, and increase infrastructure and facilities for management and patrol, scientific research, and outreach activities.</p>
3	<p><b>Protection and upgrading of nature parks</b></p> <p>We will conduct boundary surveys and erect marks for nature parks, conserve and restore natural monument and natural landscapes, upgrade facilities for nature experiences, publicity and education, and public services, and establish monitoring, evaluation, and supervision platforms.</p>



## Chapter 4 Strengthen the Conservation and Rehabilitation of Grasslands

We will fully implement the requirement put by General Secretary Xi Jinping to “strengthen the ecological conservation of grasslands”. Specific tasks include setting up a grassland conservation system and strengthening grassland rehabilitation, to improve the grassland ecosystem’s ecological carrying capacity, stability and provision of ecological services.

### 1. Impose Grazing Ban and Forage-Livestock Balance

**Impose a grazing ban.** We will establish grazing ban areas in a scientific way to prohibit grazing and encourage natural restoration on grasslands that are seriously degraded, desertified, salinized, or ecologically fragile, and on grasslands that prohibit production and utilization.

**Adopt balanced forage-livestock balance management.** We will set the stocking rate depending on grassland productivity and livestock-carrying capacity, and adopt balanced forage-livestock management on grasslands other than banned areas. We will provide guidance for herders to graze their livestock sustainably, and impose seasonal grazing suspension and rotational grazing.

### 2. Accelerate the Ecological Restoration of Grasslands

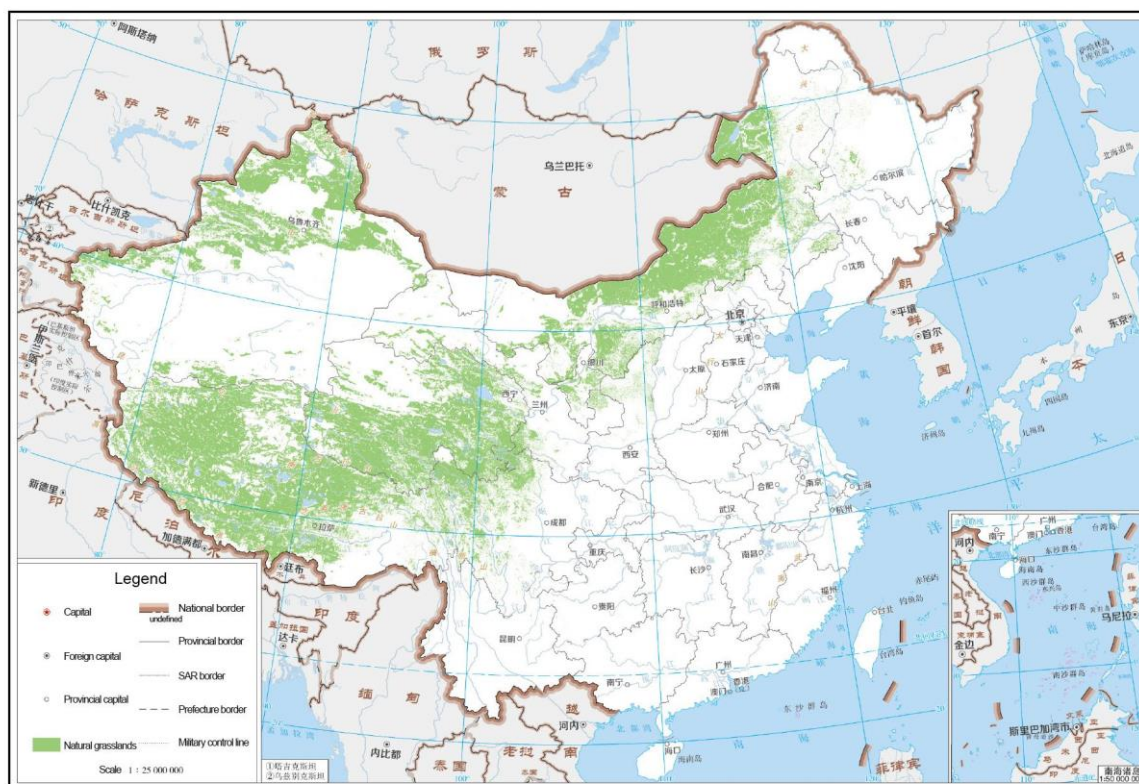
**Return grazing land to grassland.** We will promote natural regeneration assisted by moderate human intervention. We will conduct grass planting and assisted natural regeneration, and treat grassland pests. We will set up fences in a scientific way, and promote rotational grazing to reduce the intensity of grazing on grassland.

**Rehabilitate degraded grassland.** We will reduce human intervention on lightly degraded grassland and carry out vegetation and soil rehabilitation on moderately degraded grassland. We will set grazing ban areas, conduct grass planting and assisted natural restoration, and treat the “heitutan” or “black beaches” to recover vegetation on highly degraded grassland.

**Carry out pilots on state-owned rangeland.** We will identify priorities for setting up state-owned rangelands and their operation models, and explore sustainable operation and support mechanisms. We will improve the quality and functions of grassland. We will develop a modern grassland industry, and grassland-based ecological animal

husbandry and ecotourism, according to local conditions.

Figure 4-1 Natural Grassland Conservation



### 3. Conserve and Rehabilitate Grasslands

**Conserve natural grasslands.** We will strictly conserve grasslands located at key ecological areas such as headwaters of big rivers. We will strictly prohibit changing the use and nature of grasslands without authorization, or carrying out any development and utilization activities that are against conservation practices.

**Designate basic grasslands.** We will designate as “basic” grasslands those that are most essential and important to safeguarding national ecological security and the healthy development of grassland animal husbandry. We will implement strict protection to ensure that the total amount and quality of basic grasslands will not decline, and their land use type will not be changed.

**Improve the grassland contract responsibility system.** We will improve the management of contracting grassland, encourage the formation of grassland cooperatives, and regulate the transfer of grassland use rights. We will improve the mechanism of payment for using state-owned grassland resources.

Box 4-1 Key Projects on Grassland Conservation and Rehabilitation

<p><b>1</b></p>	<p><b>Rehabilitation of degraded grasslands</b></p> <p>Rehabilitate degraded grasslands through assisted natural regeneration and introduction of indigenous grass species to improve the grasslands' ecological functions. For grasslands which are lightly degraded due to overgrazing, we will return grazing land to grassland, and fence off the grasslands for natural and assisted natural regeneration. The target is to rehabilitate 230 million <i>mu</i> (15.33 million ha) of degraded grasslands.</p>
<p><b>2</b></p>	<p><b>State-owned rangelands</b></p> <p>Set up state-owned rangelands on grasslands which have high ecological value and on artificial grasslands after treating for desertification. The target is to set up 10 million <i>mu</i> (666,667 ha) of state-owned rangelands.</p>

## Chapter 5 Enhance Wetland Conservation and Rehabilitation

We will fully implement the important instructions and requirement put by General Secretary Xi Jinping regarding the “full conservation of wetlands”, implement wetland conservation and rehabilitation systems, enhance the ecological functions of wetlands in conserving water sources, purifying water quality and regulating floods, and protect the resources of wetland species.

### 1. Fully Conserve Wetlands

**Manage and control the total amount of wetland area.** Based on the result of the Third National Land Resource Survey, we will set targets for wetland management and control in a scientific way to ensure the stability of the total amount of wetlands.

**Improve the wetland conservation system.** We will expedite the process of promulgating the *Wetlands Protection Law*. We will improve the spatial distribution of the wetland conservation system, enhance the conservation of wetlands of high ecological value, and gradually increase the rate of wetland conservation, so as to form a wetland conservation system with extensive coverage, strong connectivity and graded management.

**Improve the ecological functions of important wetlands.** We will strengthen the overall conservation of river sources, wetlands along the upper and middle reaches of rivers, and peatlands, and reduce human interventions. We will enhance the conservation of wetlands along the lower reaches of rivers and at the estuaries, improve the ecological conditions of wetlands, and maintain biodiversity.

Figure 5-1 Conservation of Natural Wetlands

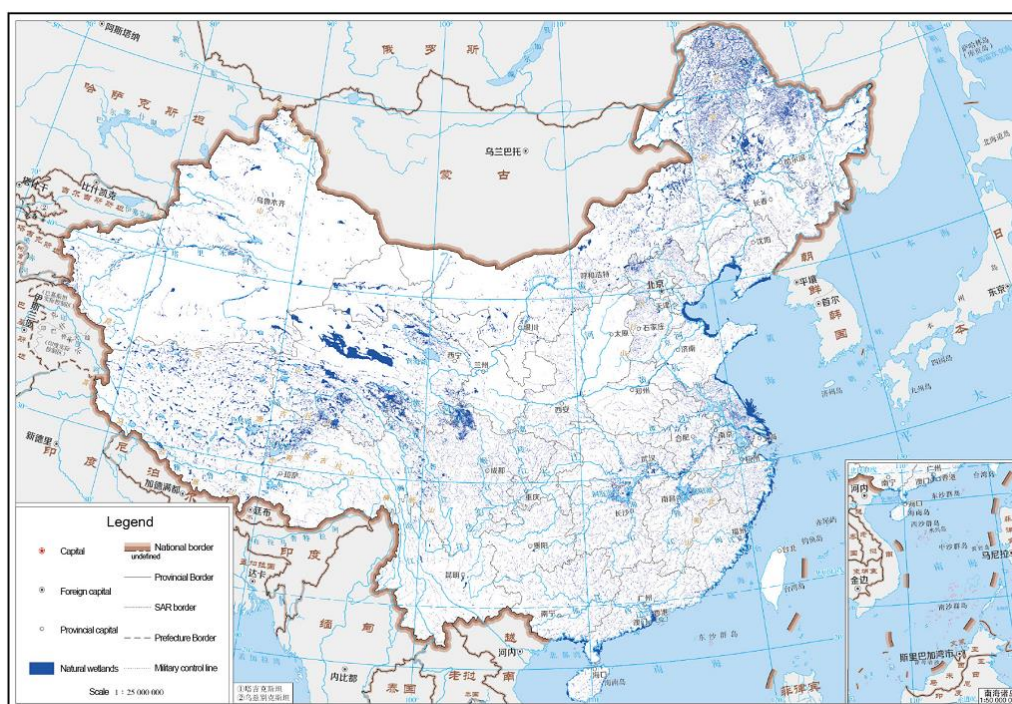


Table 5-1 List of Wetlands of National Importance

No.	Name	No.	Name	No.	Name
1	Beidagang of Binhai District, Tianjin	11	Zhanghe River of Jingmen city, Hubei	21	Meishe River of Haikou city, Hainan
2	Qilihai of Ninghe District, Tianjin	12	Fuqiao River of Macheng city, Hubei	22	Sibiwan of Dongfang city, Hainan
3	Nandagang of Cangzhou city, Hebei	13	Fanwan Lake of Qianjian city, Hubei	23	Xinying Mangroves of Danzhou city, Hainan
4	Xuanmenwan of Yuhuan city, Zhejiang	14	Weishui River of Songzi city, Hubei	24	Qingtong Gorge Reservoir, Ningxia
5	Minjiang River Estuary of Changle district, Fujian	15	Anshan of Wuhan city, Hubei	25	Wuzhong Section of Yellow River, Ningxia
6	Raohe River Source of Wuyuan county, Jiangxi	16	Ju River of Yuan'an county, Hubei	26	Haba Lake of Yanchi county, Ningxia
7	Lianjiang River of Xingguo county, Jiangxi	17	Jiangkou Bird Island of Hengyang city, Hunan	27	Yellow River Shoal of Xingqing, Yinchuan city, Ningxia
8	Mi River of Qingzhou city, Shandong	18	Mangshan Langpan Lake, Yizhang county, Hunan	28	Qingshui River of Yuanzhou, Guyuan city, Ningxia
9	Milu National Nature Reserve of Shishou city, Hubei	19	Futian Mangroves of Shenzhen city, Guangdong	29	Tianhu Lake of Zhongning county, Ningxia
10	Gucheng Section of Hanjiang River, Hubei	20	Chinese White Dolphin Nature Reserve of Guangdong		

Table 5-2 List of Wetlands of International Importance

No.	Name	No.	Name	No.	Name
1	Xianghai Wetland, Jilin	23	Dashanbao Wetland, Yunnan	44	Dajiu Lake Wetland, Hubei
2	Zhalong Wetland, Heilongjiang	24	Eling Lake, Qinghai	45	Yellow River Delta Wetland, Shandong
3	Poyanghu Nature Reserve, Jiangxi	25	Lashihai Wetland, Yunnan	46	Momoge National Nature Reserve, Jilin
4	Dongdongtinghu, Hunan	26	Maidika Wetland, Tibet	47	Zhangye Heihe Wetland National Nature Reserve, Gansu
5	Bird Island of Qinghai Lake, Qinghai	27	Mapangyong Cuo, Tibet	48	Shengjin Lake National Nature Reserve, Anhui
6	Dongzhaigang Wetland, Hainan	28	Napahai Wetland, Yunnan	49	Nanpeng Archipelago Wetlands, Guangdong
7	Mai Po Marshes and Inner Deep Bay, Hong Kong	29	Shuangtai Estuary National Nature Reserve, Liaoning	50	Jining Nansi Lake Wetland, Shandong
8	Chongming Dongtan Nature Reserve, Shanghai	30	Zhaling Lake, Qinghai	51	Yanchiwan Wetlands, Gansu
9	Dafeng National Nature Reserve, Jiangsu	31	Zhangjiangkou National Mangrove Nature Reserve, Fujian	52	Changshagongma Wetlands, Sichuan
10	Dalai Lake National Nature Reserve, Inner Mongolia	32	Haifeng Wetlands, Guangdong	53	Wang Lake, Hubei
11	Dalian National Spotted Seal Nature Reserve, Liaoning	33	Beilun Estuary National Nature Reserve, Guangxi	54	Hani Wetland, Jilin
12	Eerduosi National Nature Reserve, Inner Mongolia	34	Honghu Wetlands, Hubei	55	Grand Khingan Hanma Wetlands, Inner Mongolia
13	Honghe National Nature Reserve, Heilongjiang	35	Yangtze Estuary Wetland Nature Reserve for Chinese Sturgeon, Shanghai	56	Selincuo Wetlands, Tibet
14	Huidong Harbor Sea Turtle National Nature Reserve, Guangdong	36	Ruoergai (Zoige) Wetland National Nature Reserve, Sichuan	57	Youhao Wetlands, Heilongjiang
15	Nan Dongting Wetland and Waterfowl Reserve, Hunan	37	Hangzhou Xixi Wetlands, Zhejiang	58	Beidagang Wetlands, Tianjin
16	San Jiang National Nature Reserve, Heilongjiang	38	Gahai Wetlands Nature Reserve, Gansu	59	Minquan Yellow River Gudao Wetlands, Henan
17	Shankou Mangrove Nature Reserve, Guangxi	39	Nanweng River National Nature Reserve, Heilongjiang	60	Bila River Wetlands, Inner Mongolia
18	Xi Dongting Lake (Mupinghu) Nature Reserve, Hunan	40	Qixing River National Nature Reserve, Heilongjiang	61	Hadong Yanjiang Wetlands, Heilongjiang



No.	Name	No.	Name	No.	Name
19	Xingkai Lake National Nature Reserve, Heilongjiang	41	Zhenbaodao Wetland National Nature Reserve, Heilongjiang	62	Yellow River Shouqu Wetlands, Gansu
20	Yancheng National Nature Reserve, Jiangsu	42	Chen Lake Wetland Nature Reserve, Hubei	63	Trari Nam Co Wetlands, Tibet
21	Zhanjiang Mangrove National Nature Reserve, Guangdong	43	Dongfanghong Wetland National Nature Reserve, Heilongjiang	64	Poyang Lake Nanji Wetlands, Jiangxi
22	Bitahai Wetland, Yunnan				

## 2. Rehabilitate Degraded Wetlands

**Rehabilitate wetlands.** We will adopt close-to-nature measures to enhance the natural rehabilitation capacity of wetland ecosystems, and conduct ecological rehabilitation and comprehensive management with a focus on wetlands whose ecological functions are severely degraded. We will implement projects on wetland conservation and rehabilitation, return farmland to wetlands, and introduce payments for wetland ecological services.

**Enhance the conservation and rehabilitation of wetlands in key strategic regions.** We will place emphasis on the conservation and rehabilitation of wetlands along the Yangtze River and Yellow River and in the Beijing-Tianjin-Hebei metropolitan region through implementing wetland conservation and rehabilitation projects.

**Conduct special operations on the conservation and rehabilitation of mangroves.** We will strictly protect mangroves and gradually pull out such economic activities as aquaculture ponds from within the natural mangroves protected areas. We will plant and rehabilitate mangroves in a scientific way to increase the area and improve their ecological functions.

## 3. Enhance Wetland Management

**Improve the wetland management system.** We will establish and improve a graded wetland management system, issue lists of important wetlands, formulate measures on graded management and promote co-management of wetlands jointly by governments, communities and enterprises.

**Supervise wetland resources in a coordinated manner.** We will explore the establishment of an early warning system for wetland destruction, set up management rules on conducting compliance inspection interviews once there is reported destruction, and strengthen the inspection of wetland destruction activities. We will carry out thematic monitoring on the ecological status and conservation effectiveness of wetlands of both international and national importance.

Box 5-1 Key Projects on Wetland Conservation and Rehabilitation	
<b>1</b>	<b>Wetland conservation</b>  Fully conserve natural wetlands through reducing human interventions, preventing over-exploration and over-utilization of wetland resources, and maintaining wetland biodiversity.
<b>2</b>	<b>Wetland rehabilitation</b>  Rehabilitate wetland ecology, and improve the ecological functions of degraded wetlands through such measures as habitat improvement, water system interconnection, and vegetation rehabilitation, in a bid to recover one million <i>mu</i> (66,700 ha) of wetlands.
<b>3</b>	<b>Mangrove conservation and rehabilitation</b>  Carry out special operations on mangrove conservation and rehabilitation to plant 135,700 <i>mu</i> (9,047 ha) of mangroves and rehabilitate 146,200 <i>mu</i> (9,747 ha) of mangroves.



## Chapter 6 Strengthen the Protection of Wild Fauna and Flora

We will fully implement the important instructions and requirements put by General Secretary Xi Jinping regarding the “comprehensive protection of wild fauna and flora”, establish a wildlife protection and supervision system, and maintain biodiversity and biosecurity.

### 1. Strengthen the Protection of Rare and Endangered Species of Wild Fauna and Flora

**Rescue and protect rare and endangered species of wild fauna.** We will conduct a survey of specific species, and implement the rescue and protection of 48 wild animals that are critically endangered and their habitats, including the Giant Panda, Asian Elephant, Hainan Gibbon, Siberian Tiger, Chinese Pangolin, Steppe Tortoise, etc. We will designate and strictly protect important habitats, connect ecological corridors, and increase the area of important habitats by 10%. We will establish a monitoring and evaluation system for wild animals and their habitats as well as flyways for migratory birds, set up protection stations along those flyways, and conduct bird banding and voluntary migratory birds protection activities. We will improve the distribution of rescue bodies, and sheltering and rescuing facilities. We will support the establishment of breeding centers for rare and endangered wild animals and gene banks for their genetic resources, and carry out the naturalization and reintroduction of 15 rare and endangered wild animals including the Giant Panda, Przewalski’s Gazelle, Père David’s Deer, etc. We will prevent and reduce the risk of damage caused by wild animals such as the Asian Elephant, Bear, Wild Boar, etc. We will regulate and control the population in a planned way for those wild animals that are relatively high in number, and exert serious influence on people’s normal production and lifestyles on account of science-based evaluation. We will prohibit the illegal trade and consumption of wild animals, strictly investigate and punish criminal activities and infractions, and eliminate unhealthy habits of indiscriminate wild animal meat consumption. We will strengthen guidance, services and supervision regarding the handling and use of non-food wild animals.

**Protect and breed rare and endangered species of wild flora.** We will establish an investigation, monitoring and evaluation system for rare and endangered wild plants. We will carry out the rescue and protection of 50 wild plants with extremely small populations. We will carry out reintroduction experiments on species with extremely small populations that possess clear-cut pedigree and rich diversity. We will carry out *ex situ* conservation and retention of artificially propagated minimum viable populations (MVP) for 100 plants with extremely limited distribution, scarce

population quantity or severely damaged habitats. We will designate and establish a number of sites for the protection of original habitats outside natural protected areas. We will improve 35 research centers for reproduction and *ex situ* conservation of rare and endangered wild plants. We will establish the germplasm repository of key protected wild plants of national importance and those with extremely small populations. We will strengthen the artificial propagation of wild plant resources for medicinal use.

Table 6-1 Rescue and Protection of Rare and Endangered Wild Animals

Classification	Species Name
<b>Flagship and key species (12 species)</b>	Giant Panda ( <i>Ailuropoda melanoleuca</i> ), Asian Elephant ( <i>Elephas maximus</i> ), Hainan Gibbon ( <i>Nomascus hainanus</i> ), West Cao-vit Black Crested Gibbon ( <i>Nomascus concolor</i> ), Leopard ( <i>Panthera pardus</i> ), Chinese Pangolin ( <i>Manis pentadactyla</i> ), Black Snub-nosed Monkey ( <i>Rhinopithecus bieti</i> ), Gray Snub-nosed Monkey ( <i>Rhinopithecus brelichi</i> ), Tiger ( <i>Panthera tigris</i> ), Crested Ibis ( <i>Nipponia nippon</i> ), Green Peafowl ( <i>Pavo muticus</i> ), Steppe Tortoise ( <i>Testudo horsfieldii</i> )
<b>Rare and endangered species (36 species)</b>	Golden Snub-nosed Monkey ( <i>Rhinopithecus roxellana</i> ), Francois' Langur ( <i>Trachypithecus francoisi</i> ), White-headed Langur ( <i>Trachypithecus poliocephalus</i> ), Cao-vit Crested Gibbon ( <i>Nomascus nasutus</i> ), Northern White-cheeked Gibbon ( <i>Nomascus leucogenys</i> ), Lar Gibbon ( <i>Hylobates lar</i> ), Eastern Hoolock Gibbon ( <i>Hoolock leuconedys</i> ), Bengal Slow Loris ( <i>Nycticebus bengalensis</i> ), Pygmy Slow Loris ( <i>Nycticebus pygmaeus</i> ), Przewalski's Gazelle ( <i>Procapra przewalskii</i> ), Sika Deer ( <i>Cervus nippon</i> ), Forest Musk Deer ( <i>Moschus berezovskii</i> ), Tibetan Antelope ( <i>Pantholops hodgsonii</i> ), Snow Leopard ( <i>Panthera uncia</i> ), Clouded Leopard ( <i>Neofelis nebulosa</i> ), Père David's Deer ( <i>Elaphurus davidianus</i> ), Eld's Deer ( <i>Cervus eldii</i> ), Eurasian Beaver ( <i>Castor fiber</i> ), Przewalski's Horse ( <i>Equus ferus</i> ), Saiga Antelope ( <i>Saiga tatarica</i> ), Wild Bactrian Camel ( <i>Camelus ferus</i> ), Sichuan Partridge ( <i>Arborophila rufipectus</i> ), Chinese Monal ( <i>Lophophorus lhuysii</i> ), Macqueen's Bustard ( <i>Chlamydotis macqueeni</i> ), Red-crowned Crane ( <i>Grus japonensis</i> ), Great Bustard ( <i>Otis tarda</i> ), Saker Falcon ( <i>Falco cherrug</i> ), Black-faced Spoonbill ( <i>Platalea minor</i> ), Blue-crowned Laughingthrush ( <i>Garrulax courtoisi</i> ), Chinese Crested Tern ( <i>Thalasseus bernsteini</i> ), Great Hornbill ( <i>Buceros bicornis</i> ), Chinese Merganser ( <i>Mergus squamatus</i> ), Hainan Peacock-pheasant ( <i>Polyplectron katsumatae</i> ), Chinese Crocodile Lizard ( <i>Shinisaurus crocodilurus</i> ), Mangshan Pit Viper ( <i>Protobothrops mangshanensis</i> ), Golden Kaiserihind ( <i>Teinopalpus aureus</i> )

Table 6-2 Pilot Projects for Active Prevention of Wild Animal Damage

Species for Active Prevention	Pilot Areas
<b>Wild Boar (<i>Sus scrofa</i>)</b>	Hebei Province, Shanxi Province, Fujian Province, Jiangxi Province, Guangdong Province, Shaanxi Province
<b>Asian Elephant (<i>Elephas maximus</i>)</b>	Yunnan Province
<b>Brown Bear (<i>Ursus arctos</i>)</b>	Qinghai Province
<b>Bharal (<i>Pseudois nayaur</i>)</b>	Ningxia Hui Autonomous Region

Table 6-3 Fifty Rare and Endangered Wild Plants

Classification	Species Name
<b>Critically endangered species (15 species)</b>	<i>Christensenia aesculifolia</i> , <i>Cycas fairylakea</i> , <i>Glyptostrobus pensilis</i> , <i>Metasequoia glyptostroboides</i> , <i>Abies beshanzenensis</i> , <i>Abies yuanbaoshanensis</i> , <i>Pinus squamata</i> , <i>Michelia guangdongensis</i> , <i>Parakmeria omeiensis</i> , <i>Paphiopedilum emersonii</i> , <i>Firmiana danxiaensis</i> , <i>Vatica guangxiensis</i> , <i>Dayaoshania cotinifolia</i> , <i>Vitis baihuashanensis</i> , <i>Pinus fenzeliana</i> var. <i>dabeshanensis</i>
<b>Endangered species (16 species)</b>	<i>Cycas segmentifida</i> , <i>Cycas tanqingii</i> , <i>Thuja sutchuenensis</i> , <i>Taxus fuana</i> , <i>Taxus cuspidata</i> , <i>Abies beshanzenensis</i> var. <i>ziyuanensis</i> , <i>Abies fanjingshanensis</i> , <i>Myristica yunnanensis</i> , <i>Paphiopedilum gratixianum</i> , <i>Rosa rugosa</i> , <i>Craigia yunnanensis</i> , <i>Dipterocarpus retusus</i> , <i>Parashorea chinensis</i> , <i>Shorea assamica</i> , <i>Hopea hainanensis</i> , <i>Camellia pubipetala</i>
<b>Vulnerable species (19 species)</b>	<i>Ophioglossum pendulum</i> , <i>Asplenium komarovii</i> , <i>Cupressus gigantea</i> , <i>Abies chensiensis</i> , <i>Cathaya argyrophylla</i> , <i>Alcimandra cathcartii</i> , <i>Bulbophyllum rothschildianum</i> , <i>Cypripedium subtropicum</i> , <i>Tetraena mongolica</i> , <i>Ormosia henryi</i> Prain, <i>Madhuca pasquieri</i> , <i>Aquilaria yunnanensis</i> , <i>Paphiopedilum wardii</i> , <i>Cycas diannanensis</i> , <i>Alsophila costularis</i> , <i>Cinnamomum chago</i> , <i>Rosa anemoniflora</i> , <i>Kirengeshoma palmata</i> , <i>Taxus wallichiana</i> var. <i>wallichiana</i>

## 2. Conserve Biodiversity

**Improve the biodiversity conservation system.** We will implement a List of Key Protected Wild Animals of National Importance and amend the List of Key Protected Wild Plants of National Importance as well as the List of Terrestrial Wild Animals of Important Ecological, Scientific, and Social Value. We will formulate and revise measures, standards, and norms on artificial breeding, artificial propagation, classified management, label management, disposal of confiscated goods, compensation for wild animal damage, and sustainable collection. We will establish inter-sectoral information exchange and a joint law enforcement mechanism, and strengthen the supervision and enforcement of cyber-crimes.

**Strictly manage and enforce import and export.** In association with the framework of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), we will strengthen cooperation with members of the International Consortium on Combating Wildlife Crime so as to formulate a new pattern of combating wildlife crime linking source, transit, and destination countries. We will renovate and increase storage warehouses for confiscated goods, and improve the wildlife identification system.

**Strengthen the monitoring, early warning, prevention, and control of epidemic**

**diseases.** We will establish monitoring stations and testing centers for epidemic diseases among terrestrial wild animals, upgrade the information management system for monitoring, early warning, prevention, and control of epidemic diseases among terrestrial wild animals, and carry out a baseline survey of epidemic diseases among wild animals. We will establish a national prevention and control center for epidemic diseases among wild animals, an epidemiological investigation center, a biobank for wild animals and a pathogen collection center. We will promulgate guidelines for disease-specific emergency treatment of epidemic diseases among terrestrial wild animals, expand the manpower and emergency supplies reserve for prevention and control, and formulate standards for the harmless treatment of infected animals.

### 3. Strengthen the Management and Control of Alien Species

**Improve the early warning system.** We will develop monitoring centers for forest and grassland alien species, conduct a risk survey and assessment of alien species, and formulate a list of invasive alien species.

**Establish a prevention and control system.** We will organize the formulation of emergency plans for disaster prevention and control of invasive alien species, and improve the emergency command and response system. We will promote inter-sectoral mechanisms for the management of major biological disasters caused by invasive alien species and the enforcement of epidemics quarantine, and enforce strict approval, regulation and control of alien species.

**Improve prevention and control capabilities.** We will establish a national key laboratory for the prevention and control of invasive alien species, improve rapid detection technology, and develop advanced practical prevention and control medicine and medical appliances. We will promote the relevant supporting regulations for the regulation and control of alien species.

Table 6-4 Invasive Alien Species under Priority Management

Classification	Main Species
<b>Insect (15 species)</b>	Red Imported Fire Ant ( <i>Solenopsis invicta</i> ), Fall Webworm ( <i>Hyphantria cunea</i> ), Coconut Hispine Beetle ( <i>Brontispa longissima</i> ), Red Turpentine Beetle ( <i>Dendroctonus valens</i> ), Ber Fruit Fly ( <i>Carpomya vesuviana</i> ), etc.
<b>Plant (24 species)</b>	Bitter Vine ( <i>Mikania micrantha</i> ), Croftonweed ( <i>Ageratina adenophora</i> ), Siam Weed ( <i>Chromolaena odorata</i> ), Water Hyacinth ( <i>Eichhornia crassipes</i> ), Prickly Nightshade ( <i>Solanum rostratum</i> ), Smooth Cordgrass ( <i>Spartina alterniflora</i> ), Lantana ( <i>lantana camara</i> ), etc.

Classification	Main Species
<b>Vertebrate (20 species)</b>	Common Myna ( <i>Acridotheres tristis</i> ), Red-eared Turtle ( <i>Trachemys scripta elegans</i> ), American Bullfrog ( <i>Rana catesbeiana</i> ), etc.
<b>Animal pathogenic microorganism (3 species)</b>	African Swine Fever Virus, ‘Peste des petits uminants’ Virus, Porcine Reproductive and Respiratory Syndrome Virus
<b>Phytopathogenic microorganism (6 species)</b>	Pine Wilt Nematode ( <i>Bursaphelenchus xylophilus</i> ), White Pine Blister Rust ( <i>Cronartium ribicola</i> ), Shoot Blight of Larch ( <i>Botryosphaeria laricina</i> ), Chestnut Bleeding Canker ( <i>Pseudomonas syringae</i> pv. <i>aesculi</i> ), Pine Needle Brown Spot ( <i>Lecanosticta acicola</i> ), etc.

Box 6-1 Key Projects on Wildlife Protection	
<b>1</b>	<b>Protection of rare and endangered wild animals</b> Rescue, protect and restore 48 wild animals and their important habitats. Naturalize and reintroduce 15 rare and endangered wild fauna species. Strengthen the construction of protection and supervision facilities and equipment at the grassroots level. Improve the distribution of rescue bodies and improve sheltering and rescuing facilities.
<b>2</b>	<b>Protection of rare and endangered wild plants</b> Carry out the rescue and protection of 50 wild plants with extremely small populations, designate and establish sites for the protection of original habitats for rare and endangered wild plant species, and restore damaged habitats. <i>Ex situ</i> conservation of 100 rare and endangered species of wild flora. Improve 35 research centers for the reproduction and <i>ex situ</i> conservation of rare and endangered wild plants.
<b>3</b>	<b>Prevention and control of epidemic diseases</b> Improve the monitoring and early warning system for epidemic diseases among terrestrial wild animals, as well as the distribution of monitoring stations. Establish an epidemic emergency supplies reserve, prevention and control center, epidemiological investigation center, and supporting facilities.
<b>4</b>	<b>Prevention and control of alien species</b> Conduct a general survey of invasive alien species, formulate a list of invasive alien species, and carry out prevention and control of key species. Establish regional pilot bases for testing new varieties. Improve the distribution of monitoring centers for invasive alien species and combine existing ones for a total number of 1500.

## **Chapter 7 Promote Desertification Prevention and Control in a Scientific Way**

We will fully implement the important instructions and requirement put by General Secretary Xi Jinping on “accelerating the integrated treatment of water and soil erosion, desertification and rocky desertification”, plant trees or grass or leave the land barren according to the site conditions, and promote the integrated control of desertification and rocky desertification in a scientific way.

### **1. Strengthen the Ecological Conservation of Deserts**

**Designate enclosures for natural regeneration.** We will designate adjacent desertified lands, which lack the necessary conditions for treatment or which are inappropriate for development and utilization due to ecological conservation, as desertified land enclosure areas for natural rehabilitation.

**Improve managing capacity of desertified land enclosures.** We will strengthen the construction of management and conservation stations, improve “no entry” signage and infrastructure for patrolling and monitoring, and conduct monitoring and assessment of conservation efficiency regularly.

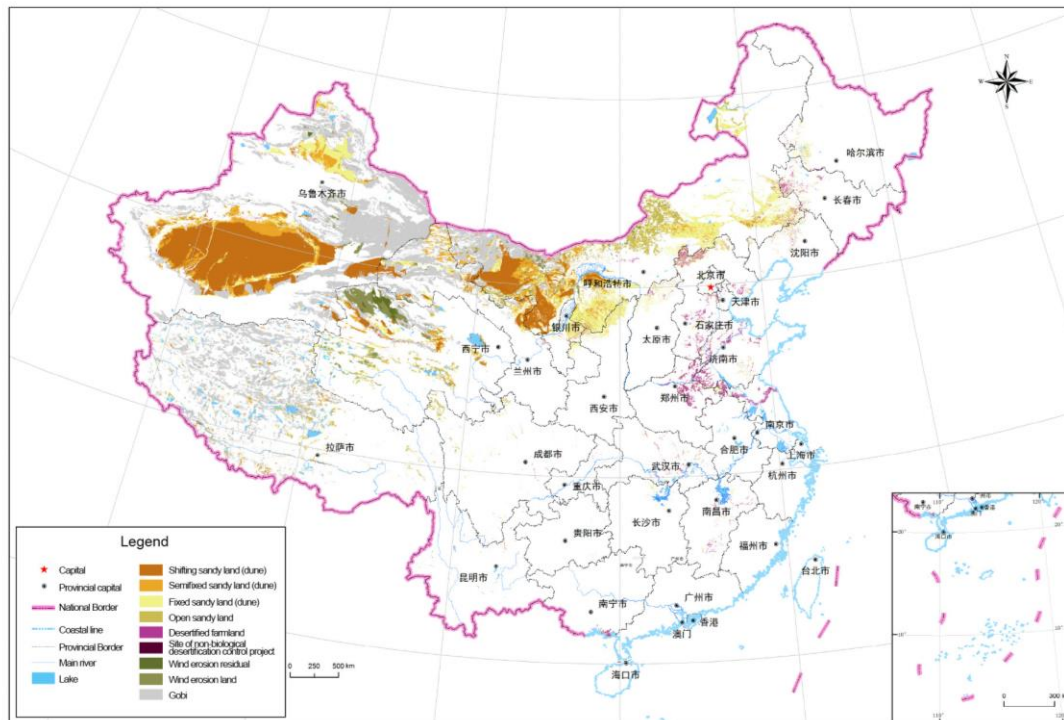
### **2. Promote Integrated Control of Desertification**

**Promote desertification prevention and control in key areas.** We will plan desertification prevention and control in a scientific way in border areas, areas where sandstorms originate, river watersheds, and other key areas. We will adopt an integrated desertification treatment approach to determine the types of vegetation according to the local water-carrying capacity, incorporate engineering, biological and enclosure measures, and combine trees, bushes, and grass for restoration. We will strengthen desertification prevention and control around deserts and in oases, industrial and mining enterprises in desert areas, roads, residential areas, and other key locations in desertified areas.

**Develop comprehensive demonstration areas for desertification prevention and control.** We will set up national comprehensive demonstration zones for desertification prevention and control in different types of desertified areas, refine innovative policies and mechanisms, promote techniques and modes of desertification prevention, and guide the development of industries for desertification prevention.

**Build the capacity of sandstorm monitoring.** We will improve the capacity to conduct emergency sandstorm monitoring and response, including sandstorm monitoring and forecasting, information reporting, decision-making, and command, as well as damage assessment. We will establish technical specifications and standard systems for sandstorm emergency response.

Figure 7-1 Desertification Control



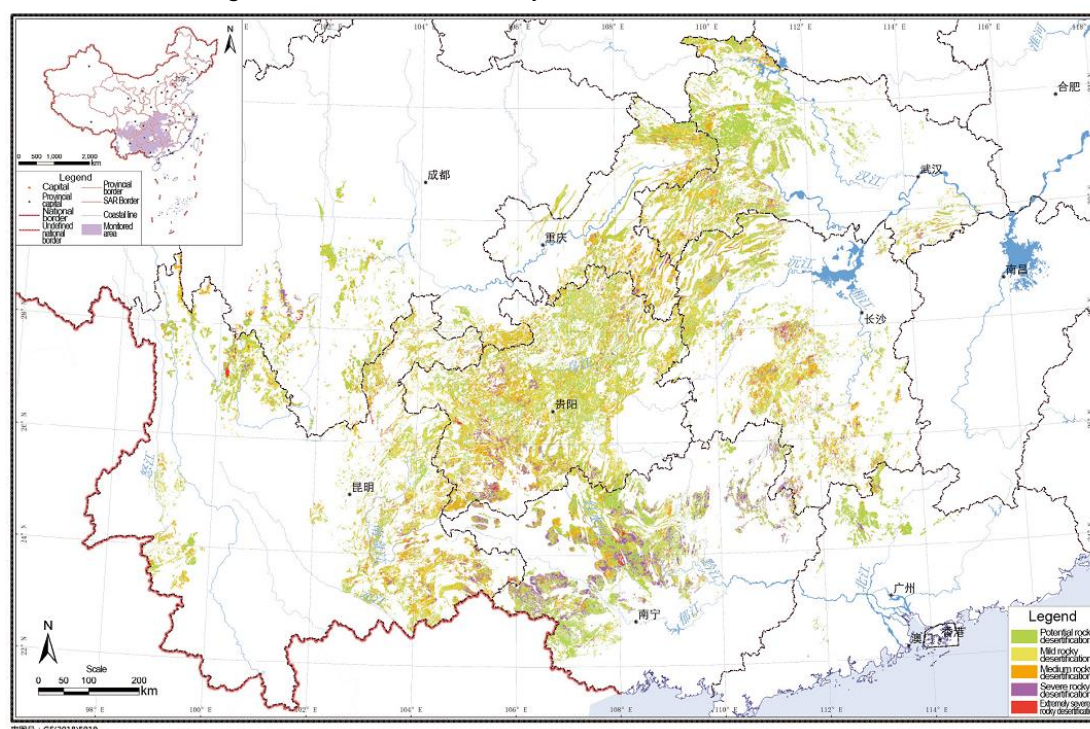
### 3. Promote Integrated Control of Rocky Desertification in Karst Areas

**Strengthen conservation and restoration of vegetation.** We will strictly conserve the vegetation on rocky mountains, enclose hills for natural regeneration, afforestation and assisted regeneration, convert marginal farmland back into forests or grassland, treat water and soil erosion, and improve the quality of vegetation.

**Implement control of rocky desertification.** We will promote high-quality species of trees and grass, techniques of afforestation and grass restoration on sites with harsh conditions, as well as a cost-efficient integrated control model that is also ecologically friendly. We will carry out land consolidation, with priority given to turning sloping fields into terraced fields, and will reasonably allocate small-scale irrigation and water conservancy facilities.



Figure 7-2 Control of Rocky Desertification in Karst Areas



**Box 7-1 Key Projects on Integrated Control of Desertification and Rocky Desertification**

1	<p><b>Desertified land enclosures for natural regeneration</b></p> <p>We will reasonably plan the spatial arrangements of, and scale up, desertified land enclosures for natural regeneration, to improve their effectiveness. We will set up new enclosures and expand existing ones to make the total area of desertified land enclosures 30 million <i>mu</i> (2 million ha).</p>
2	<p><b>Systematic control of desertified lands</b></p> <p>On the basis of comprehensive protection of desert vegetation, we will carry out large-scale treatment on desertified lands in key locations and with fragile ecosystems through site-specific measures, including the establishment of fences on areas prone to disasters. The goal is to treat 100 million <i>mu</i> (6.67 million ha) of desertified lands.</p>
3	<p><b>Integrated control of rocky desertification in karst areas</b></p> <p>We will improve the system of combatting rocky desertification, scale up the conservation and restoration of vegetation, and treat 19.5 million <i>mu</i> (1.3 million ha) of rocky desertified lands.</p>



## Chapter 8 Develop and Improve the Forest and Grassland Industry

We will fully implement the important instructions put by General Secretary Xi Jinping on “adhering to green development and letting the people benefit from ecological progress”. We will fully tap into the potential of forest and grassland resources, consolidate the achievements of poverty eradication through ecological development, optimize and strengthen the forest and grassland industry, and promote rural revitalization.

### 1. Consolidate and Expand Poverty Eradication Results and Effectively Link Up With Rural Revitalization Efforts

**Feed into rural revitalization efforts.** We will support areas which have the right conditions to develop unique forest and grassland industries into key industries of their respective counties. We will ensure that policies and work mechanisms that aim to alleviate poverty through ecological development are closely connected to livelihood improvement and rural governance agendas, and maintain a stable team of poverty alleviation officers.

**Consolidate the results of poverty eradication.** We will offer jobs to people in areas that are just out of extreme poverty to build forest and grassland facilities instead of directly giving grants, and recruit more people who are just out of extreme poverty to participate in ecological protection and restoration projects. We will adjust and optimize the ecological ranger policy step by step, and support natural protected areas to carry out patrolling through government purchase of services. We will establish and improve the system of operating licensing in natural protected areas, enable people who have just left extreme poverty to work locally, and ensure these people can receive a long-term stable income to prevent them from returning to extreme poverty.

### 2. Develop Industries with Specialties and Advantages

**Promote industrial upgrading.** We will introduce Public Private Partnerships and a new operation model to develop national reserve forests. We will develop the *Camellia oleifera* industry by promoting high- and stable-yield, high-resistance varieties, and improve low-yield *Camellia oleifera* forests. We will develop the bamboo industry by promoting bamboo forest cultivation, bamboo processing and bamboo cultural tourism. We will develop the flower industry, by strengthening flower plantations, improving flower processing, and cultivating the flower service industry. We will develop forest and grassland herbal medicine by promoting

standardization and green development. We will develop the industries for forage, lawns, and grass seedlings by building high-quality grass seed breeding and forage planting bases. We will develop national demonstration sites for specialty products and nurture leading national enterprises. We will implement a labelling system for forest eco-products.

Box 8-1 Key Projects on Competitive Specialty Industries	
1	<p><b>National reserve forests</b></p> <p>We will optimize the layout of national reserve forest bases and strengthen the cultivation of industrial raw material forests with short and medium rotation, as well as precious tree species and large-diameter timber forests with long rotation. By 2025, we will cultivate and improve more than 30 million <i>mu</i> (2 million ha) of national reserve forests.</p>
2	<p><b><i>Camellia oleifera</i> and other tree-borne oilseed industries</b></p> <p>We will promote high-yield, high-quality seedlings and relevant planting techniques, and promote the improvement of low-yield <i>Camellia oleifera</i> forests. By 2025, the <i>Camellia oleifera</i> plantation area will reach 90 million <i>mu</i> (6 million ha), and the industry will have an annual output of 2 million tons.</p>
3	<p><b>Bamboo industry</b></p> <p>We will improve the cultivation of bamboo raw materials and the transformation of low-yield and low-quality bamboo forests. We will promote the deep processing of bamboo products. By 2025, the annual output value of the bamboo industry will exceed RMB 500 billion.</p>
4	<p><b>Flower and seedling industry</b></p> <p>We will promote a selection of flower varieties and standardized cultivation practices, and strengthen product innovation and research. By 2025, the annual output value of the flower industry will be RMB 350 billion.</p>
5	<p><b>Forest and grassland herbal medicine</b></p> <p>We will promote ecological planting, cultivation in the wild, and bionic cultivation of forest and grassland herbal medicines. By 2025, the ecological cultivation area of forest and grassland herbal medicine will reach 5 million <i>mu</i> (333,333 ha).</p>
6	<p><b>Forage</b></p> <p>We will enhance the quality and production capacity of forage, improve mechanized operations, and develop a forage planting base. By 2025, the forage planting area will reach 5 million <i>mu</i> (333,333 ha).</p>

**Cultivate new industries.** We will develop new industries including biomass energy, bio-based materials, natural spices and agarwood, wood and bamboo structures, and wood and bamboo building materials. We will develop understory cultivation, and nurture new industries and ecological products including forest tourism, forest therapy, ecological tourism, nature education, etc. We will actively develop the circular economy of the forest and grassland sector, and strive to create new “Ecology+” and “Internet+” modes of industrial development.

Box 8-2 Key Projects on New Industries	
1	<b>Understory cultivation (non-timber forest products)</b> We will optimize the layout of understory cultivation, and build a number of national understory cultivation demonstration bases.
2	<b>Eco-tourism industry</b> We will develop eco-tourism destinations, and guide the launch of eco-tourism products with local characteristics.
3	<b>“Internet+” industry</b> We will promote e-commerce within the forest and grassland sector, moving forward customized online services and nurturing the direct and quick marketing mode of “Base + Internet + Consumer”.

**Strengthen traditional industries.** We will promote the deep processing of wood and bamboo materials, and strengthen and upgrade traditional industries including wood-based panels, wood flooring, and wood furniture. We will support the green transition and increase the use of digital technologies in non-wood product forests, wood and bamboo processing, chemical processing of forest products, and the pulp and paper industries. We will promote energy saving and clean production technology, and accelerate the elimination of old-fashioned production methods. We will strengthen industrial brand development and protection and create unique branding for the forest and grassland sector. We will organize key national forest and grassland exhibitions.

Box 8-3 Key Projects on Traditional Industries	
1	<b>Non-wood product forests</b> We will strive for diversified development, strengthen the study of market dynamics to prevent market saturation, and focus on the development of tree species with a high degree of industrialization and high market potential.

Box 8-3 Key Projects on Traditional Industries	
2	<p><b>Wood and bamboo processing</b></p> <p>We will optimize the industrial layout, and establish deep processing industry clusters based on resource endowments and port facilities to take full advantage of industrial catalytic effect and regional industrial competitiveness.</p>
3	<p><b>Chemical industry of forest products</b></p> <p>We will push forward the adjustment of industrial structure, accelerate the development of deep processing for turpentine, biological pesticides, and new biological materials, promote the industrialization of new technologies, and enhance the industry's competitiveness.</p>
4	<p><b>Pulp and paper</b></p> <p>We will accelerate the elimination of old-fashioned production methods and reduce pollutant emissions. We will promote technological transformation, and improve the efficiency of energy and raw materials use. We will strengthen the development of independent intellectual property rights to achieve high-end, personalized products.</p>

### 3. Enhance Mechanization in the Forest and Grassland Sector

**Promote research and development of mechanization technology in the forest and grassland sector.** We will accelerate the research and development of key technologies including all-terrain vehicles, efficient afforestation and grass planting machinery, high-performance wood and bamboo harvesting machinery, forest fruit harvesting machinery, intelligent wood and bamboo processing machinery, and fire prevention machinery, to effectively address the “lack of available equipment, or equipment which is difficult to use”.

**Improve the application of machineries.** We will promote mechanization of the whole process of afforestation, species improvement, pest control, fire prevention, forest fruit harvesting, and forage production, and promote the application of smart technologies in the production of furniture and wood-based panels. We will carry out pilot demonstrations for mechanization.

Table 8-1 High Quality Development Demonstration Sites

No.	List
1	Guangxi Demonstration Region for Modernized Forestry Industry
2	Jiangxi Demonstration Province for Modernized Forestry Industry

## Chapter 9 Strengthen the Supervision and Management of Forest and Grassland Resources

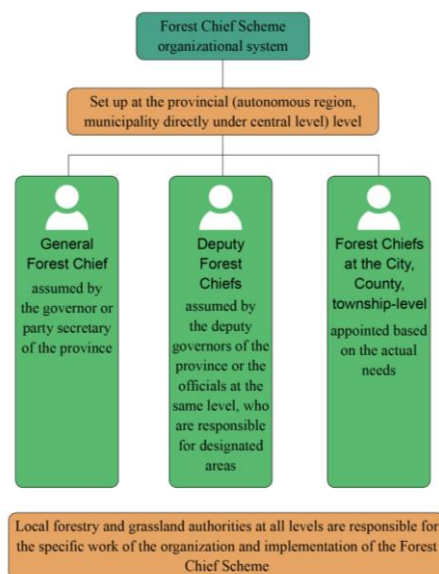
We will fully implement the important instructions of General Secretary Xi Jinping on “adopting the strictest possible systems and rule of law for environmental protection”, fully implement the Forest Chief Scheme, strengthen supervision and management, and adopt a comprehensive monitoring system.

### 1. Fully Implement the Forest Chief Scheme

**Impose ecological conservation obligations.** We will follow the *Opinions on Fully Implementing the “Forest Chief” Scheme* to designate a Forest Chief at the provincial, municipal, county and township levels, and launch the Forest (Grassland) Chief Scheme in provinces and regions with large area of grassland. We must work to improve the institutional arrangements for the Forest Chief Scheme. Forest Chiefs at all levels should develop a plan for forest and grassland resource protection and development, implement a target-oriented responsibility system, and coordinate to solve regional key issues.

**Build an assessment and evaluation system.** We will develop indicators for the Forest Chief Scheme evaluation, mainly focusing on the indicators stated in the *Five-Year Plan* such as forest coverage, forest stock volume, comprehensive vegetation coverage of grassland, controlled area of desertified land, and the completion of annual targets.

Figure 9-1 The Organizational System of the Forest Chief Scheme

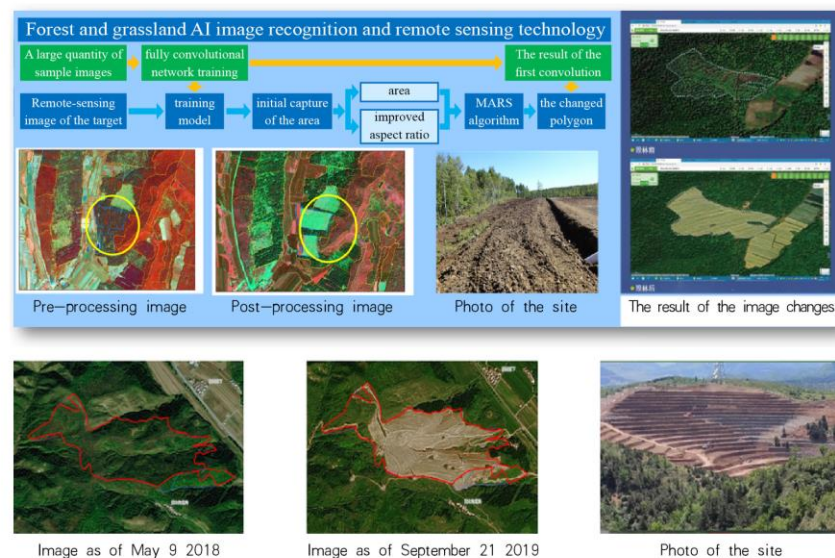


## 2. Strengthen Resource Management

**Impose strict regulations over resource management.** We should implement graded management and control of forest land, strictly control encroachment on non-commercial forests, natural forests, and forest land with high stock volume, and strictly implement the five-year forestland use conservation quota system. We will enhance the review and approval management of grassland requisition and occupation, and strictly control overgrazing and illegal grazing. We will adopt the Wetland Negative List to strengthen the supervision of natural wetland uses. We will monitor all human activities within natural protected areas, and conduct regular monitoring and inspections.

**Standardize harvesting management practices.** We will implement harvesting quota and permit systems, strengthen supervision and inspection for these systems, and fully implement the notification commitment system to ensure convenient services are provided to the people.

Figure 9-2 Resource Management Based on Information Technology



## 3. Improving the Asset Reporting System

According to the *Opinions of the CPC Central Committee on Establishing a Reporting System for the State Council to Report to the Standing Committee of the National People's Congress on the State-owned Assets Management*, we will incorporate the state-owned forest and grassland resources into the reporting scope of state-owned assets. The report will mainly focus on the conditions (quantity, value, structure and distribution) of state-owned forest and grassland resources, and the mechanism of managing those resources, implementation of major decisions and arrangements by the CPC Central Committee, major institutional arrangement in

building eco-civilization, protection and utilization of forest and grassland resources, challenges and plan for the next step. Reporting on the management of state-owned forest and grassland resources assets will be included in the overall report on state-owned natural resources and submitted to the Standing Committee of the People's Congress at the same level according to the procedures stipulated in the state-owned assets reporting system.

#### **4. Reinforce Supervision on Resources**

**Reinforce forest supervision.** We will reinforce forest supervision through the "Space-Sky-Surface" integrated monitoring network, to strengthen the supervision of key ecological functional areas, ecologically sensitive and vulnerable areas and key illegal acts. We will reinforce the institutionalization and standardization of forest supervision.

**Carry out targeted administration actions.** We will carry out special campaigns to crack down on violations of laws involving forests and grasslands, and resolutely combat illegal encroachment on forest lands, grasslands, wetlands, deserts and natural protected areas, and deforestation and grassland reclamation.

#### **5. Integrated Monitoring and Evaluation**

**Build an integrated monitoring system.** Following the *Overall Plan for the Establishment of a Natural Resources Investigation and Monitoring System*, we will establish a forest and grassland integrated monitoring system which combines management at the national and local levels, and is supported by a "Space-Sky-Surface" integrated monitoring network. We will improve monitoring and evaluation standards, and carry out integrated monitoring of forests, grasslands, wetlands, desertification and rocky desertification.

**Monitor the effectiveness of ecosystem protection.** Based on the One Map of China's territorial space planning, we will develop the One Map of forest and grassland resources. We will carry out the tenth forest resources inventory and other specific monitoring actions, and release a white paper on forest and grassland resources and ecological status annually. We will carry out a real-time monitoring and early warning system for forest and grassland areas which experience abrupt changes, to assist with supervision and law enforcement, and to respond to emergencies.

**Strengthen technical support.** We will establish a national forest and grassland integrated ecological monitoring center to coordinate technical capacity and improve the ability to comprehensively collect monitoring data and verify information. We will explore the application of cutting-edge technologies and research and establish a database.

## Chapter 10 Build an Integrated System for Fire Prevention and Suppression in Forests and Grasslands

We will follow the important instructions put by General Secretary Xi Jinping regarding “life is paramount”, “safety first”, “source control” and “scientific rescue measures”, focus on fire prevention, strengthen coordination with the emergency, public security and meteorology sectors, and take an integrated and coordinated approach.

### 1. Improve the Fire Prevention System

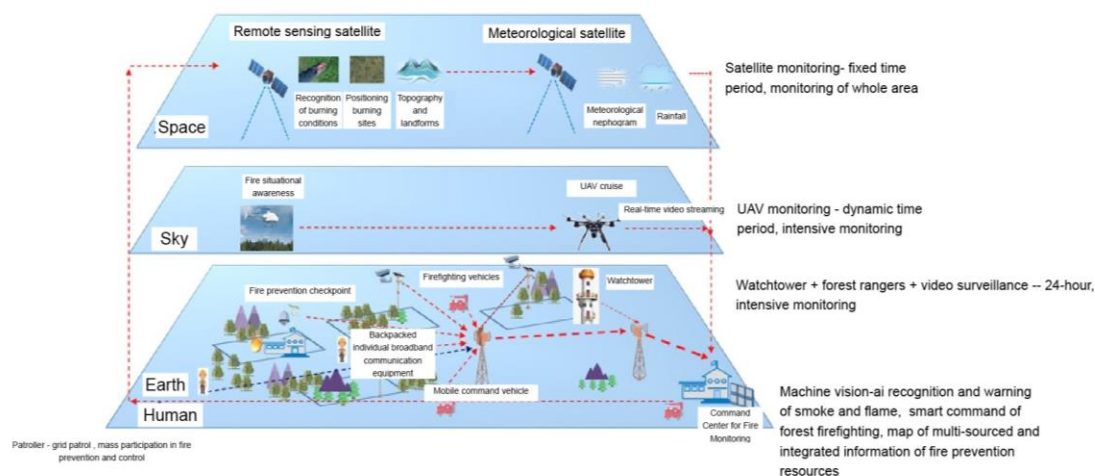
**Impose responsibilities for fire prevention.** We will strictly implement the shared responsibility of both party and government leadership and the “Chief Administrative Executive Responsibility System” for fire prevention. Forest and grassland departments at all levels shall earnestly fulfill their duties for fire prevention, with operating departments taking primary responsibility and fire prevention measures. We will carry out joint supervision and prevention together with emergency and public security agencies, and set up a mechanism for compliance inspection interviews and accountability.

**Enhance early warning capability.** We will make full use of the “Space-Sky-Surface” integrated monitoring network to enhance capacity to proactively follow fire situations. We will strengthen cross-sectoral consultation and coordination with emergency and meteorological departments to improve decision-making, early warning and response, and information sharing. We will build fire prevention dispatch platforms at national and provincial levels, and strengthen the monitoring of lightning-caused fires in major fire prevention areas of Northeast and Southwest China.

**Control wildfire sources.** We will conduct forest and grassland fire risk surveys, allocate facilities for public awareness and warning, as well as inspection and control in key areas, and promote the Fire Prevention Code. Together with public security organs, we will severely crack down on illegal outdoor fire use. Scientific approaches for planned burning will also be adopted.



Figure 10-1 “Space-Sky-Surface” Integrated Monitoring System



## 2. Promote Fire Control at Early Stages

**Strengthen fire control at early stages.** With the system of patrolling grids, we will give full play to forest rangers and lookouts who play the role of “probe” in fire prevention. The fire brigade will be garrisoned near the front and patrol with equipment, so we could better early detect, report, and control fire. We will guide and standardize social participation and promote the mechanism of government procurement of services for extinguishing fire.

**Build up professional teams.** We will improve the fire prevention system, strengthen professional fire prevention and firefighting teambuilding in key risk areas, and offer teams standardized dormitories, and equipment and facilities such as large- and medium-sized fire prevention and firefighting machines. We will strengthen training on professional skills, and establish an interconnected mechanism between local professional fire prevention and firefighting teams and national comprehensive fire rescue teams, to improve their capabilities of fire control.

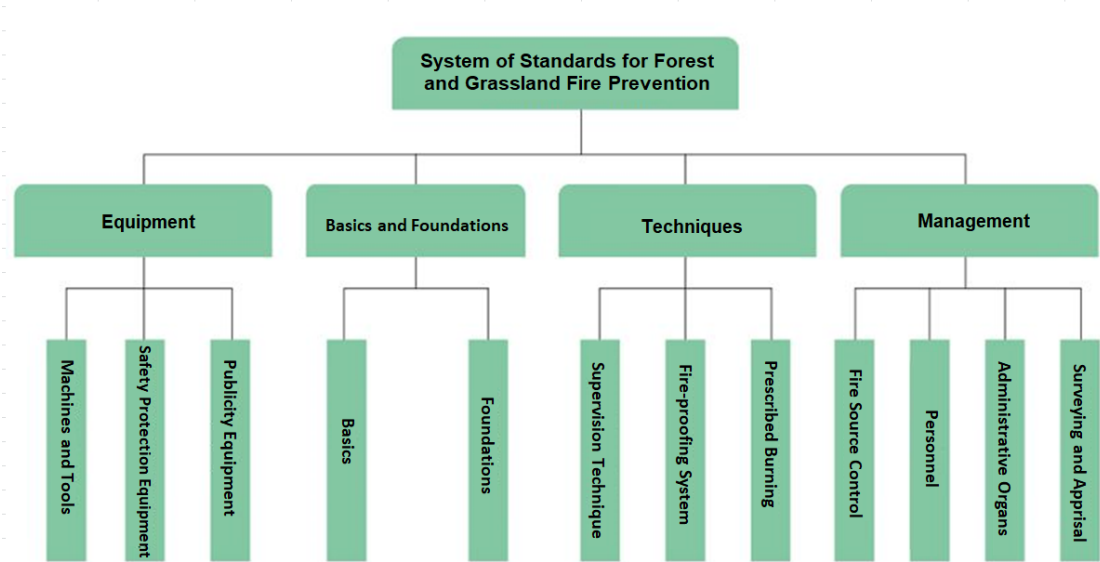
## 3. Enhance Support Capacity

**Intensify infrastructure development.** We will set up a national standardized system for forest and grassland fire prevention and improve key related infrastructure for fire prevention, fire source control and fire warning supervision. We will build a sound network of fire access roads, provide strong support for communication in forested and pastoral areas, and set up firebreaks in a scientific way. More professional vehicles will be equipped to expand the coverage of fire prevention. Material storage facilities and unmanned aerial vehicle (UAV) teams will be set up to improve forest and grassland aerial ranger sites.

**Strengthen integrated fire prevention capacity in key areas.** We will carry out

standardization of forest fire prevention and control in the Da Hinggan Mountain region. We will administer integrated fire prevention projects in key regions including forested areas in Northeast and Southwest China, forested and pastoral areas along the border, natural protected areas, and areas surrounding towns, cities, and important facilities.

Figure 10-2 The System of Standards for Forest and Grassland Fire Prevention



4. Improve Workplace Safety

**Implement the workplace safety responsibility mechanism.** We will ensure that the forest and grassland authorities at all levels assume responsibility for supervision, and ensure operators assume responsibility for workplace safety. We will work on the development of guidelines for ensuring workplace safety in the forest and grassland sector. We will improve mechanisms for preventing and managing accidents and identifying safety hazards, and draft standards and criteria for identifying major safety hazards.

**Strengthen oversight on workplace safety.** We will increase awareness of workplace safety and the response measures to prevent and manage accidents. We will offer more training on workplace safety for supervision teams and workers.

Box 10-1 Projects for Fire Prevention in Key Areas	
1	<p><b>Early fire treatment</b></p> <p>We will set up professional and standardized fire prevention and suppression teams at a local level and upgrade their equipment. Supporting facilities, including multi-functional bases for firefighters' dormitories and storage of supplies, stationed sites, and outdoor training camps, will be improved.</p>
2	<p><b>Upgrade fire prevention facilities and equipment</b></p> <p>We will establish an information sharing and dispatch management platform for forest and grassland fire prevention at national and provincial levels. We will construct and upgrade 5,000 kilometers of fire access roads, and install and upgrade lookout facilities and surveillance systems at key areas where fire source control is difficult.</p>

## Chapter 11 Strengthen Pest Control

We will fully implement the important instructions put by General Secretary Xi Jinping to “comprehensively improve China’s governance capacity on biosecurity”, prevent the spread of major pests over forests and grasslands, and enhance capacity in pest control to maintain the health and stability of ecosystems.

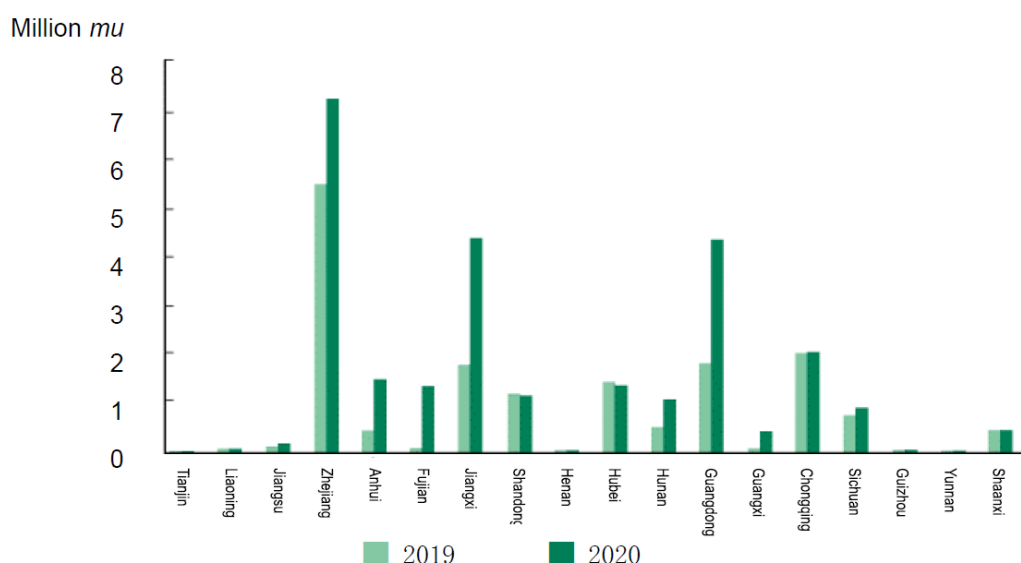
### 1. Fight against the Pine Wood Nematode

**Implement targeted control.** We will categorize and grade pine forests nationwide, and focus on the fight against the pine wood nematode in the provinces/municipalities of Zhejiang, Jiangxi, Guangdong and Chongqing, and in key areas of Qinling Mountains, Mount Huang, Mount Tai and the Three Gorges Reservoir. We will conserve and rescue ancient trees and famous pine trees. We will carry out stand transformation and protection of nematode-infected forests and cut down nematode-infected trees. We will select the best candidates through open competition to work on technologies to guard against the pine wood nematode. The target is, by 2025, to eliminate the infection in Mount Huang and Mount Tai, reduce the infected area and infected counties, and ensure that the number of infected counties is less than that in 2020; this should curb the quick spread of the pine wood nematode.

**Intensify monitoring and control.** We will implement a pest prevention and control responsibility mechanism, and a system of patrolling grids, to achieve overall supervision of pest monitoring, logging site lockdown, infected timber clear-up and harmless disposal. We will assess pest control effectiveness and damage and improve the joint prevention and control mechanism.

**Carry out strict quarantine and enforcement.** We will strengthen capacity building in quarantine institutions by clarifying the responsible person, their duties, fixed reporting time and standards. Special law enforcement campaigns will be carried out to cut off channels of transmission, and investigate and punish the illegal processing and transporting of infected timber.

Figure 11-1 Pine Wood Nematode-Affected Areas in 2019-2020



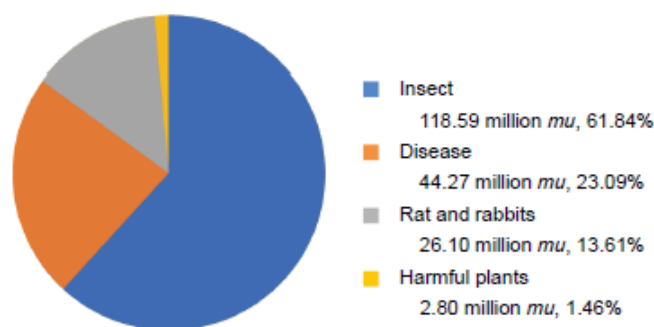
## 2. Strengthen Prevention and Control of Major Forest Pests

**Strengthen patrolling grid management for monitoring and early warning.** We will promote regional joint prevention and control, and encourage public participation to control major pests, such as the pine moth, American white moth and longicorn. We will develop comprehensive management platforms in areas such as multidimensional monitoring, big data forecasting and plant quarantine.

**Intensify infection prevention and mitigation.** We will build infrastructure for inspection, infected area lockdown, supervision and quarantine treatment. We will set up a command and dispatch system for forest pest control, and a quality control system for using aircraft in forest pest control. We will establish and improve the pest control emergency response center and emergency supplies reserve. We will establish a performance evaluation system to assess government performance at all levels.

**Expand technology application.** We will expand the application of ecologically safe technologies such as bio-control and ecological regulation, provide the necessary equipment to apply existing technologies, and accelerate the transformation of scientific and research findings into feasible technologies.

Figure 11-2 Different Kinds of Pest-Affected Areas in 2020



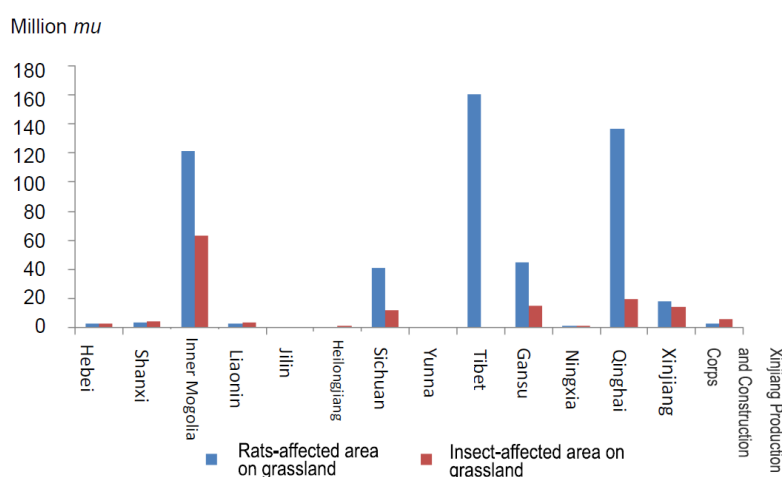
### 3. Strengthen Grassland Pest Control

**Improve monitoring.** We will establish a grassland pest monitoring and early warning system for rats, locusts, and meadow moths, and a comprehensive database for grassland pest risk control.

**Strengthen prevention and management of major pest outbreaks.** We will carry out grassland pest management, strengthen integrated control of major outbreaks, and promote the research and development, and application of, technologies such as remote sensing, smart interpretation of hazards, big data analysis and biological agents. We will set up regional emergency supplies reserves at provincial and municipal levels.

**Enhance technology research and development.** We will establish demonstration sites for the application of ecologically safe technologies for control of grassland rats and insects, regional emergency control of grassland rats, and long-term pest control. We will conduct major scientific research on Grassland Pest Control and improve quality certification for pest control technologies.

Figure 11-3 Grassland Rat and Insect Pest Damage-Affected Areas in 2020



Box 11-1 Key Pest Control Projects	
1	<p><b>Fight against the pine wood nematode</b></p> <p>We will select the best candidates through open competition to work on technologies for controlling the pine wood nematode, and strengthen the development of a collaboration innovation center and national key laboratories. We will work on the research and development, and integrated innovation, of key technologies, carry out the stand transformation of infected pine forests, and establish a platform for pest monitoring.</p>
2	<p><b>Operations to control forest pests</b></p> <p>We will build forest pest control infrastructure, including an integrated control monitoring platform, monitoring and early warning center, and monitoring station, as well as specimen collection and science education centers. The annual target of pest control is to treat 140 million <i>mu</i> (9.3 million ha).</p>
3	<p><b>Operations to control grassland pests</b></p> <p>We will accelerate the construction of ground monitoring stations for grassland pests, and the establishment of a grassland pest database, as well as a research center for grassland pest monitoring and control technologies. The annual target area for Grassland Pest Control is 140 million <i>mu</i> (9.3 million ha).</p>

## **Chapter 12 Deepen Reform and Opening Up of the Forest and Grassland Sector**

We will fully implement the important instructions put by General Secretary Xi Jinping on “sticking to the correct direction of reform”, “protecting ecology and people’s livelihoods”, and “striving to achieve breakthroughs”, revitalize collectively owned forest lands (or “collective forestlands”), and improve the management mechanism of state-owned forest farms and the resource management scheme of state-owned forest areas, while also promoting the integration and efficiency of these reforms.

### **1. Deepen the Comprehensive Reform of Collective Forest Tenure**

**Liberalize the management and disposal rights of collective forests.** We will regulate forestry operations through laws, regulations and technical standards, employ market measures to guide and encourage forest owners to adopt sustainable management, and ensure their rights to manage forests in accordance with the law. We will formulate and implement forest management strategies and plans, and unify standards and projects in order to improve the quality of collective forests. We will define boundaries of public welfare forests in accordance with laws and regulations, adjust and optimize the layout and protection levels of public welfare forests, and make them specific to each site.

**Cultivate new types of business entities.** We will cultivate new types of business entities such as family forest farms, professional cooperatives, and leading enterprises to promote appropriately scaled operations. We will improve mechanisms for forest tenure transfer, guarantees, interest discounts, dividends, and linkages between the interests of different entities, which could strengthen tenure rights protection and increase farmers’ income from forest industries. We will expand the functions of collective forest rights and encourage the transfer of forest land through subcontracting, leasing, and equity ownership. We will explore innovative “eco-banks” and easement mechanisms, and improve the forest tenure services platform.

**Launch comprehensive trials for forestry reform.** We will continue to explore forest resource management, the high-quality development of the forest industry, and innovations in forestry finance, and provide support in terms of project arrangements, personnel training and policy making.



## **2. Improve the Operating Mechanism of State-owned Forest Farms**

**Stimulate development vitality.** We will consolidate and build on the achievements of the reform of state-owned forest farms, protect forest resources, and create innovative policies for green development. We will establish and improve employee performance evaluation mechanisms, and explore the incentive mechanism for income distribution of state-owned forest farms from different regions and categories. We will establish a resource classification system to guide and support social capital to cooperate with state-owned forest farms in the use of forest resources.

**Promote green transformation.** We will cultivate precious tree species and indigenous tree species, accelerate the development of bases for large-diameter trees and national reserve forests, promote the integrated development of state-owned forest farms and tree seedlings, and develop green and low-carbon industries such as eco-tourism and understory cultivation (for non-timber forest products). We will establish different types of demonstration forest farms.

**Strengthen infrastructure development.** We will improve forest rangers' huts, roads and other infrastructure for environmental improvement and information technologies, to improve operation and living conditions. We will build capacity by expanding the channels for introducing talent and strengthening the training of employees.

## **3. Accelerate Reform and Development of State-owned Forest Areas**

**Improve the management system of state-owned forest resources.** In recognition of the role of state-owned forest areas as national ecological security barriers and strategic centers for forest resource cultivation, we will improve the state-owned forest resource management system, formulate a reform plan for implementing the payment for using state-owned forest resource assets, and compile an asset list. We will improve the system for evaluating the performance of the heads of forest industry enterprises on their management on forest resources, and for auditing the performance of outgoing leaders.

**Strengthen forest protection and management.** We will establish a forest patrolling system covering the entire area to ensure that management and protection responsibilities are fulfilled. We will promote the application of advanced technologies and develop new mechanisms to improve management and protection. We will strictly manage and protect natural forests, and plan the production of planted commercial forests in a scientific way. We will improve the formulation and implementation of forest management plans, and establish an incentive mechanism for forest management performance.

**Support and improve livelihoods.** To properly resettle redundant workers in forest areas, we will create jobs through multiple channels, including recruiting more forest rangers, developing local specialty industries, and encouraging people to launch their own businesses. We will encourage state-owned forest areas to develop green industries such as eco-tourism, ice and snow tourism, and specialty forestry products. We will continue to improve the production and living conditions of forest workers, and incorporate the construction of power and water supply facilities, roads, and forest rangers' huts in forest areas into the central government budget.

**Support the development of the Daxing'anling Forestry Group Co.** We will support the Daxing'anling Forestry Group Co. to develop into a modern state-owned enterprise dedicated to public welfare, and deepen reforms of labor, staffing, and income distribution systems. We will improve corporate governance, and formulate a hierarchical management and assessment system of its internal institutions and secondary corporate institutions for personnel. We will promote economic transformation and develop alternative industries.

Table 12-1 Pilot Sites for Forest and Grassland Reform

No.	Name
1	Daxing'anling Forestry Group Co.
2	Yichun Forest Industry Group
3	Sanming City, Nanping City, and Longyan City of Fujian Province
4	Jincheng City of Shanxi Province
5	Tonghua City of Jilin Province
6	Xuancheng City of Anhui Province
7	Fuzhou City of Jiangxi Province
8	Chengdu City of Sichuan Province

#### 4. Pursue High-level Opening Up

**Improve international cooperation in the forest and grassland sector.** We will promote bilateral cooperation, strengthen multilateral dialogue and exchange, deepen cooperation with relevant international organizations and international financial institutions, intensify efforts to cultivate talents and recommend them to international organizations, and deepen exchanges and cooperation under regional mechanisms. We will mainly support the development of the International Network for Bamboo and Rattan (INBAR) and the Asia-Pacific Network for Sustainable Forest Management and Rehabilitation (APFNet). We will also promote international non-governmental exchanges and cooperation in the forest and grassland sector.

Table 12-2 Bilateral and Multilateral Cooperation

Bi-/Multilateral Cooperation	Subcategory	Partners/Content
Global	International organization	INBAR APFNet United Nations Forum on Forests (UNFF) Food and Agriculture Organization of the United Nations (FAO) United Nations Educational, Scientific and Cultural Organization (UNESCO) United Nations Environment Program (UNEP) United Nations Development Program (UNDP) United Nations Industrial Development Organization (UNIDO) International Tropical Timber Organization; (ITTO) International Union for Conservation of Nature; (IUCN) Arctic Council World Economic Forum (WEF), etc.
	International financial institutions	Global Environment Facility (GEF) World Bank European Investment Bank (EIB) Asian Development Bank (ADB) Asian Infrastructure Investment Bank (AIIB), etc.
	Non-governmental organizations	World Wide Fund (WWF) The Nature Conservancy (TNC), etc.
Regional	Mechanisms with a forest and grassland component	Asia-Pacific Economic Cooperation (APEC) North-East Asian Subregional Program for Environmental Cooperation (NEASPEC) Lancang-Mekong Cooperation Mechanism Forum on China-Africa Cooperation China Arab States Cooperation Forum; etc.
	Mechanisms dedicated to forest and grassland cooperation	China-EU Bilateral Coordination Mechanism on Forest Law Enforcement and Governance (BCM) Coordination Mechanism for Cooperation in Forestry between China and Central and Eastern European Countries (CEECs) China-ASEAN Forestry Cooperation Forum; Meeting of Ministers Responsible for Forestry in Greater Central Asia Trilateral Director General Level Meeting among The People's Republic of China, Republic of Korea and Japan on Forestry Cooperation, etc.
Bilateral		The United States, Canada, Russia, Germany, France, The United Kingdom, Japan, South Korea, Mongolia, Vietnam, Nepal, Ethiopia, Gabon, Uruguay, Chile, etc.
Non-governmental		Japan-China Friendship Center Federation of Swedish Family Forest Owners Association African Parks Network MegaFlorestais KfW Development Bank Royal Horticultural Society of the UK, etc.

**Step up efforts to implement international instruments.** We will enhance our participation in negotiations about international instruments, fulfill responsibilities and obligations in international instruments related to forest and grassland, and push forward international cooperation on climate change. To increase support for the implementation of relevant international instruments, we will establish and improve cross-sector coordination mechanisms for their implementation, boost the development of demonstration sites for implementation and international cooperation, and deepen integration between international instruments commitments and domestic reforms and developments in the forest and grassland sector. We will support the convening of the 15th Conference of the Parties of the Convention on Biological Diversity, and host the 14th meeting of the Conference of the Parties to the Ramsar Convention on Wetlands. We will continue to facilitate hosting international offices such as the Global Forest Financing Facilitation Network (GFFFN) in China.

Table 12-3 International Instruments Related to Forests and Grasslands

No.	Leading/Participating in implementation	Instruments
1	Leading	United Nations Convention to Combat Desertification Convention on International Trade in Endangered Species of Wild Fauna and Flora Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention on Wetlands) The United Nations Forest Instrument
2	Participating	United Nations Framework Convention on Climate Change Convention on Biological Diversity Convention Concerning the Protection of World Cultural and Natural Heritage International Convention for the Protection of New Varieties of Plants International Plant Protection Convention

**Build a green “Belt and Road”.** We will advance cooperation in integrated ecological protection and disaster prevention and control, join efforts to build cross-border and cross-watershed natural protected areas and ecological corridors, and deepen cooperation with neighboring countries in cross-border forest and grassland fire prevention. We will also strengthen cooperation in the protection of wild tigers, leopards, Asian elephants and other animals and their habitats, promote the protection of migratory birds’ habitats and international migratory routes, and deepen joint research in the protection of endemic species such as the Giant Panda and Crested Ibis. We will promote the exchange and cooperation of ecological governance technologies such as those for desertification control and wetland restoration. In order to promote foreign trade in forest and grassland products, we will build international timber distribution centers, timber processing industrial parks, and forest resource cultivation

and utilization centers. We will guide green investment in the forest and grassland sector, and support and cultivate Chinese multinational companies with strong international competitiveness and a high market share. We will encourage and regulate the overseas investment of enterprises in the forest and grassland sector.

Box 12-1 Green “Belt and Road”	
<b>1</b>	<p><b>China-Mongolia-Russia</b></p> <p>We will strengthen integration between the Belt and Road Initiative the Eurasian Economic Union, and the Mongolian Steppe Road Initiative, prioritizing cooperation in forest resources cultivation and utilization, desertification prevention and control, grassland restoration, and cross-border species protection, so as to promote green cooperation in Northeast Asia.</p>
<b>2</b>	<p><b>China and Central Asia</b></p> <p>Through platforms such as the China-Central Asia Cooperation Forum and the Meeting of Ministers Responsible for Forestry in Greater Central Asia, focusing on Central Asia, covering West Asia, North Africa and other regions, we will focus on exchanges and cooperation in strengthening: the protection of snow leopards and other endangered species, vegetation restoration, and integrated control of desertified and salinized land. With these efforts, we will jointly create a future of openness, inclusiveness and mutually beneficial cooperation.</p>
<b>3</b>	<p><b>China and Southeast Asia</b></p> <p>To promote the implementation of regional comprehensive economic partnership agreements, based on regional mechanisms such as the China-ASEAN Free Trade Area and Lancang-Mekong Cooperation, we will focus on strengthening cooperation in areas such as biodiversity conservation, forest products trade, cultivation and utilization of non-wood forest products, and eco-tourism. The Nanning Initiative on forestry cooperation between China and ASEAN and its follow-up action plan will also be well implemented. These efforts will contribute to maintain regional ecological security.</p>
<b>4</b>	<p><b>China and South Asia</b></p> <p>We will focus on strengthening cooperation in wildlife protection, migratory bird conservation, and green infrastructure construction to serve the development of the Bangladesh-China-India-Myanmar Economic Corridor and the China-Pakistan Economic Corridor.</p>

Box 12-1 Green “Belt and Road”	
5	<p><b>China and Central and Eastern European Countries</b></p> <p>Based on the China-CEEC Forestry Cooperation Coordination Mechanism, focusing on the Central and Eastern European region and reaching out to the European continent, we will promote high-level forestry dialogue and cooperation in trade and investment between China and CEECs, and build a lasting and pragmatic green cooperation model between China and CEECs.</p>
6	<p><b>China and Africa</b></p> <p>Through the Forum on China-Africa Cooperation, we will strengthen exchange and dialogue on ecological development policy and joint research on ecological issues, mainly focusing on the cultivation and utilization of bamboo and rattan resources, wildlife protection, combating desertification, sustainable forest management, the development and management of natural reserves, personnel training, and ecological protection publicity and education, promoting the establishment of a China-Africa community with shared future featuring harmonious relationship between man and nature.</p>
7	<p><b>China and Oceania</b></p> <p>We will focus on cooperation in forest certification, processing and utilization of wood and non-wood forest products, as well as migratory bird conservation and habitat protection, and continue to deepen regional green cooperation.</p>

## Chapter 13 Firmly Establish the Concept that “Mountains, Rivers, Forests, Farmlands, Lakes, Grasslands, and Deserts are a Community of Life”, and Launch Regional Projects for Integrated Rehabilitation

In major strategic areas and key ecological locations such as the Yellow River, the Yangtze River and the Qinghai-Tibet Plateau, we will firmly establish the concept that “mountains, rivers, forests, farmlands, lakes, grasslands, and deserts are a community of life”. We will focus on key areas and locations, coordinate among different sectors, and make science-based arrangements to launch a number of regional projects for integrated rehabilitation.

### 1. Integrated Rehabilitation Projects along the Yellow River and the Northern Sand Prevention Belt

We will focus on the upper, middle and lower reaches of the Yellow River, i.e. the Qilian Mountains, Qinling Mountains, Helan Mountains, the Loess Plateau and the Yellow River Delta, as well as key areas for desertification prevention such as the Beijing-Tianjin-Hebei region, Inner Mongolia Plateau, Hexi Corridor, Tarim River basin and Tianshan Mountains. We will launch 31 regional projects for integrated rehabilitation.

Box 13-1 Regional Projects for Integrated Rehabilitation along the Yellow River and the Northern Sand Prevention Belt				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems <sup>1</sup>
1	The source of the Yellow River	Guoluo Prefecture and Huangnan Prefecture	Qinghai	Ecological protection and restoration of the source of the three rivers
2	Gonghe basin	Hainan Prefecture	Qinghai	Ecological protection and restoration of the source of the three rivers

<sup>1</sup> “Major projects” refers to the projects deployed by the *Master Plan for the Major Projects for the Protection and Restoration of National Key Ecosystems (2021-2035)*, which was released in June 2020 (footnote by the translation team).

Box 13-1 Regional Projects for Integrated Rehabilitation along the Yellow River and the Northern Sand Prevention Belt				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems <sup>1</sup>
3	Huangshui valley	Xining City and Haidong City	Qinghai	Ecological protection and restoration of Qilian Mountains
4	Ruoergai (Zoige) grassland-wetland ecosystem	Aba Prefecture	Sichuan	Ecological protection and restoration of the Ruogai (Zoige) grassland-wetland-Important water supply areas of the Yellow River in Gannan
5	Gannan Yellow River water source recharge area	Gannan Prefecture	Gansu	Ecological protection and restoration of the Ruogai (Zoige) grassland-wetland-Important water supply areas of the Yellow River in Gannan
6	Longzhong Loess Plateau	Linxia Prefecture, Lanzhou City, and Baiyin City	Gansu	Integrated soil and water erosion control of the Loess Plateau
7	Upper reaches of Weihe River	Tianshui City and Dingxi City	Gansu	Integrated soil and water erosion control of the Loess Plateau
8	Longdong Loess Plateau	Qingyang City and Pingliang City	Gansu	Integrated soil and water erosion control of the Loess Plateau
9	Liupan Mountains	Guyuan City and Zhongwei City	Ningxia	Integrated soil and water erosion control of the Loess Plateau
10	Helan Mountains	Shizuishan City and Yinchuan City	Ningxia	Ecological protection and restoration in Helan Mountains
11	Ulan Buh Desert	Bayannur City	Inner Mongolia	Integrated soil and water erosion control of the Loess Plateau
12	Kubuqi-Maowusu Desert	Ordos City	Inner Mongolia	Integrated soil and water erosion control of the Loess Plateau



Box 13-1 Regional Projects for Integrated Rehabilitation along the Yellow River and the Northern Sand Prevention Belt				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems <sup>1</sup>
13	Tumochuan Plain	Hohhot City and Baotou City	Inner Mongolia	Integrated soil and water erosion control of the Loess Plateau
14	Northern Shaanxi	Yan'an City and Yulin City	Shaanxi	Integrated soil and water erosion control of the Loess Plateau
15	The middle foot of Qinling Mountains	Ankang City, Hanzhong City, Shangluo City, Weinan City, and Baoji City	Shaanxi	Qinling Mountains ecological protection and restoration
16	Lüliang Mountain	Lüliang City, Shuozhou City, and Xinzhou City	Shanxi	Integrated soil and water erosion control of the Loess Plateau
17	Fenhe River	Linfen City and Taiyuan City	Shanxi	Integrated soil and water erosion control of the Loess Plateau
18	Luo River	Sanmenxia City and Luoyang City	Henan	Qinling Mountains ecological protection and restoration
19	Henan section of the lower reaches of the Yellow River	Kaifeng City and Zhengzhou City	Henan	Ecological protection and restoration of the lower reaches of the Yellow River
20	Shandong section of the lower reaches of the Yellow River	Jining City, Heze City, and Jinan City	Shandong	Ecological protection and restoration of the lower reaches of the Yellow River
21	The Yellow River Delta	Dongying City and Binzhou City	Shandong	The lower reaches of the Yellow River
22	Altun grassland-desert ecosystem	Bayingol Prefecture	Xinjiang	Grassland and desert ecosystem protection and restoration in the Altun Mountains
23	Tarim River	Aksu area	Xinjiang	Tarim River basin protection and restoration

Box 13-1 Regional Projects for Integrated Rehabilitation along the Yellow River and the Northern Sand Prevention Belt				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems <sup>1</sup>
24	Ili River valley	Yili Prefecture	Xinjiang	Forest and grassland protection in Tianshan and Altai Mountains
25	Heihe River-Shiyang River	Wuwei City and Zhangye City	Gansu	Ecological protection and restoration along the Hexi Corridor
26	Badain Jaran Desert	Alashan League	Inner Mongolia	Inner Mongolia Plateau ecological protection and restoration
27	Horqin Desert	Tongliao City and Chifeng City	Inner Mongolia	Inner Mongolia Plateau ecological protection and restoration
28	Low mountains and hilly areas of western Liaoning	Fuxin City and Chaoyang City	Liaoning	Inner Mongolia Plateau ecological protection and restoration
29	Chaobai River	Relevant districts of Beijing	Beijing	Ecological protection and restoration in the Beijing-Tianjin-Hebei Metropolitan Area
30	Yanshan mountain areas	Zhangjiakou City and Chengde City	Hebei	Ecological protection and restoration in the Beijing-Tianjin-Hebei Metropolitan Area
31	The eastern foot of Taihang Mountain	Shijiazhuang City, Handan City, and Baoding City	Hebei	Ecological protection and restoration in the Beijing-Tianjin-Hebei Metropolitan Area

## 2. Integrated Rehabilitation Projects along the Yangtze River and Southern Hilly and Mountainous Areas

We will launch 25 regional integrated rehabilitation projects, focusing on the upper, middle and lower reaches of the Yangtze River, i.e. the Hengduan Mountains, karst and rocky desertified areas along the upper and middle reaches of the Yangtze River, Daba Mountains, the Three Gorges Reservoir area, Dongting Lake, Dabie Mountains and Wuling Mountains, as well as karst and rocky desertified areas in Nanling and

Wuyi Mountains, and Hunan and Guangxi Provinces.

Box 13-2 Integrated Rehabilitation Projects along the Yangtze River and Southern Hilly and Mountainous Areas				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems
32	The source of the Yangtze River	Haixi Prefecture and Yushu Prefecture	Qinghai	Ecological protection and restoration of the sources of the Three Rivers
33	Yalong River	Ganzi Prefecture and Liangshan Prefecture	Sichuan	Water and biodiversity conservation for Hengduan Mountain Area
34	Hilly area of central Sichuan	Chengdu City	Sichuan	Water and biodiversity conservation for Hengduan Mountain area
35	Left bank of Chishui River	Luzhou City	Sichuan	Integrated rocky desertification control for the karst area along the upper and middle reaches of the Yangtze River
36	Wumeng Mountain area	Zhaotong and Kunming	Yunnan	Integrated rocky desertification control for the karst area along the upper and middle reaches of the Yangtze River
37	Northwest Guangxi mountainous area	Guilin, Hechi, and Baise	Guangxi	Integrated rocky desertification control for the karst area in Hunan and Guangxi
38	Rocky desertified areas in western Guizhou	Bijie City	Guizhou	Integrated rocky desertification control for the karst area along the upper and middle reaches of the Yangtze River
39	Right bank of Chishui River	Zunyi City	Guizhou	Integrated rocky desertification control for the karst area along the upper and middle reaches of the Yangtze River
40	The northern foot of Miaoling	Qiannan Prefecture	Guizhou	Integrated rocky desertification control for the karst area along the upper and middle reaches of the Yangtze River

Box 13-2 Integrated Rehabilitation Projects along the Yangtze River and Southern Hilly and Mountainous Areas				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems
41	Mountainous and hilly areas of Northeast Guizhou	Tongren City	Guizhou	Biodiversity conservation in Wuling Mountain area
42	East Chongqing mountainous area	Relevant districts and counties of Chongqing	Chongqing	Integrated ecological rehabilitation for the Three Gorges Reservoir area-Biodiversity conservation in Wuling Mountain area
43	The head of the Three Gorges Reservoir	Yichang City	Hubei	Biodiversity conservation in Wuling Mountain area
44	Qingjiang River basin	Enshi Prefecture	Hubei	Biodiversity conservation in Wuling Mountain area
45	Middle and upper reaches of Hanjiang River	Shiyan City	Hubei	Biodiversity conservation and ecological restoration in Daba Mountain area
46	Rocky desertified area in southwestern Hunan	Shaoyang City	Hunan	Integrated rocky desertification control for the karst area in Hunan and Guangxi
47	Dongting Lake Basin	Yueyang City and Changsha City	Hunan	Ecological protection and restoration for riverine wetlands of Poyang Lake and Dongting Lake
48	Rocky desertified area around Danjiangkou reservoir area	Nanyang City	Henan	Biodiversity conservation and ecological restoration for Daba Mountain area
49	Dabie Mountains	Xinyang City	Henan	Soil and water conservation and ecological restoration in Dabie Mountain-Huangshan Mountain area
50	Southern Anhui mountainous area	Anqing and Chizhou	Anhui	Soil and water conservation and ecological restoration in Dabie Mountain-Huangshan Mountain area

Box 13-2 Integrated Rehabilitation Projects along the Yangtze River and Southern Hilly and Mountainous Areas				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems
51	The source of the Dongjiang River	Heyuan City and Shaoguan City	Guangdong	Forest and biodiversity conservation for Nanling mountain area
52	The source of the Ganjiang River	Ganzhou City and Ji'an City	Jiangxi	Forest and biodiversity conservation for Nanling mountain area
53	Eastern Jiangxi mountainous and hilly region	Fuzhou City and Shangrao City	Jiangxi	Forest and biodiversity conservation for Wuyi Mountain
54	Tingjiang River basin	Longyan City	Fujian	Forest and biodiversity conservation for Wuyi Mountain
55	Mountainous and hilly areas of Northwest Fujian	Nanping City, Ningde City, and Sanming City	Fujian	Forest and biodiversity conservation for Wuyi Mountain
56	The source of Qianjiang River	Quzhou City	Zhejiang	Forest and biodiversity conservation for Wuyi Mountain

### 3. Integrated Rehabilitation Projects in Key Ecological Locations

We will implement 10 integrated rehabilitation projects, focusing on key ecological locations such as the Qinghai-Tibet Plateau, the Northeast Forest Belt and Coastal Zones.

Box 13-3 Integrated Rehabilitation Projects in Key Ecological Locations				
No.	Project Name	Main Implementation Locations	Province	Part of the Major Protection and Restoration Projects for National Key Ecosystems
57	Lhasa River	Lhasa City	Tibet	Afforestation and integrated rehabilitation along the “two rivers and four tributaries” <sup>2</sup> area in Tibet
58	Upper and Middle Reaches of Yajiang River	Xigaze City and Shannan City	Tibet	Afforestation and integrated rehabilitation along the “two rivers and four tributaries” area in Tibet
59	Forest Shelterbelt for Three Parallel Rivers	Nujiang Prefecture and Diqing Prefecture	Yunnan	Ecological protection and restoration of the Southeast Tibet Plateau
60	Hainan Island	Relevant counties and cities in Hainan	Hainan	Protection and restoration of important ecosystems on Hainan Island
61	Yellow Sea Beach	Yancheng City	Jiangsu	Integrated ecological rehabilitation in the Yellow Sea and Bohai Sea area
62	Liaohe Estuary	Panjin City	Liaoning	Integrated ecological rehabilitation in the Yellow Sea and Bohai Sea area
63	Dongliao River	Liaoyuan City	Jilin	Forest conservation in Changbai Mountains
64	Changbai Mountain	Baishan City, Yanbian Prefecture, and Hunchun City	Jilin	Forest conservation in Changbai Mountains
65	Xiao Hinggan Mountains	Yichun City and Hegang City	Heilongjiang	Forest conservation in the Da Hinggan and Xiao Hinggan Mountains
66	Da Hinggan Mountains	Da Hinggan Mountains area	Heilongjiang	Forest conservation in the Da Hinggan and Xiao Hinggan Mountains

Note: the projects located in the Qinghai-Tibet Plateau which are also in the Yellow River basin or in the Yangtze River basin are included in the list of projects for the Yellow River and the Yangtze River respectively.

<sup>2</sup> The “two rivers” refer to the Yarlung Zangbo River and the Nu Jiang River, while the “four tributaries” refer to the Lhasa River, Nianchu River, Yalong River and Shiquan River (footnote by the translation team).



Figure 13-1 Distribution of Integrated Rehabilitation Projects in the Forest and Grassland Sector

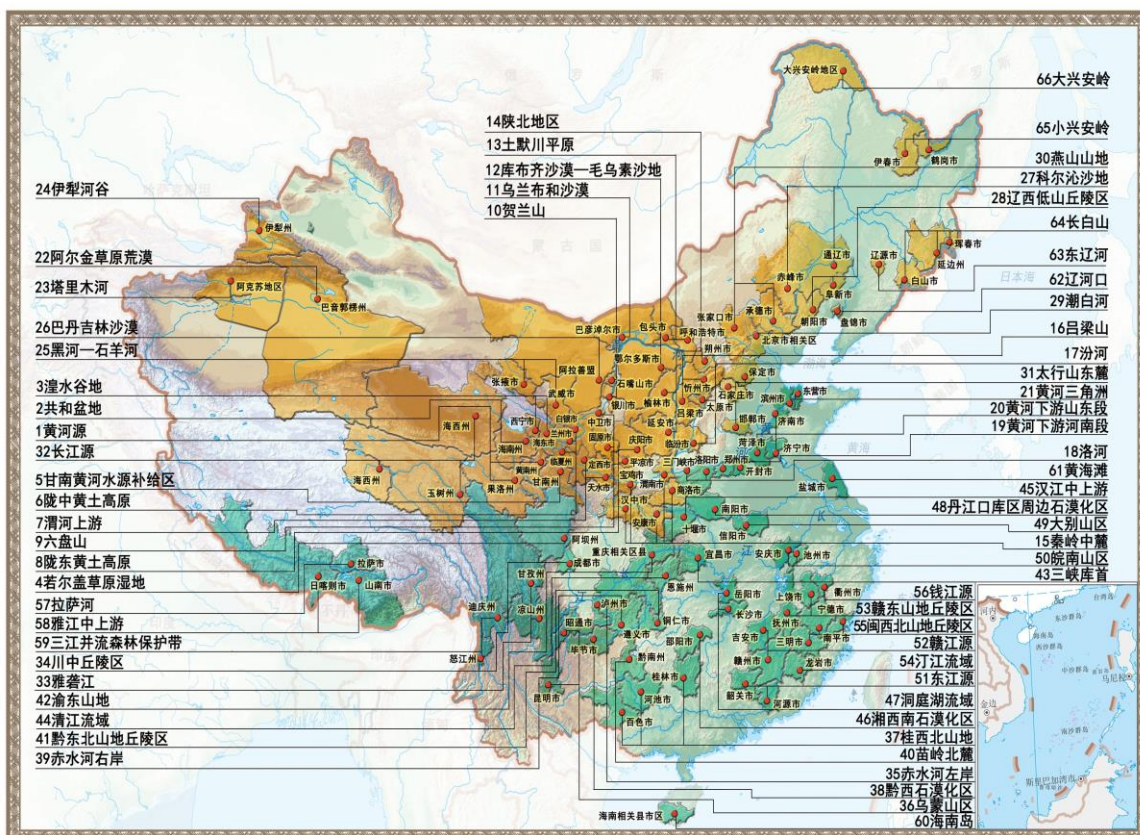


Figure 13-2 Distribution of Integrated Rehabilitation Projects in the Yellow River Basin

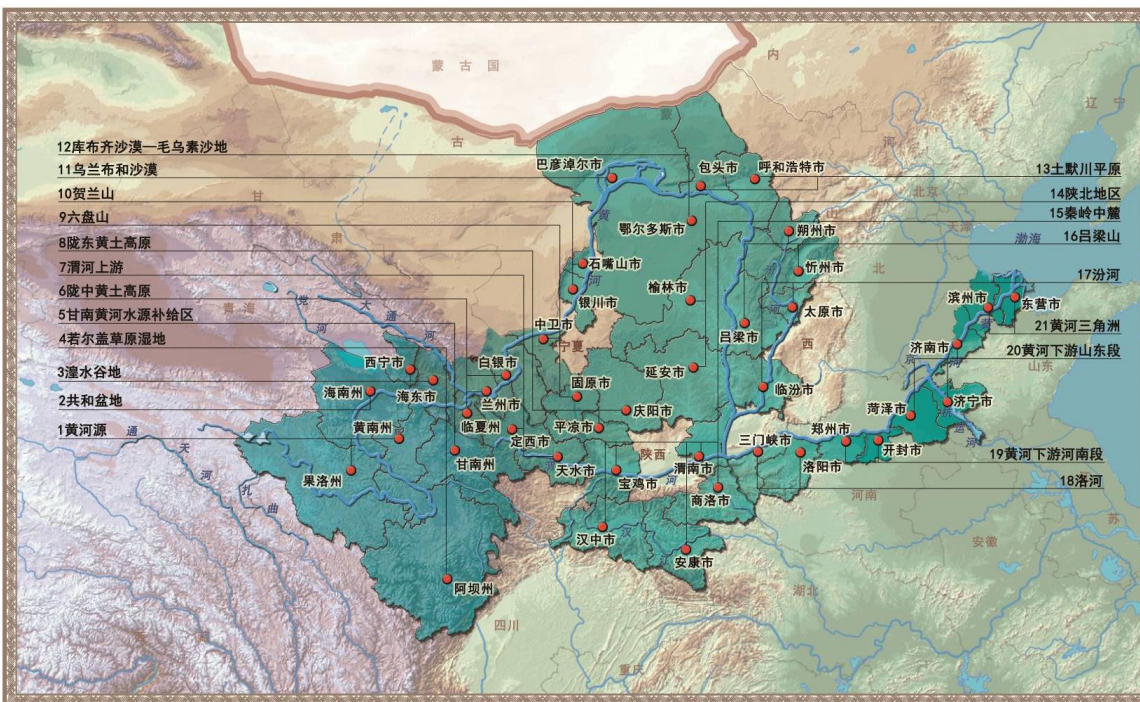
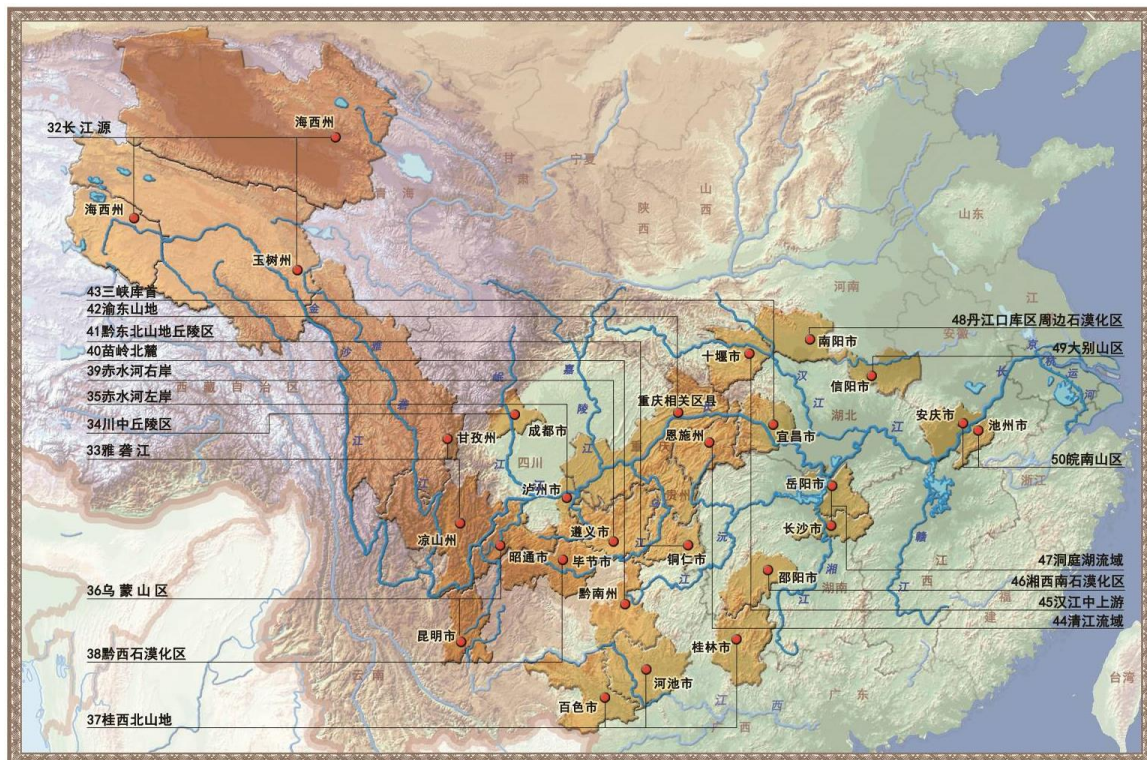




Figure 13-3 Distribution of Integrated Rehabilitation Projects in the Yangtze River Basin





## **Chapter 14 Improve the Support System for the Forest and Grassland Sector**

We will enhance the support system for undertakings in the forest and grassland sector, as a strong foundation for the high-quality development of national parks and the forest and the grassland sector.

### **1. Establish Mechanisms to Realize the Value of Ecological Products**

#### **Press ahead with activities related to the carbon sinks of forests and grasslands.**

Focusing on the goal of increasing forest stock volume by 6 billion m<sup>3</sup> in 2030 over 2005, we will carry out afforestation, forest protection, and forest management in a scientific manner, to increase the carbon sinks of forest ecosystems. To reduce carbon emissions, we will further develop and utilize forest biomass energy, and promote wood and bamboo as alternative materials. We will measure, monitor and evaluate the carbon sinks of forests and grassland, as technical support for the maintenance of National Greenhouse Gas Inventories, and for the evaluation and update of the progress of Intended Nationally Determined Contributions and other purposes. We will further study the functions of terrestrial ecosystems such as forests, grasslands, and wetlands serving as carbon sinks, and the ways to enhance such functions. We will actively engage in establishing the national carbon market, encourage various stakeholders to participate in forests- and grassland-related carbon sink projects, and guide the development and trading of such carbon sink projects as well as the actions needed to achieve carbon neutrality.

**Improve the ecological compensation system.** We will improve the ecological compensation mechanism, to reflect the value of carbon sinks and include compensation for the use of desert resources. We will improve the ecological compensation mechanism for protected areas such as national parks and explore the establishment of a National Park Fund. We will coordinate and strive for more transfer payments from the central government to areas with key ecological functions. We will promote the establishment of a horizontal ecological compensation mechanism among local governments along the upper and lower reaches of rivers.

#### **Establish a value accounting and application mechanism for ecological products.**

We will assess ecological products in the forest and grassland sector, and formulate a list of those products. We will explore accounting methods for measuring the value of ecosystem services such as forests, grasslands, wetlands and deserts, and promote the application of the accounting results in ecological compensation, ecological damage compensation, management and development financing, and trading of the rights and interests related to ecological resources, etc. We will explore the trading of greening

incremental responsibility indexes/quotas, and operate the trading of ecological resource rights and interests indexes/quotas (e.g. forest cover) in compliance with relevant laws and regulations. We will promote the trading of forest- and grassland-related carbon sinks.

## 2. Promote the Rule of Law

**Improve legislation.** We will move forward with the formulation of laws for national parks, natural protected areas and wetland protection. We will finish the amendment of the *Wildlife Protection Law*, and amend the *Grassland Law*, the *Implementation Regulations of the Forest Law*, and *Forest and Grassland Fire Prevention Regulations*, and introduce related supporting policies and measures in a timely manner.

Table 14-1 Main Laws and Regulations Related to Forests and Grassland

	Laws	Regulations
Existing laws and regulations	<p><i>Forest Law</i></p> <p><i>Grassland Law</i></p> <p><i>Wildlife Protection Law</i></p> <p><i>Seed Law</i></p> <p><i>Law on the Prevention and Control of Desertification</i></p> <p><i>Law on Land Contract in Rural Areas</i></p>	<p><i>Implementation Regulations of Forest Law</i></p> <p><i>Regulations of Forest Fire Prevention</i></p> <p><i>Regulations of Grassland Fire Prevention</i></p> <p><i>Regulations of Plant Quarantine</i></p> <p><i>Regulations on Returning Farmland to Forests</i></p> <p><i>Regulations of Forest Pest Control</i></p> <p><i>Implementation Regulations on the Protection of Terrestrial Wild Animals</i></p> <p><i>Regulations of Wild Plant Protection</i></p> <p><i>Regulations of Nature Reserves</i></p> <p><i>Regulations of Scenic Spots</i></p> <p><i>Regulations on the Protection of New Varieties of Plants</i></p> <p><i>Regulations on the Administration of Import and Export of Endangered Wild Animals and Plants</i></p>
Legislation plan	<p><i>Wildlife Protection Law Amendment</i></p> <p><i>Wetlands Protection Law</i></p> <p><i>Grassland Law Amendment</i></p> <p><i>Law of National Parks</i></p> <p><i>Law of Natural Protected Areas</i></p>	<p><i>Amendment of Regulations of Fire Prevention for Forests and Grasslands</i></p> <p><i>Amendment of the Implementation Regulations of Forest Law</i></p> <p><i>Amendment of the Regulations of Nature Reserves</i></p> <p><i>Amendment of the Regulations of Scenic Spots</i></p>

**Build an efficient system to implement the rule of law in the forest and grassland sector.** We will strictly comply with the decision-making procedures of major administrative affairs, improve the mechanism to engage legal departments in decision-making so that legal review could be done earlier, and give full play to the role of legal consultants and government lawyers. We will exercise administration in accordance with law, and release a list of powers and responsibilities. We will promote the establishment of law enforcement teams at city and county levels to unify administrative enforcement tasks, which will also be responsible for law enforcement in natural resources management, such as in protected areas. We will give more support to the law enforcement team at the grassroots level, including funds, resources, and equipment. We will set up and improve cooperation between the forest and grassland administrative enforcement departments and the criminal justice section of public security organs. We will put in place a system for case guidance, and adopt unified law enforcement documents to improve the quality of law enforcement.

### 3. Strengthen the Innovation System for Science and Technology

**Optimize the allocation of scientific and technological resources.** We will strengthen the construction of state key laboratories for forest genetics and breeding, and optimize and upgrade innovation platforms such as long-term scientific research bases for forest and grassland, engineering technology research centers, and science and technology parks. We will deepen reform of the management system of science and technology, and better allocate projects, bases, talents, and funds to key areas. We will encourage the Chinese Academy of Forestry and the Academy of Inventory and Planning of the National Forestry and Grassland Administration (NFGA) to pilot reforms which incentivize innovation, such as rewarding technological innovation, adopting performance-based salary, and a fast-track promotion in evaluating professional ranks/titles.

Table 14-2 Scientific and Technological Innovation Platform in the Forest and Grassland Sector to be Established during the *14th Five-Year Plan* Period

Platforms	2025
State Key Laboratory	1~3
Key Laboratory at NFGA Level	30
National Observatory	2~5
Ecological Positioning Observatory at NFGA Level	90
National Long-Term Scientific Research Base for Forests and Grasslands	150
Engineering Technology Research Center	50
Innovation hubs jointly built by provinces and NFGA	3~5

**Strengthen basic research.** Research on major strategies related to forests and grasslands will be reinforced. We will promote basic research on cutting-edge technologies such as biological breeding, forest and grassland cultivation, wetland restoration, sand prevention and control, and wildlife conservation. We will strengthen the promotion, application, transfer and transformation of scientific and technological results. We will improve the high-quality standards system for the forest and grassland sector.

Table 14-3 Major Strategic Research during the *14th Five-Year Plan* Period

No.	Research Subject
1	Classified protection of wild animals and plants
2	Carbon sink capacity of forest and grassland ecosystems and strategies addressing climate change
3	Carrying capacity of the natural ecosystems of forests and grasslands
4	Models of integrated rehabilitation of all ecosystems including mountains, rivers, forests, farmlands, lakes, grasslands, and deserts
5	Comprehensive service value (green GDP) of the forest and grassland ecosystem
6	Comprehensive reform strategy of collective forest tenure system

**Put into practice an open competition mechanism to select the best candidates for key scientific and technological projects.** We will improve this mechanism and target the bottleneck technologies related to seed resources of trees and grass, prevention and treatment of the pine wood nematode, monitoring of lightning fires, *Camellia oleifera* harvesting machinery, etc. This innovative mechanism will be used in the management of project pools, talent identification, process management, result appraisal, etc.

Box 14-1 Key Scientific and Technological Innovation Projects in the Forest and Grassland Sector	
1	<p><b>Put into practice an open competition mechanism to select the best candidates for key projects</b></p> <p>We will establish and improve the open competition mechanism to select the best candidates for key scientific and technological projects. Emphasis will be given to research on important strategies of the forest and grassland sector, basic theories, prevention and treatment of pests, machinery and equipment, and so on.</p>

Box 14-1 Key Scientific and Technological Innovation Projects in the Forest and Grassland Sector	
	<p><b>Set up scientific and technological innovation platforms</b></p> <p>2 A host of facilities will be built, such as state key laboratories, NFGA-level key laboratories, national observatories, NFGA-level ecological stations, long-term research bases, national innovation hubs, and engineering technology research centers. We will develop national technological innovation centers and popular science bases for forests and grasslands.</p>

#### 4. Improve the Policy Support System

**Strengthen funding policy support.** We will strive to make the forest and grassland sector a greater priority on the agenda of the central and local budget, to increase fiscal input. We will improve policies for natural forest protection, afforestation and grass cultivation, and the consolidation of the return of farmland to forest and grassland. Forest and grassland authorities at all levels should tighten their belts to ensure funding and projects tilt towards the grassroots.

**Construct a diversified financing system.** We will enrich financial products such as national reserve forests, *Camellia oleifera* and the bamboo industry, and encourage and support social capital to participate in ecological development. Public Private Partnership projects for ecological protection and restoration will be explored.

**Innovate funding and project management.** The annual production plan will be directly delivered to counties which will be mapped and uploaded to databases. We will focus on regional integrated rehabilitation projects and promote pilot and demonstration projects. We will prioritize central government funding, focusing on key areas rather than distributing evenly, and adopt a differentiated subsidy policy. In order to delegate powers and improve regulations and services, projects at local levels will be decided and implemented in principle by local governments.

#### 5. Strengthen the Construction of an Ecological Sensing Network

**Accelerate the construction of basic platforms for big data management and application.** We will set up an ecological sensing network, supported by new-generation information technologies such as remote sensing, 5G, cloud computing, big data and artificial intelligence, and based on comprehensive monitoring data of forests and grasslands. This network could serve multiple functions such as supervision and management, early warning and forecasts, dynamic monitoring, and comprehensive evaluation, which will improve our resource management capacity through multi-dimensional, all-weather and full-coverage supervision. We will promote the application of satellite technology to monitor the

carbon of terrestrial ecosystems.

Figure 14-1 Structure of Ecological Sensing Network

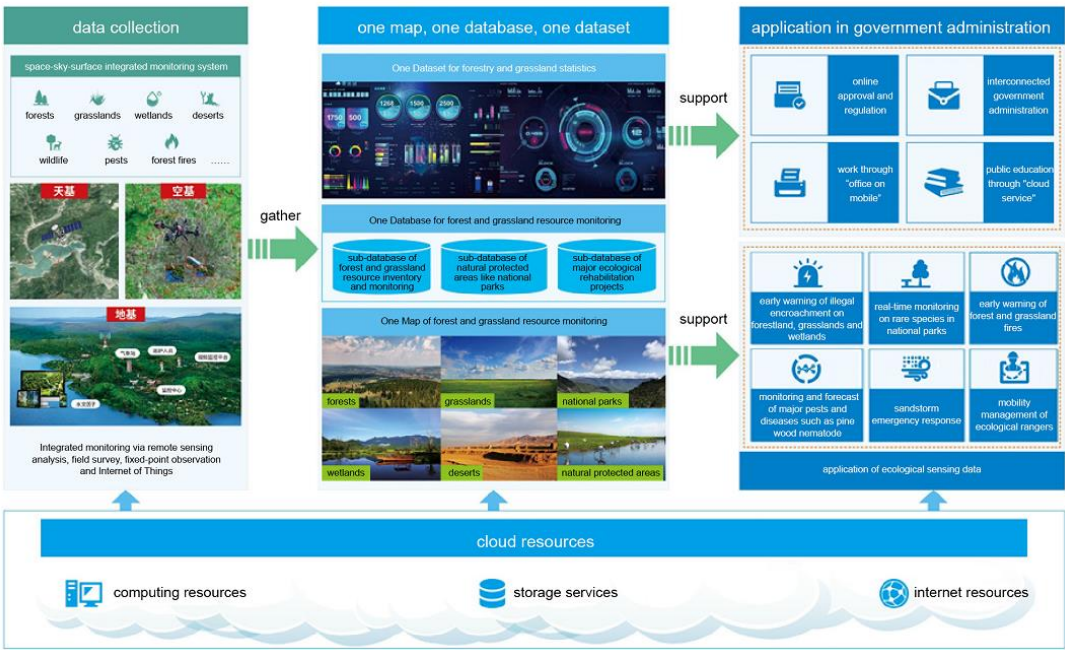


Table 14-4 Demonstrations of Building an Ecological Sensing Network

No.	List
1	Construction and application of the Forest Chief Scheme and ranger management system of Jiangxi Province
2	Construction and application of the forest tenure trading and forest fire prevention monitoring and early warning system of Guangxi Zhuang Autonomous Region
3	Construction and application of the soil testing formula system of Hunan Province
4	Construction and application of the forest and grassland fire prevention monitoring system and ecological ranger management system of Jilin Province
5	Construction and application of the ecological sensing network of Heilongjiang Province
6	Construction and application of the grassland big data platform of Inner Mongolia Autonomous Region
7	Construction and application of the forest and grassland sector Big Data and the forest tenure trading platform of Yunnan Province

**Create “One Map, Database and Dataset” for forest and grassland resources.** We will integrate the monitoring data of forests, grasslands, wetlands, deserts, protected areas, terrestrial wildlife and major ecological rehabilitation projects, and data of hazards such as forest and grassland fires, insects, and sandstorms. The goal is to create One Map, One Database and One Dataset for smart applications, which could

result in dynamic monitoring, smart supervision and disaster warning in key areas. We will carry out a batch of technology pilot and demonstration projects.

## 6. Strengthen Talent Development

**Speed up the cultivation of talents for scientific and technological innovation.** We will support the cultivation of national-level talents such as academicians of the Chinese Academy of Sciences and the Chinese Academy of Engineering, talents of the *National Special Support Plan, Thousand Talents Program*, the National Science Fund for Distinguished Young Scholars, and the National Science Fund for Excellent Young Scholars. We will recruit high-level and urgently needed talents to develop our scientific and technological talent team.

**Strengthen the development of grassroots talent.** We will strengthen forest and grassland working forces at county and township level, optimize the staffing of forest farms and rangelands (stations, institutes), and build standardized township forestry workstations. We will send science and technology special commissioners to the countryside and companies to provide guidance, select grassroots science and technology extension staff, and support the cultivation of grassroots science and technology talents. We will maintain a stable team of ecological rangers following the system of patrolling grids. The training and daily management of grassroots personnel will be strengthened, and their living conditions improved. We will make full use of the role of universities and research institutes to train talents from state-owned forestry areas such as the Daxing'anling Forestry Group Co. Ltd.

Table 14-5 Scientific and Technological Talent Development during the *14th Five-Year Plan* Period

Unit: Person

Talent Team	2025
Forest and grassland scientific and technological innovation talent program at national and local levels	3,000
Science and technology Special Commissioner of Forests and Grasslands	5,000
Forest and Grassland Grassroots Expert appointed by NFGA	1,500
Forest and grassland grassroots expert program at national and local levels	10,000

**Improve the professional capacity of staff.** We will strengthen the planning of staff training and overall management, and improve the effectiveness of training focusing on national strategies and work priorities. We will build an efficient education system, improve training manuals and build regional demonstration training bases. We will deepen cooperation with post-secondary schools/faculties, and provide guidance and advice in discipline setting, planning, textbooks and talent training, helping them to

develop special disciplines. This will connect those schools with new responsibilities and the role of the forest and grassland sector, meet the needs of the industry, and cultivate more qualified multi-level talents.



## Chapter 15 Implementation

We will adhere to the Party's overall leadership and work together to form synergies for the integrated development of forests, grasslands and national parks, so as to ensure the *Plan* is implemented smoothly on the ground.

### 1. Uphold the Centralized and Unified Leadership of the CPC Central Committee

We must follow the requirements of the Party to chart our course, craft overall plans, design policy, promote reform, and encourage forest and grassland authorities at all levels to thoroughly study and apply Xi Jinping Thought on Socialism with Chinese characteristics for a New Era. We need to continue strengthening our commitment to the Four Consciousnesses, the Four-sphere Confidence, and the Two Upholds, and ensure the leadership of the Party is present in all fields and the whole process of implementing this *Plan*. We must put General Secretary Xi Jinping's instructions as the direction and political guarantee for the implementation of the *Plan*, be aware of our role as political organs, form an effective and efficient organizational system from the nation's viewpoint, and fulfill the tasks assigned by the CPC Central Committee with high quality. We must adhere to inclusive cooperation and resource sharing, strengthen coordination and cooperation with relevant agencies, and form synergies to solve the major cross-sectoral and regional issues in the forest and grassland sector.

### 2. Mechanisms for Implementation

We will set up a planning system for the integrated development of forests, grasslands and national parks with both national and local planning, based on the *Master Plan for the Major Projects for the Protection and Restoration of National Key Ecosystems (2021-2035)*, guided by the overall *Plan* for forests and grasslands, and supported by specialized plans. We will connect and coordinate among different plans to ensure that plans at all levels are aligned in main objectives, development direction, overall layout, major policies and major projects. We must designate the responsibilities for implementation, divide tasks in detail, delegate responsibilities, and incorporate goals and tasks into each annual work plan. We should also establish a mechanism to evaluate implementation, carry out mid-term and final evaluations, and incorporate the completion of tasks into the performance evaluation of the Forest Chiefs.

Table 15-1 The Planning System of the 14th Five-Year Plan for the Forest and Grassland Sector

No.		Name of the Plan	
I. 14th Five-Year Plan for Protection and Development in the Forest and Grassland Sector			
Special Planning	1	Plan for Developing the System of Natural Protected Areas with National Parks as the Main Component (2021-2035)	
	2	National Afforestation and Greening Plan (2021-2035)	
	3	National Plan for Desertification Prevention and Control (2021-2035)	
	4	Plan for Phase VI of the Three-North Shelterbelt Project (2021-2035)	
	5	National Medium- and Long-term Plan for the Protection and Restoration of Natural Forests (2021-2035)	
	6	Forest Land Protection and Utilization Plan (2021-2035)	
	7	National Grassland Protection, Restoration and Utilization Plan (2021-2035)	
	8	The 14th Five-Year Implementation Plan of National Wetlands Protection	
	9	Forest and Grassland Fire Prevention Plan (2021-2025)	
	10	Plan of Science and Technology Innovation in the Forest and Grassland Sector (2021-2025)	
	11	Plan for Education, Training and Talent Development in the Forest and Grassland Sector (2021-2025)	
	12	National Reserve Forest Development Plan (2021-2025)	
	13	Forest and Grassland Industry Development Plan (2021-2025)	
II. Master Plan of Major Projects for the Protection and Restoration of National Key Ecosystems (2021-2035)			
Specialized planning	1	Plan of Major Ecological Protection and Restoration Projects in Ecological Barrier of the Qinghai-Tibet Plateau (2021-2035)	
	2	Plan of Major Ecological Protection and Restoration Projects in Key Ecological Regions along the Yellow River (2021-2035)	
	3	Plan of Major Ecological Protection and Restoration Projects in Key Ecological Areas along the Yangtze River (2021-2035)	
	4	Plan of Major Ecological Protection and Restoration Projects in the Northeast Forest Belt (2021-2035)	
	5	Plan of Major Ecological Protection and Restoration Projects in the Northern Sand Prevention Belt (2021-2035)	
	6	Plan of Major Ecological Protection and Restoration Projects in Hilly and Mountainous Areas in the South (2021-2035)	

No.		Name of the Plan
	7	<i>Plan for Major Ecological Protection and Restoration Projects of the Coastal Zones (2021-2035)</i>
	8	<i>Plan of Major Projects for Developing National Parks and other Natural Protected Areas and for Wildlife Conservation</i>
	9	<i>Plan for Major Projects of Ecological Protection and Restoration Support System (2021-2035)</i>

### 3. Creating a Good Social Atmosphere

We will strengthen publicity, study and promote Xi Jinping Thought on Eco-civilization, carry forward the tradition of perseverance of previous generations, and tell good stories of the forest and grassland sector. We will strengthen publicity on natural ecological conditions, take national parks and other natural protected areas as well as wild fauna and flora as important ways to spread knowledge on ecological protection, and carry out thematic publicity campaigns on Arbor Day, World Wetlands Day, World Day to Combat Desertification and Drought, World Wildlife Day, and Bird-loving Week, to foster a strong atmosphere of science education and learning. We will strengthen and improve information disclosure, press releases, and policy interpretation to guide public opinion. Advanced models will be promoted to encourage people from all walks of life to actively participate in the protection and development of the forest and grassland sector, making our undertakings participatory and the results shared by and benefiting all people, forming a strong synergy for building a beautiful China.