

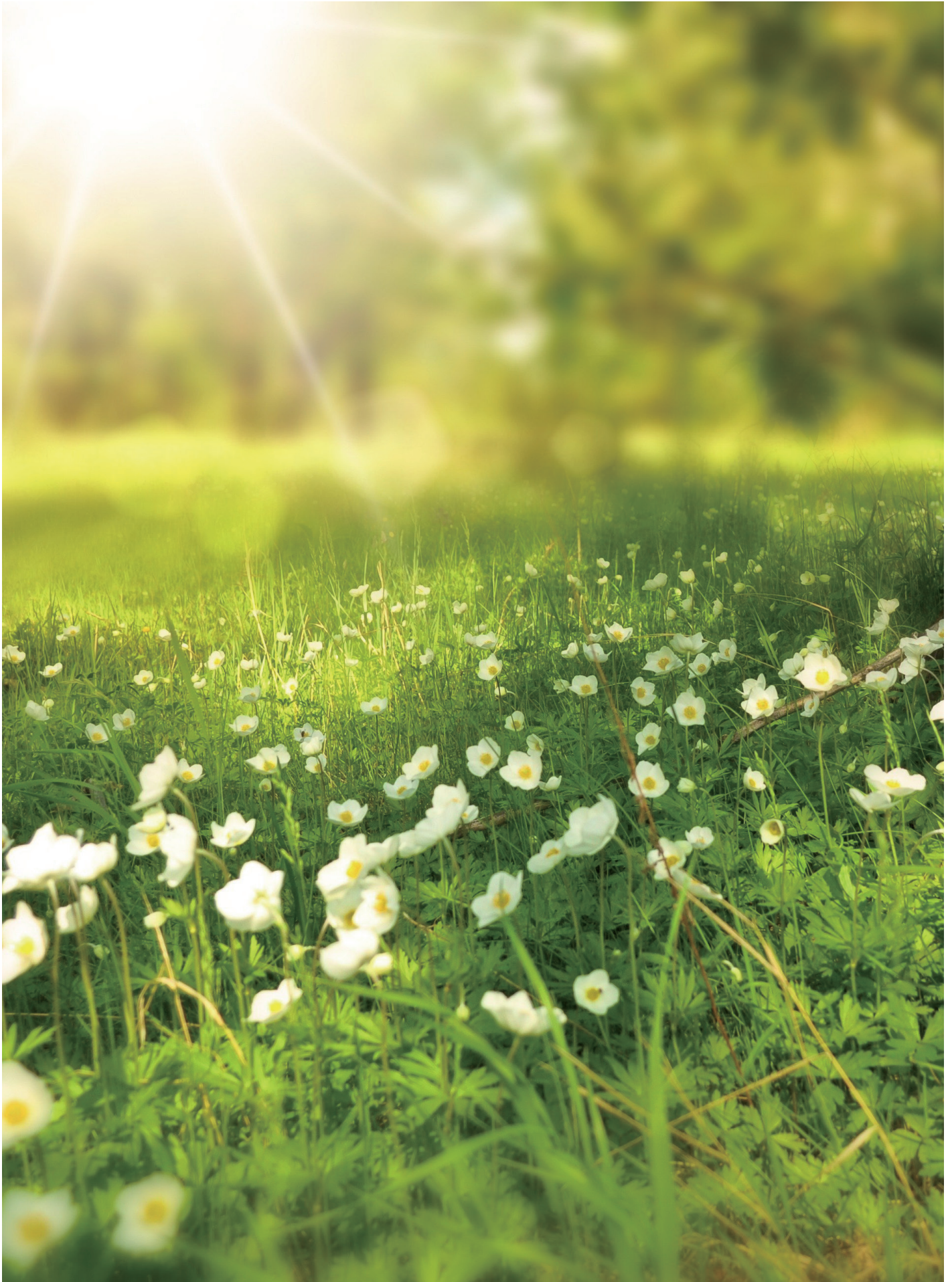
An aerial photograph of a mangrove forest. A wide, shallow river with a light brownish-green hue flows through the dense, dark green mangrove trees. The river meanders across the frame. In the foreground, there is a large, flat, muddy area with scattered, smaller mangrove trees and patches of water, likely a tidal flat or a smaller tributary. The overall scene is lush and green, with the water providing a stark contrast to the dense forest.

# Research and Recommendations on the Role of China's Banking Sector in Supporting Biodiversity

Green Credit Professional Committee


WWF Provide Technical Support

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Stakeholders such as regulatory agencies, financial institutions, and enterprises are becoming increasingly aware of the risks and opportunities in biodiversity. But lack of professional knowledge means that there are still large gaps in the identification, measurement, monitoring, and prevention of biodiversity risks. This makes it difficult for the financial industry to integrate biodiversity into its core businesses and develop corresponding investment services and products for both biodiversity and the investment opportunities arising from it.

To this end, on the foundation of combing through domestic and international research and practices, and focusing on investment and financing projects, this research analyzes the driving factors affecting biodiversity, identifies key industries, and develops tools for due diligence. Based on the reality of sustainable banking in China, this research summarizes and refines policy recommendations, and proposes key evaluation indicators for the implementation of biodiversity conservation by banks. This provides a practical reference for the banking sector's action plan for biodiversity conservation in the next ten years.

## Executive Summary

## (I) The Concept of Biodiversity

Biodiversity is a broad concept that describes the variety and variability of life in nature. As defined by China National Biodiversity Conservation Strategy and Action Plan (2011-2030), the term “biodiversity” refers to the ecological complex formed by living things (animals, plants, and microorganisms), the environment, and the combination of various related ecological processes. This covers the ecosystem, species, and gene level. Biodiversity is central to the functioning and ensures the supply of society-critical ecosystem services.

## (II) Significance of this Research

In October 2021, the Fifteenth Meeting of the Conference of the Parties to the Convention on Biological Diversity (COP15) was held in Kunming, China. The meeting conveyed the firm determination of all parties to work together to tackle biodiversity loss and inject new force into global environmental governance. The Joint Declaration of Banking Sector on Support for Biodiversity Conservation was released during the meeting, demonstrating the practical actions taken by the China’s banking sector to support biodiversity conservation and the construction of green banks.

As strict biodiversity conservation policies are introduced across China and the rest of the world at large, stakeholders such as financial institutions, financial regulatory agencies, and enterprises are becoming increasingly aware of the importance of biodiversity risk analysis. But lack of professional knowledge means that there are still large gaps in biodiversity risk analysis and enhancing the prevention and control of the risks. The concept of biodiversity remains too abstract for financial institutions, the financial sector cannot access relevant knowledge expressed in a language that they can understand, and there is a lack of communication between the financial and environmental sectors. This has made it difficult for the financial sector to integrate biodiversity into its core businesses and develop corresponding investment services and products for both biodiversity and the investment opportunities arising from it.

Through study on biodiversity risk assessment plans and feasible paths of banking institutions, this research helps banking institutions and stakeholders fully identify the impact of biodiversity risks on various types of bank assets, prevent and control risks caused by biodiversity and climate factors, prevent future losses that may arise from biodiversity risks, and improve the prevention and management of biodiversity risks. This research also helps banking institutions to identify and develop

# I. Research Overview

sound biodiversity investment opportunities and enhance their competitive advantages.

## (III) Research Methodology

In the context of the biodiversity crisis that has attracted widespread concern, this research will (1) focus on investment and financing projects, conduct a systematic analysis on the driving factors affecting biodiversity, and identify the key industries impacting biodiversity; (2) for key industries, clarify the principles and application, the classification and the steps of due diligence, and develop due diligence tools for the approval of bank credit lines; (3) systematically comb through the research, exploration, and practice of domestic and international banking and financial institutions in supporting biodiversity conservation, combine knowledge with the practical situation, summarize and refine suggestions, and propose key evaluation indicators for the implementation of biodiversity conservation by banks, so as to provide practical reference for the banking industry’s action plan for biodiversity conservation in the next decade. The workflow is outlined below.

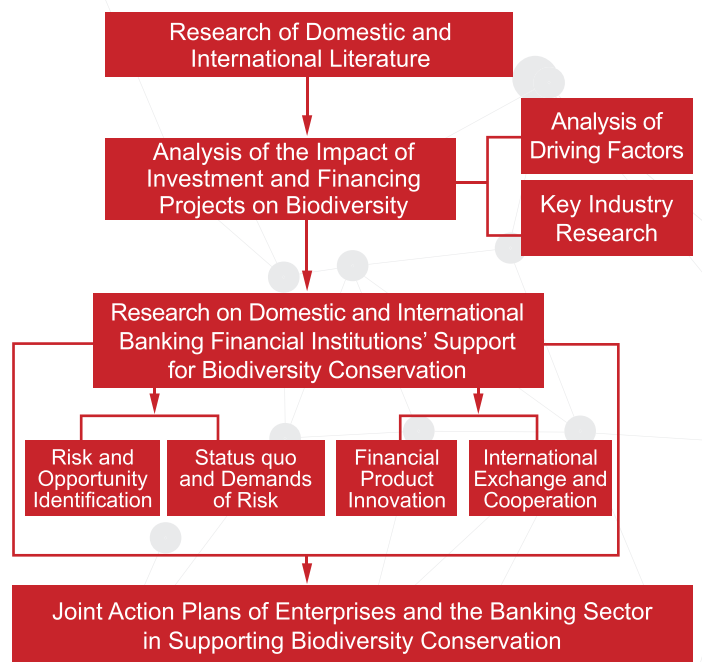


Figure 1-1 Research technology roadmap



## II. Driving Factors Affected Biodiversity

## (I) Changes in Land and Sea Use

Land-use change is the largest direct factor behind terrestrial biodiversity loss, primarily driven by agriculture, forestry, and urbanization. Far from abating over the past 10 years, land-use change continues to profoundly alter terrestrial ecosystems under the influence of agricultural land use, urbanization, and infrastructure development demands.

Agricultural expansion is the most prevalent form of land-use change. More than one-third of the world's land area and nearly three-quarters of available freshwater resources are used for crops and livestock. Based on population growth and dietary need projections, humans will need to clear 2-10 million km<sup>2</sup> of new farmland at the expense of natural habitats. Habitat destruction from agricultural expansion is a major threat to terrestrial vertebrates.

Industrial and construction land use is growing at an unsustainable rate. All forms of land-based mining activities have increased dramatically across the world. Despite using less than 1% of the Earth's land, mining has serious negative impacts on biodiversity, discharge of highly toxic pollutants, water quality and distribution, and human health. Urbanization and infrastructure expansion has also continued to increase. Vast areas of the Earth are facing new environmental threats due to expanding infrastructure. Global forest cover has been drastically reduced. Land-use change from agricultural expansion is the most powerful driver behind deforestation. Deforestation and forest fragmentation have transformed the relatively stable adaptive relationship that formed between species and the environment during the process of evolution. These impacts primarily include introduced species, habitat destruction, changes in interspecies relationships, and the extinction, migration, and invasion of species.

Fishing has had the greatest impact on biodiversity (indicator species, non-indicator species, and habitats) of marine ecosystems over the past 50 years. The second largest driving factor affecting the oceans is significant changes in marine and coastal land use.

## (II) Environmental Pollution

Environmental pollution (including eutrophication, pesticides, plastics, and other waste) remains a major driver of biodiversity loss. Despite increasing efforts to improve fertilizer use, nutrient pollution continues to compromise ecosystem function and biodiversity. Nature has been negatively affected by the increase in these pollution types. Of particular concern is (1) the accumulation of plastic pollution in terrestrial, freshwater, and marine ecosystems; (2) eutrophication (particularly reactive nitrogen and phosphorus)

has become one of the key drivers of global biodiversity loss<sup>1</sup>; (3) though the global average of pesticides used per hectare of farmland remained stable from 2010-2017, regional distribution is uneven<sup>2</sup>; and (4) greenhouse gas emissions, untreated urban and rural waste, pollutants from industrial and mining activities, oil spills, and toxic waste dumps have serious negative impacts on soil, freshwater, and seawater quality and the atmosphere.

## (III) Climate Change

Climate change has far-reaching impacts on nature and biodiversity, from genes to ecosystems. The risks posed by climate change are increasing as they accelerate and interact with the other direct drivers affecting biodiversity. To adapt to climate change, certain elements of biodiversity will adjust and change to reduce vulnerability and enhance resistance. This includes evolutionary adaptations by changing genetic structures, adaptations in species phenology, behavior, and migration, and adaptations in ecosystem stability or changes in distribution. However, frequent population declines and local extinctions suggest that many species have been unable to adapt to rapid local climate change through evolutionary or behavioral processes.

## (IV) Invasive Alien Species

The primary vectors of invasive alien species include intentional release, escapes, and accidental introduction through trade, tourism, and ship ballast water<sup>3</sup>. Invasive alien species are usually non-indigenous species, but may also include expanding indigenous populations<sup>4</sup>. Invasive alien species threaten ecosystems, habitats, and other species. They lead to direct and indirect competition, predation, habitat degradation, and hybridization. The role they play as disease vectors also threatens human health and food security.

## (V) Overexploitation

Overexploitation includes illegal, unreported, and unregulated fishing, illegal and unsustainable logging, overgrazing, unregulated bushmeat consumption, wildlife poaching, and illegal hunting. This also includes unsustainable harvesting, a problem primarily caused by poorly designed harvesting quotas, lack of knowledge about the resource base, or lack of knowledge about technologies to efficiently exploit resources<sup>5</sup>. Overexploitation is the primary reason for the decline of biodiversity. Compared with the rest of the world, overexploitation in China has a clearer and greater impact.

<sup>1</sup> IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

<sup>2</sup> AO. (2020). The State of World Fisheries and Aquaculture 2020. Sustainability in action. Rome.

<sup>3</sup> Early, R., Bradley, B.A., Dukes, J.S., Lawler, J.J., Olden, J.D., Blumenthal, D.M. et al. (2016). Global threats from invasive alien species in the twenty-first century and national response capacities. *Nature Communications* 7, 12485

<sup>4</sup> Naeckley, L.L., West, A.G., Skowno, A.L. and Bond, W.J. (2017). The nebulous ecology of native invasions. *Trends in Ecology & Evolution* 32(11), 814-824.

<sup>5</sup> UN Environment Programme (2019). Global Environment Outlook - GEO-6: Healthy Planet, Healthy People. Nairobi.



### **III. International Research and Practice**



## (I) Biodiversity Risks and Opportunities for the Banking Sector

### 1. Risks

Biodiversity is both the foundation of human activity and the financial system itself. While businesses are highly dependent on ecosystem services, they also have negative impacts on the environment and ecology. The biodiversity risk of banking institutions primarily comes from the investment and financing of enterprises whose development and dependence are reliant on biodiversity and ecosystems. The risks associated with biodiversity loss pose a serious threat to banking institutions and require the full understanding and attention of policymakers and regulators.

The Task Force on Climate-Related Financial Disclosures (TCFD) was established in 2015 with the purpose of solving the problem of insufficient enterprise information disclosures (failure to fully disclose the impact of climate change on their strategies, businesses, and financial plans) by proposing a simple and effective risk classification method. The recommendations of the Task Force have now become the primary standard for climate-related financial disclosures and can help financial policymakers consider related risks from a more comprehensive perspective. This study draws on TCFD risk categories and divides the risks of biodiversity loss to banks into transition risks, physical risks, legal risks, and systemic risks. Based on the experience of the TCFD, the Taskforce on Nature-Related Financial Disclosures (TNFD) needs to reflect how nature affects the direct financial performance of an organization, along with how the activities of the organization affect the natural environment. On the foundation of TCFD risk categories, this research will also reference the two-way approach of the TNFD for analysis.

#### (1) Transition Risks

Content: Refers to the risks associated with the economic transition to biodiversity conservation/restoration, the primary sources of which include changes in policies, technologies, and concepts to conserve/restore biodiversity.

Example: In 2019, the Government Pension Fund of Norway, the world's largest sovereign wealth fund, decided to divest from fossil fuel companies. The fund will gradually sell off its stake (worth a total of USD 8 billion in stocks and involving over USD 13 billion in assets) in 134 oil and gas companies,

while increasing investment into renewable energy. This divestment will only affect the investment in companies solely dedicated to oil and gas exploration.

#### (2) Physical Risks

Content: Refers to the risks caused by major damages such as infrastructure damage and business interruption, the primary sources of which include natural disasters and incidents related to biodiversity, such as floods and hurricanes; and environmental pollution incidents such as large-scale oil spills and soil pollution. Such risks may damage assets and infrastructure, lead to the deterioration of supply chains, or affect business operations (resource dependence, resource shortages, or lowered resource quality), resulting in direct economic losses to companies and their investors.

Example: Between 1980 and 2020, the development of commercial shrimp farming resulted in a 28% reduction of mangrove coverage in Southeast Asia, destroying the region's natural protection from tsunamis and hurricanes. The management of these ecosystems has an impact on the sustainability of tourism. Tourists do not travel to polluted or degraded destinations.

#### (3) Legal Risks

Content: Refers to the risks posed by litigation related to biodiversity loss and violations of fundamental legal frameworks.

Example: Bond investors filed a securities lawsuit against Pacific Gas and Electric Company (PG&E), alleging that the company misrepresented its efforts to address wildfire risks.

#### (4) Systemic Risks

Content: Refers to the risks related to the systemic impact of biodiversity loss, including the exogenous biodiversity risks faced by the normal functioning of and risks formed within the financial system, which will eventually affect all participants in the financial industry. In addition to affecting the financial sector, biodiversity loss may lead to the deterioration of food supply, health, and socio-economic development, affecting human health, well-being, and the development of social productivity.

Example: At present, there is no widely accepted study that proves the impact of systemic risks on the financial industry. The climate transition stress test run by De Nederlandsche Bank (DNB) has increased awareness and reflects systemic

risks that may lead to disastrous consequences. The climate transition stress test shows that after taking climate transition pressures into account, the capital adequacy ratio of ABN AMRO Bank may fall by 4 percentage points, while the solvency ratio of AEGON may fall by more than 10 percentage points. However, the financial risk evaluation instruments used are flawed, resulting in the underestimation of biodiversity loss and climate change risks.

## **2. Opportunities**

Research shows that the world still faces an annual biodiversity financing gap of USD 100 billion. The established scale of biodiversity financing currently stands at USD 52 billion<sup>6</sup>, which is far below the demand. This huge funding gap means that in new markets, financial institutions that establish proper biodiversity risk management procedures can identify threats, effectively manage risks, integrate biodiversity into their core businesses, and develop corresponding investment products for biodiversity or the investment opportunities arising therefrom, providing a competitive advantage. More private capital is expected to participate in the development and financing of Eco-friendly financial products together with public and philanthropic capital.

At present, financial institutions have undertaken a number of nature positive investment projects. For example, the World Wide Fund for Nature (WWF) has been advocating for and assisting financial institutions in the development and participation in Bankable Nature Solutions (BNS) aimed at improving biodiversity, mitigating and/or adapting to climate change, and being attractive to financial institutions with the potential for accelerated scaling and application. The investment themes or sectors covered by BNS include climate-smart agriculture (CSA), environmental protection, forestry, water resources and sanitation, and renewable energy. At present, the WWF has provided financial institutions with 13 real-world BNS case studies that have generated financial returns and had a positive impact on nature and the climate through cross-sector cooperation. International financial institutions have taken the initiative to incorporate biodiversity-related risk management into their strategies and environmental and social (E&S) risk

frameworks. As of the end of July 2022, a total of 103 financial institutions from 19 countries have signed the Finance for Biodiversity Pledge to assess and disclose the biodiversity impacts related to their business.

## **(II) The Impact of Banks on Biodiversity**

Taking the response to the global ecological crisis into account, the global economic growth model is in urgent need of transformation. As the center of global development investment, banks and financial institutions have a critical and two-way impact on biodiversity. If biodiversity risks are not fully identified, the investing and financing of enterprises or projects by banking institutions may result in problems such as environmental degradation, biodiversity loss, and decline in species richness. Data shows that in 2019, the world's top banks invested more than USD 2.6 trillion in sectors that governments and scientists believe are major causes of biodiversity damage, exacerbating the rate of biodiversity loss.

But banks can also play a major role in the conservation and restoration of biodiversity. Banks can incorporate biodiversity conservation into their indicators, establish a biodiversity loss enterprise/project blacklist, stop financing new oil and gas, deforestation, overfishing, and ecosystem destruction projects, and fundamentally reduce the impact of financial activities on biodiversity. Banks can also incorporate biodiversity conservation into the scope of sustainable finance supports, use mature sustainable finance products to finance biodiversity conservation, and invest in net positive impact (NPI) biodiversity projects.

## **(III) Development and Application of Financial Instruments**

A summary of the financial instruments currently used by countries to identify biodiversity risks is provided in the table below. However, none of the existing instruments are capable of clearly identifying the financial risks related to biodiversity and commonly used. We still lack a full understanding of the magnitude of biodiversity loss, the relevance of biodiversity loss across all economic sectors, and how biodiversity loss

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<sup>6</sup> World Wide Fund for Nature, 2021, *Defending Nature, Nature is too big to fail – Biodiversity: the next frontier in financial risk management*, 24p

translates into financial risks.

Table 3-1. Nature-Related Risk Management Tools

Issue	Tool	Sponsor Organization/Person	Description
Climate Change	Paris Agreement Capital Transition Assessment (PACTA)	2Investing Initiative (2DII)	Evaluates the alignment of investor portfolios with different climate scenarios using asset data with known capital expenditure plans. The tool is free and open source.
	Science Based Targets initiative (SBTi)	World Wide Fund for Nature (WWF), Carbon Disclosure Project (CDP), World Resources Institute (WRI), and United Nations Global Compact (UNGC)	Helps businesses and financial institutions establish decarbonization targets and pathways consistent with the emission reductions needed to achieve well below 2°C warming.
Biodiversity	National Biodiversity Risk Assessment Index (NABRAI)	REYERS et al. <sup>1</sup>	The NABRAI was used to evaluate the biodiversity risk of 62 countries. Multivariate analysis found that biodiversity risk is significantly related to population density and land areas exposed to high levels of disturbance.
	MODEX	TEVIE et al. <sup>2</sup>	An evaluation of 48 states in the U.S. Showed that the environmental Kuznets curve hypothesis cannot support the assessment of biodiversity risk in the United States.
	Municipal Biodiversity Risk Assessment Index (MuBRAI)	GERBER et al. <sup>3</sup>	An analysis of 262 municipalities in South Africa showed that socioeconomic factors have a strong impact on biodiversity.
	Risk Assessment Toolkit	MARION et al. <sup>4</sup>	The BAMBU, GRAS, and SEDG policy scenarios were established, qualitative risk assessments for different biogeographic regions in Europe were carried out, and a risk assessment toolkit was designed.
Deforestation	Global Forest Watch	WRI	Evaluates and monitors deforestation and fire risks based on user uploaded location information for concessions and other assets.
Protected Areas	SIGHT	WWF	Provides overlays of protected areas, such as World Heritage Sites and Key Biodiversity Areas, with user-uploaded location information for concessions and other physical assets.
Water	Aqueduct	WRI	Evaluates different types of water risks based on user-uploaded asset location data.
	Water Risk Filter	WWF	Evaluates different types of water risks based on user-uploaded asset location data.
	Corporate Bond Water Credit Risk Analysis Tool	Natural Capital Finance Alliance (NCFA), Global Canopy, and United Nations Environment Programme Finance Initiative (UNEP FI)	Evaluates the impact of water scarcity on corporate credit ratings.
	Drought Stress Testing Tool	NCFA, Global Canopy, UNEP FI	Evaluates the impact of different drought conditions on bank loan portfolios.
Multifactor	Exploring Natural Capital Opportunities, Risks, and Exposure (ENCORE)	NCFA, Global Canopy, UNEP FI	Identifies business risks arising from economic dependence on natural capital.
	Soft Commodity Risk Platform (SCRIPT)	Global Canopy, WWF, Ceres	Evaluates the impact of deforestation and biodiversity loss risks on loans and portfolios in the soft commodities sector (such as palm oil and forestry).
	Environmental Risk in Sovereign Credit (ERISC)	UNEP FI Global Footprint Network	Quantifies natural resource and environmental risks for inclusion in sovereign credit risk assessments.

<sup>1</sup> IREYERS B, VAN JAARSVELD AS, MCGEOCH M A, et al. National Biodiversity Risk Assessment: A Composite Multivariate and Index Approach [J]. Biodiversity and Conservation, 1998, 7(7) :945-965.

<sup>2</sup> TEVIE J, GRIMSRUD K M, BERRENS R P. Testing the Environmental Kuznets Curve Hypothesis for Biodiversity Risk in the US: A Spatial Econometric Approach [J]. Sustainability, 2011 3(11):2182- -2199.

<sup>3</sup> GERBER L. Biodiversity Risk Assessment of South Africa's Municipalities [D]. Cape Town: University of Stellenbosch, 2005 .

<sup>4</sup> MARIONG, GRABAUM R, GRESCHOV, et al. Biodiversity Risk Assessment for Europe: Putting It All Together [M] // SETTELE J, PENEV L, GEORGIEV T, et al. Atlas of Biodiversity Risk. Sofia-Moscow: Pensoft Publishers, 2010: 252- -253.

## **(IV) International Best Practices**

### **1. The Netherlands — ASN Bank Biodiversity Footprint for Financial Institutions (BFFI)**

One of the earliest financial institutions to adopt sustainable development policies, ASN Bank has independently developed a methodology called the Biodiversity Footprint for Financial Institutions (BFFI), which uses the potentially disappeared fraction of species (PDF) in an area with a certain size (spatial factor), during a certain time period (temporal factor). To reflect the degree of impact in terms of increased or decreased species richness, the BFFI is designed to calculate the biodiversity footprint of financial institutions and their portfolios, and can be used across all countries and sectors.

### **2. France — CDC Global Biodiversity Score (GBS)**

CDC Biodiversité has developed the Global Biodiversity Score (GBS) biodiversity footprint assessment tool to measure the impact of economic activity across ecosystem value chains. This tool assesses the biodiversity impact and footprint of companies and investment projects. The indicator used in the GBS is the Mean Species Abundance per square kilometer (MSA.km<sup>2</sup>). This indicator uses a percentage to reflect ecosystem integrity. The significance of this indicator for biodiversity is similar to the relationship between CO<sub>2</sub> equivalent and climate change. According to the CDC, in 2018, the global MSA.km<sup>2</sup> was around 63%, meaning that global MSA.km<sup>2</sup> has already declined by 37%. By 2050, the global MSA.km<sup>2</sup> may drop to 57%.

### **3. Switzerland — Alternative Bank Switzerland (ABS) Biodiversity Loans**

Alternative Bank Switzerland (ABS) provides loans and credit to the Swiss agricultural sector. The bank aims to drive and support sustainable agricultural business practices. Farms with Bio Suisse Bud certification or Demeter certification are eligible for zero-collateral facilitating loans. Farms can use this loan for sustainable energy (such as solar) production, social projects, agricultural tourism, sustainable agriculture development, and other purposes. These facilitating loans are funded by bonds issued by ABS clients.

### **4. World Bank — Green and Carbon Neutral Cities Project**

In May 2022, the World Bank issued an approval on an absence of objection basis (AOB) for a Global Environment Facility (GEF) grant (China-GEF7: Green and Carbon-Neutral Cities Project). The project aims to incorporate biodiversity conservation into the development process of participating cities, and establish a path towards carbon neutrality.

### **5. International Monetary Fund (IMF) — Support for “Blue Economy” Biodiversity Conservation Projects**

In June 2022, the International Monetary Fund approved a grant of USD 567 million to Tanzania through the COVID-19 Recovery Fund, of which about USD 100 million will flow to Zanzibar, and around USD 16 million will go to blue economy sectors, such as small-scale fisheries, sea cucumber and seaweed farming, and mud crab fattening. Relevant departments in Zanzibar will carry out in-depth research on the value chain of the blue economy to conserve biodiversity and support the development of the blue economy in the country.



# IV. Domestic Policies and Practices

## **(I) Environmental Policies**

Biodiversity conservation in China is primarily reflected in the introduction and implementation of laws and regulations, relevant plans and standards, and other measures. The environmental authorities in China have established boundaries and bottom lines for biodiversity conservation through administrative actions such as establishing institutional frameworks, strengthening day-to-day supervision, and unifying standard systems.

### **1. Environmental Regulations**

(1) In order to strengthen the legal basis for biodiversity conservation and legal protections, China has clearly outlined relevant provisions in many laws. The Environmental Protection Law of the People's Republic of China implemented on January 1, 2015, outlines the basic framework for biodiversity conservation, defines the boundaries for biodiversity conservation, clarifies the principled constraints on biodiversity conservation, and strengthens pollution discharge constraints and accountability.

(2) China has strengthened the legal provisions on biodiversity conservation across a variety of sectors. This includes strict project access from the "front end" of environmental and ecological management, and the implementation of the Environmental Impact Assessment Law of the People's Republic of China"; exploration of regional biodiversity conservation systems and implementation of the Yangtze River Protection Law of the People's Republic of China to clearly establish and improve the biodiversity conservation standards of the Yangtze River basin; and strengthened source control of pollutants, and implementation of the Water Pollution Prevention and Control Law of the People's Republic of China, the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Soil Pollution Prevention and Control Law of the People's Republic of China, the Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste, the Marine Environment Protection Law of the People's Republic of China, and other laws.

(3) Relevant resource laws have also strengthened biodiversity conservation from the aspects of wildlife and

habitats. This includes the establishment of a wildlife conservation system through the implementation of the Wild Animal Conservation Law of the People's Republic of China, which clearly outlines the goals of "protecting wildlife, saving rare and endangered wildlife, and maintaining biodiversity and ecological balance"; the establishment of a forest resource protection system through the implementation of the Forest Law of the People's Republic of China, which provides strict legal protection of forests, trees, and woodlands in accordance with both ecological and protection priorities; and strengthening of the systematic protection of grasslands, through the implementation of the Grassland Law of the People's Republic of China, which establishes the basic principles for the protection, development, and reasonable utilization of grasslands, along with biodiversity conservation.

(4) Proposal of biodiversity policies and measures from a comprehensive perspective. The Opinions on Further Strengthening Biodiversity Protection published in October 2021 noted that biodiversity conservation in China has achieved considerable results.

However, at present, China still has room for improvement when it comes to environmental protection. (1) In terms of policies and regulations, China should accelerate the establishment of the rule of law for biodiversity conservation, and incorporate biodiversity conservation into the medium- and long-term planning for regions and relevant domains. (2) In terms of optimizing spatial patterns, China should implement local protection systems, coordinate the delineation of environmental protection red lines and territorial spatial planning, and consider the integrity of ecosystems, the continuity of natural regions, and the sustainability of economic and social development, drive the conservation and restoration of key ecosystems, and improve local biodiversity conservation systems. (3) In terms of building a monitoring system, China should continue to drive the survey and monitoring of biodiversity, improve biodiversity conservation and monitoring information cloud platforms, and enhance biodiversity evaluation systems. It is also necessary to improve the level of management, innovative mechanisms, regulatory strength, international cooperation, public participation, and

safeguards and other measures. The Biodiversity Conservation in China white paper issued by the State Council Information Office further drives the implementation of biodiversity conservation responsibilities and comprehensively improves the level of biodiversity governance from the perspectives of improving the effectiveness of biodiversity conservation, enhancing biodiversity governance capabilities, and deepening global biodiversity conservation cooperation.

## **2. Environmental Planning**

In 2021, the State Council issued the National Main Functional Zone Plan (Guofa [2010] No. 46). Subsequently, in 2021, the General Office of the Central Committee of the Chinese Communist Party and the General Office of the State Council issued the Opinions on Further Strengthening Biodiversity Protection, which outlines the country's overall goals of short-term and long-term biodiversity development. By 2025, China will further drive the background study and assessment of biodiversity conservation priority areas and national strategic areas, and construct a national biodiversity monitoring network and a relatively stable spatial pattern of biodiversity conservation. By 2035, China will have comprehensively improved biodiversity conservation policies, regulations, rules, standards, and monitoring systems, formed a unified and orderly national spatial pattern of biodiversity conservation, and realized a virtuous cycle in which biodiversity conservation drives sustainable development and the harmonious coexistence between man and nature.

## **3. Implementation Standards**

As of the end of November 2021, there were a total of 2202 national ecological and environmental standards in China. Among them, 201 were mandatory standards, of which 18 were environmental quality standards and 183 were pollutant discharge (control) standards. There were also 1283 environmental monitoring standards, 49 basic environmental standards, and 669 environmental management specifications. Local ecological and environmental standards are also developing rapidly. By the end of 2020, the total number of put-on-record local standards according to law has reached 298, double the number of 148 at the end of the 12th Five-Year Plan.

## **(II) Financial Regulatory Policies**

Financial support for biodiversity conservation is a key element of the development of sustainable finance. The People's Bank of China, China Banking and Insurance Regulatory Commission, and other financial authorities have established and improved on sustainable finance policies to guide enterprises (especially listed companies and other important entities in the national economy) towards sustainable finance development.

### **1. Environmental, Social, and Governance (ESG)**

Environmental, social, and governance (ESG) is a key means for driving sustainable development at the global level and serves as an important reference for investors to measure the sustainability and social responsibility of corporate development.

Issued in 2012, the Green Credit Guidelines require banking institutions to establish E&S risk management systems and disclose their green credit strategies and policies, fully disclosing green credit development and forming a prototype for the environmental and social management of banks. Issued in January 2020, the Guiding Opinions on Promoting the High-Quality Development of the Banking and Insurance Industries clearly required banking institutions to establish sound E&S risk management systems, incorporate ESG management factors into their decision-making process for credit issuance, and further ESG information disclosure, communication, and interaction with stakeholders. This was the first time that regulators explicitly required banking institutions to extend ESG management from singular risk management to a comprehensive operational and management practice. Issued in August 2020, the Notice on the Three-Year Action Plan for Improving Corporate Governance in Banking and Insurance Sectors (2020- 2022) strengthened corporate governance requirements in various aspects. Issued in June 2022, the Guidelines on Green Finance for the Banking and Insurance Sectors raised the development of sustainable finance to a strategic level and outlined that the banking and insurance sectors should incorporate ESG requirements into their management processes and comprehensive risk management

systems. This has been regarded as a key milestone in the development of sustainable finance in China.

## **2. Sustainable Finance Standards**

(1) Green Bond Standards (Incl. Biodiversity Conservation Categories)

Issued in May 2021, the Green Bond Endorsed Projects Catalogue (2021 Edition) further refines ecological environment industry closely related to biodiversity conservation into the scope of green bond support. This includes two Tier 1 categories (sustainable agriculture and ecosystem conservation and construction), five Tier 2 categories (such as agricultural resource conservation, natural ecosystem conservation and restoration, and supply of ecosystem products), and twenty-nine Tier 3 categories (such as modern agriculture seed industry and animal and plant germplasm resource conservation, natural forest resource conservation, and animal and plant resource conservation). The catalogue provides scientific guidance and specific sustainable finance product plans to support biodiversity conservation.

(2) Green Credit Standards (Incl. Biodiversity Conservation Categories)

Issued in 2013, the Notice on the Submission of Green Credit Statistics Forms requires all banks to record loans to enterprises with major environmental and safety risks, along with loans to energy conservation and environmental protection projects and services. Issued in 2019, the Notice on Work Related to Green Financing Statistics Rules issued by CBIRC has become the primary standard for the identification of green credit by the CBIRC. The Green Financing Statistics Rules divides green industries into nine dimensions, among which the ecology and environment category outlines the special categories and requirements of financial support for biodiversity conservation. This creates conditions for the innovation of green credit products that revolve around biodiversity.

In accordance with the Green Industry Guidance Catalogue (2019 Edition), the People's Bank of China issued the Notice on the Revision of Special Statistical System for Green Loans of the PBC to guide green financing. The catalogue covers six major categories, among which the ecology and environment sector is divided into three Tier 1 categories (ecological

agriculture, ecological conservation, and ecological restoration) and twenty-eight Tier 2 categories (such as modern agriculture seed industry and animal and plant germplasm resource conservation, natural forest resource conservation, conversion of farmland to forest or grassland, conversion of grazing land to grassland, conservation, and restoration of rivers, lakes, and wetlands). This basically provides full coverage of all types of ecosystems, laying the foundation for green loans to support biodiversity conservation.

## **3. Environmental Information Disclosure**

In 2017, China began the pilot work of environmental information disclosure by financial institutions. Issued in January 2020, the Guiding Opinions on Promoting the High-Quality Development of the Banking and Insurance Industries outlined further ESG information disclosure, communication, and interaction with stakeholders. In November 2020, the Shenzhen Municipal People's Government issued the country's first sustainable finance regulations, which clearly outlined that financial institutions shall disclose information on the environmental impact of the enterprises, projects, and assets their funds are invested in. Issued in March 2021, the Notice on Driving the Environmental Information Disclosure of Institutions in the Green Finance Reform and Innovation Pilot Zone further drove the environmental information disclosure of financial institutions in the pilot zone, and included an environmental information disclosure work plan and operation manual. Issued in July 2021, the People's Bank of China issued the Guidelines for Financial Institutions Environmental Information Disclosure (JR/T 0227-2021), which officially moved the environmental information disclosure of financial institutions to the stage of practice.

## **4. Environmental Risk Management**

Issued in 2016, the Guidelines for Establishing the Green Financial System outlined "support banks for and other financial institutions in taking E&S risks as a key factor in credit asset quality stress testing; encouragement of banks and other financial institutions in assessing the exposure of loan assets to areas with high environmental risk, and quantitatively analyze the credit and market risks that risk exposures may bring in various future scenarios; and improving the ability of institutional



investors to analyze the environmental risks and carbon emissions involved in the assets they invest in, and conduct stress tests on the impact of environmental and climate factors on institutional investors". Issued in January 2020, the Guiding Opinions on Promoting the High-Quality Development of the Banking and Insurance Industries clearly required banking institutions to establish sound E&S risk management systems, incorporate ESG management factors into their decision-making process for credit issuance, and further ESG information disclosure, communication, and interaction with stakeholders.

### **(III) Banking Practices**

Supporting biodiversity conservation and driving the sustainable development of the banking sector has become a consensus among global financial institutions. At present, the typical practices of China's banking institutions in supporting biodiversity conservation are as follows:

#### **1. Environmental, Social, and Governance (ESG)**

At present, banking institutions are actively exploring ESG practices. Data shows that most banks listed in China disclose social responsibility/ESG/sustainable development reports (some combine all three into an annual report), and that the overall level of information disclosure is relatively high. However, these banks are under relatively low pressure from the external environment as a whole, and their awareness and behavior of environmental protection needs to be further enhanced. Due to the operating characteristics of banking institutions, their likelihood of environmental protection penalties is relatively low. The primary pressure comes from indirect penalties resulting from the granting of loans to enterprises that violate environmental protection regulations. In such situations, most social criticism is directed at the violating enterprises and government regulators, and is relatively lenient of financing banks. As such, the environmental protection supervision and pressure from public opinion is not high, which leads to banking institutions not paying enough attention to environmental concerns. There are major deficiencies in the measurement methods and disclosure dimensions of environmental contribution, the understanding of environmental performance indicators is uneven, and the measurement methods and

standards of disclosed performance data is not unified, affecting comparability.

#### **2. Biodiversity Conservation Sustainable Financial Products**

##### **(1) Biodiversity Conservation Green Bonds**

Biodiversity themed green bonds are green bonds issued to finance biodiversity conservation projects. Guided by the concept of ecological civilization, China's banking institutions taken actions to conserve biodiversity, and actively innovated bond products to finance biodiversity conservation. (1) Banking institutions directly issue green bonds to raise funds for biodiversity conservation projects. In September 2021, Bank of China issued its first biodiversity themed green bond at a scale of CNY 1.8 billion equivalent. The raised funds were invested in a number of biodiversity conservation projects, such



as ecological construction pilots in domestic areas, ecological restoration in mountainous areas, ecological water networks, and national reserve forests, and the transformation of low-quality and low-efficiency forests. In November 11, Bank of China (Paris Branch) successfully issued the first USD-denominated biodiversity themed green bond from a global financial institution, with a focus on ecological construction and ecological restoration. The bond was also the first biodiversity themed green bond in Europe. Focusing on the protection of river basin ecosystems, China Development Bank has issued special green bonds for “Yangtze River Conservation”, “Conservation and Restoration of the Yangtze River Basin Ecosystem”, “Conservation and High-Quality Development of the Yellow River Basin Ecosystem”, and others. (2) Banking institutions invest in special local government bonds to raise funds for biodiversity conservation projects. Fudian Bank purchased CNY 127 million of special local government bonds to support the construction of the Mengku Large-Leaf Tea Tree project in Lincang, Yunnan.

#### (2) Biodiversity Conservation Green Credit

Biodiversity conservation green credit is a key component of green credit that primarily supports the conservation and restoration of ecosystems, optimization of ecological security barriers, and enhancement of ecosystem quality and stability. The manner in which green credit products support biodiversity conservation is primarily divided into two categories. (1) Banks have increased their support for biodiversity conservation through traditional models such as syndicated loans and working capital loans. In April 2021, China Development Bank, Industrial and Commercial Bank of China, Bank of Tianjin, and 6 other banks jointly issued a syndicated loan of CNY 24 billion to support the ecological conservation project in the northern mountainous area of Tianjin. In December 2020, China CITIC Bank extended a total of CNY 160 million in credit (including working capital loans and banker’s acceptances to support the construction of ecological barrier projects. (2) Banks have improved the credit access conditions for biodiversity conservation entities by expanding the scope of collaterals and pledges. For projects with relatively stable cash flows such as tourism ticketing income and specific asset fee collection rights,

banks usually support biodiversity conservation through fee collection collateral, pledges, and guarantees. ICBC Yunnan branch and Postal Savings Bank of China Yunnan branch have launched provided loans backed by the fee collection rights of the Xishuangbanna Wild Elephant Valley to meet the scenic spot’s working capital requirements. For projects that do not have stable cash flows but required financial support to realize biodiversity conservation, the Guideline on Setting Up and Improving the Mechanism to Realize the Value of Ecological Products encourages banking institutions to explore the value realization mechanism of ecological products. This has resulted in the introduction of innovative services and products such as “Liangshan Bank”, “Liangshan Loans”, and “GEP Ecological Value Loans”.

### **3. Environmental Information Disclosure**

In 2021, the People’s Bank of China formulated and issued the Notice on Driving the Environmental Information Disclosure of financial Institutions in the Green Finance Reform and Innovation Pilot Zone, which outlines that representatives of branches of the People’s Bank of China, other regulatory agencies, relevant financial institutions, and industry experts in each pilot zone shall form an environmental information disclosure task force to strengthen the capacity building of financial institutions. As of the end of June 2021, a total of more than 200 financial institutions in each pilot zone have completed the trial compilation of environmental information disclosure reports. Certain financial institutions outside of the pilot zones have referenced the work requirements for environmental information disclosure of financial institutions inside the pilot zones and actively carried out environmental information disclosure in accordance with local conditions. As listed companies and issuers of green finance bonds, commercial banks shall also disclose environmental information through annual reports, social responsibility reports, ESG reports, and green bond issuance documents.

#### 4. Environmental Risk Management

In recent years, an increasing number of financial institutions have driven the development and application of environmental risk analysis methodologies as key means for promoting the sustainable development of the financial industry

and ensuring financial stability. Bank of China has formulated the Customer Environmental (Climate), Social, and Governance Risk Management Policy to strengthen the full-process management of ESG risks from the aspects of risk classification, due diligence, business approval, contract management, fund allocation, and post-loan and post-investment management. In its 14th Five-Year Plan, the Agricultural Bank of China outlined its sustainable finance development strategy and issued policy documents such as sustainable finance guidance opinions and action plans. In August 2022, Industrial Bank issued the Notice on Strengthening Biodiversity Conservation, becoming the first financial institution in China to formulate and launch a biodiversity conservation plan. The Notice required the integration of sustainable development concepts into the bank's operating, investment, and finance activities, the formulation of a bank-wide biodiversity conservation strategy, the establishment and optimization of an eco-friendly credit policy, the strengthening of biodiversity risk management, and the active exploration and study of biodiversity conservation mitigation measures and stress testing.





## V. Key Industry Research

Focusing on the bank credit business, this research analyzes the driving factors of key biodiversity-influencing sectors such as food; industry; infrastructure; and agriculture, forestry, animal husbandry, and fisheries. In these key sectors, the research extend primary actions of enterprises that cause directly biodiversity loss, including the expansion of land used for construction, pollutant discharge, habitat encroachment, and natural environment degradation. Key projects that impact natural habitats, ecosystem services, and the market utilization of biological resources are also included in the research .Therefore, this research provides the analysis and exploration of the due diligence tools used during the granting of bank credit lines.

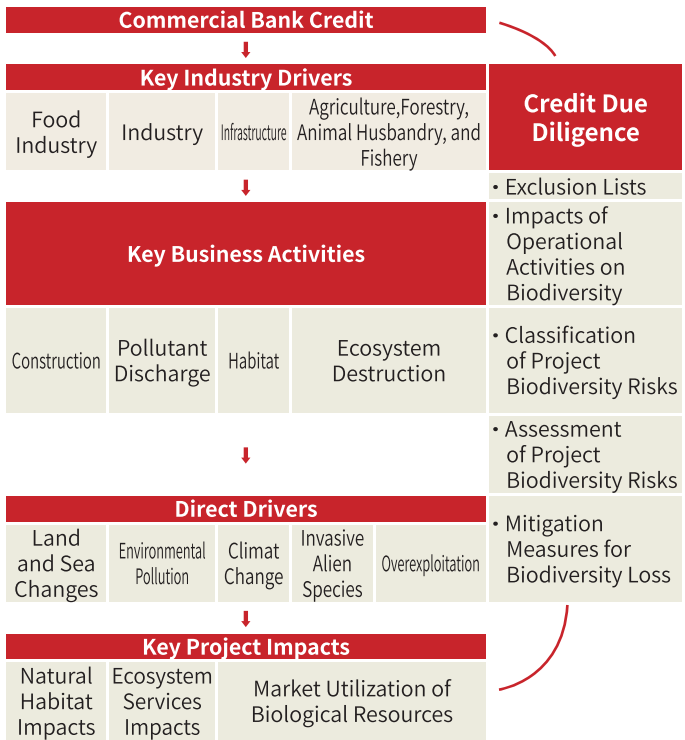


Figure 5-1. Development of due diligence tools for biodiversity conservation in the banking sector

**(I) Select Key Sectors**

Internationally, the industrial, infrastructure, agricultural, and extractive sectors are most responsible for direct biodiversity loss. This section identifies the key sectors in China responsible for direct biodiversity loss in accordance with the domestic situation.

**1. Land Use**

Land use, land-use change, and forestry (LULUCF) is one of the most important sectors affecting biodiversity. In its latest Global Biodiversity Outlook, the Secretariat of the Convention on Biological Diversity<sup>7</sup> noted that the biodiversity in global food and timber production landscapes has continued to decline, while high levels of fertilizer and pesticide use, and food production remains one of the main drivers of global biodiversity loss.

The direct drivers of biodiversity loss from agriculture are significant. The expansion of agricultural land has significant impacts on biodiversity. Unsustainable monocropping and agricultural intensification, coupled with large external inputs, continue to lead to biodiversity loss. In addition to forest and habitat loss due to agricultural expansion, other biodiversity impacts of agriculture include soil degradation and erosion, depletion of soil biodiversity, loss of genetic diversity, nutrient and water depletion, soil and water pollution, and the introduction of new pests and diseases.

Forestry is another direct driver of biodiversity loss. Forestry and logging activities are often located in environmentally sensitive areas, resulting in a continued loss of forest biodiversity. Risk of deforestation and forest degradation comes from (1) agricultural expansion in the production of livestock, palm oil, and soybean; and (2) unsustainable logging and fuelwood use.

**2. Infrastructure**

The rapid development of dams, transportation infrastructure, and other forms of hard infrastructure construction (including infrastructure construction related to energy production) has had an irreversible negative impact on biodiversity and habitats.

Water infrastructure such as dams and hydropower plants are also major drivers of biodiversity loss. Studies show that the aquatic biodiversity of key watersheds in China has been negatively affected by water conservation infrastructure. Marine projects have caused the fragmentation, degradation, and shrinking of aquatic habitats, along with the reduction of aquatic biological resources. As a result, 14.7% of all fish species in the Yellow River basin are now threatened. The distribution range

<sup>7</sup> Secretariat of the Convention on Biological Diversity. Global Biodiversity Outlook 5. 2020.

of common commercial fish such as *Coreius septentrionalis* and *Leuciscus chuanchicus* has shrunk sharply, and some have become endangered. 20.9% of the fish species in the upper reaches of the Pearl River are now threatened. Many commercial fish that were previously common and dominant species have become rare, the population of migratory fish has dropped sharply, and the Chinese sturgeon has not been seen for many years. The construction of reservoirs and hydropower stations in the Songhua River Basin have blocked the migration passages of migratory fish such as the Amur sturgeon, *Huso dauricus*, and chum salmon to a certain extent. Marine projects such as river dredging, underwater sand digging, and quarrying have destroyed aquatic habitats such as spawning grounds, feeding grounds, and wintering grounds, and fish populations have continued to decline<sup>8</sup>. Internationally, hydroelectric dams on transboundary rivers have fragmented freshwater ecosystems and restricted the movement of fish and freshwater mammals<sup>9</sup>. Only 37% of the world's rivers with a length of more than 1,000 km remain unrestricted<sup>10</sup>. The construction of mega-dams on the Mekong River poses a significant threat to terrestrial and aquatic biodiversity<sup>11</sup>.

Linear infrastructure intrusions such as highways, rail transit, and certain project sites cause linear openings through and the destruction of the environmentally sensitive areas and habitats of animals and plants. An in-depth analysis of the impact of highway construction in Yunnan on local biodiversity showed<sup>12</sup> that biological communities along the road construction site were complex, diverse, and rich in biodiversity. The impact of the riverine highway section on local biodiversity is prominently reflected in the impact on land use, especially the use of arable land.

### **3. Mining**

The negative impact of mining on biodiversity is relatively clear. Analyses show<sup>13</sup> that mining activities usually occur

in sensitive areas of the natural environment. Through the destruction of natural vegetation, the mining sector has a direct impact on biodiversity and causes habitat fragmentation. Stormwater runoff from disturbed plots causes soil erosion, turbidity, siltation, and the pollution of local water bodies, and can result in the reproduction and expansion of weeds, pests, and native plant diseases.

Coal mining has a greater impact on biodiversity loss. The impact of coal mining on ecosystems and biodiversity leads to ecological damage, habitat loss, and biodiversity loss. Mining and the transportation networks, structures, and other facilities required to support it artificially segment contiguous and large-scale biological environments into small sections, and may even result in their complete destruction. This limits the scope of biological activity, affects the motion range and viability of biological life, and leads to biodiversity loss<sup>14</sup>. Coal burning also has an irreversible impact on biodiversity loss.

## **4. Selection of Key Industries**

Considering the existing study base and the availability of data, this research focuses on the credit due diligence of banks for highway and railway projects in the transportation and mining sectors.

## **(II) Development of Due Diligence Tools**

### **1. Purpose, Principles, and Application of Due Diligence**

Commercial banks should ensure that all activities and projects are in compliance with E&S biodiversity requirements and standards, including:

- The proposed exclusion list.
- National and local regulatory policies related to the industry, finance, and the ecological environment.
- Applicable international biodiversity conservation

<sup>8</sup> Ministry of Ecology and Environment, Ministry of Agriculture and Rural Affairs, Ministry of Water Resources. Aquatic Biodiversity Protection Plan for Key Watersheds. 2018.

<sup>9</sup> Jiajia, L. et al. (2020) Transboundary Frontiers: An Emerging Priority for Biodiversity Conservation

<sup>10</sup> Grill, G. et al. (2019) Mapping the world's free-flowing rivers. Nature

<sup>11</sup> Gibson, L. et al. (2017) How green is 'green' energy? Trends Ecol. Evol.

<sup>12</sup> Jiang Rui, Fang Rui, Chen Xueping, Shen Zehao. Analysis of the Impact of Highway Construction on Biodiversity in the Three Parallel Rivers Area and Countermeasures [J]. Environmental Engineering, 2012.

<sup>13</sup> IUCN and ICMM (2004). Integrating mining and biodiversity conservation: Case studies from around the world

<sup>14</sup> Song Shijie. Analysis on the Damage of Coal Mining to the Environment of Affected Areas, Along With Prevention and Control Measures [J]. Coal Processing and Comprehensive Utilization, 2007.

standards (refer to the IFC Environmental and Social Performance Standards).

Due diligence is primarily used in the initial project screening and credit approval process.

## **2. Classification of Due Diligence Items**

In accordance with the following factors, projects are divided into three categories, namely nature positive projects, nature neutral projects, and nature negative projects.

- Project site selection and scale, including the activities of related facilities.
- Project location and scale.
- Distance of project from environmentally sensitive areas.
- The project plan and the efficiency of the equipment to be used.
- With help from the ENCORE tool, consider the impact of project activities on 7 natural asset classes in relation to 11 influencing factors.
- Potential for impacts on biodiversity and ecosystem services from third parties.

## **3. Due Diligence Process**

Step 1: Screen projects against the exclusion list for bank credit businesses.

Investments such as commercial bank credit projects shall not financially support the following activities in any way:

- 1) Any production or trade of products or activities that are considered illegal under Chinese laws and regulations, international conventions/agreements, or international prohibitions (such as drugs, pesticides/herbicides, and PCBs), or any wild animals or products subject to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- 2) Commercial logging operations in pristine tropical rainforests.
- 3) Production or trade of timber or other forestry products, other than those from sustainably managed forests.
- 4) Production or trade of radioactive materials.
- 5) Drift netting in oceans using nets over 2.5 km in length.
- 6) Production or activities that infringe on indigenous-owned or adjudicated land without adequately documented indigenous consent.



Step 2: Study the sector and the biodiversity impacts generally associated with such operations.

List provided in table below.

Table 5-1. Biodiversity Impact Assessment Checklist for Common Projects

Meets Relevant Requirements (Multiple Choice)	
<ul style="list-style-type: none"> <li>Exclusion Lists</li> <li>National regulatory requirements.</li> <li>Obtained environmental, health, and safety permits.</li> <li>Work-related fatalities (how and when: _____)</li> <li>Labor-related penalties (when and why: _____)</li> <li>Environmental incidents and penalties (when and why: _____)</li> </ul>	
Management Systems (Multiple Choice)	
<ul style="list-style-type: none"> <li>No written E&amp;S policy.</li> <li>No written HR policies (e.g. employee rights/nondiscrimination policies).</li> <li>No written fire /safety plan or emergency prevention/preparation/ response plan.</li> <li>No employee environmental, health, and safety training.</li> <li>No E&amp;S risk management procedures.</li> <li>No designated E&amp;S responsibility officer.</li> <li>No internal information sharing process.</li> </ul>	
Project Location (Multiple Choice)	
<ul style="list-style-type: none"> <li>Non-urban/underdeveloped land.</li> <li>Near river/stream/pond/lake/ocean.</li> <li>Proximity to protected areas (e.g. forests/endangered species)/ ecologically sensitive areas (e.g. wetlands/breeding grounds).</li> <li>Proximity to culturally sensitive/indigenous settlements.</li> </ul>	
Environmental Concerns (Multiple Choice)	
Discharge of air pollutants. <ul style="list-style-type: none"> <li>Boilers</li> <li>Motors</li> <li>Vehicles and Equipment</li> <li>Furnaces and Incinerators</li> <li>Welding</li> <li>On-Site Incineration</li> <li>Use of Solvents</li> <li>Use of Fumigation</li> <li>Chemical Evaporation</li> <li>Refrigeration Equipment Factory</li> <li>Use of Exhaust Ventilation</li> </ul>	Wastewater <ul style="list-style-type: none"> <li>Wastewater Discharge to</li> <li>Drains and Grates</li> <li>Oil &amp; Gas Separators</li> <li>Separator Tanks or Filters</li> <li>Reed Beds</li> <li>Shutoff Valves</li> <li>Sewers and Septic Tanks</li> <li>Water Treatment Units</li> <li>Cleaning</li> <li>Water Spraying</li> <li>Dewatering/Pumping</li> </ul>
Aggregated and Hazardous Waste <ul style="list-style-type: none"> <li>Generation of Solid Waste</li> <li>Waste Type:</li> </ul> <hr/> <ul style="list-style-type: none"> <li>Hazardous Waste (e.g. waste oil, pesticide residue, solvents, medical waste, asbestos)</li> <li>Waste Disposal to</li> </ul>	Hazardous Chemicals, Fuels, and Pesticides <ul style="list-style-type: none"> <li>On-Site Chemical or Fuel Storage</li> <li>Spill Protection</li> <li>Signs of Spillage</li> <li>On-Site Spill Cleanup Equipment</li> <li>Waterproofing Measures</li> <li>Signs of Storage Tank/Container Corrosion</li> <li>Secure Storage Areas</li> <li>Training on the Proper Handling of Chemicals and Fuels</li> <li>Pesticide Use and Management</li> </ul>
Resource Consumption <ul style="list-style-type: none"> <li>Materials Used:</li> </ul> <hr/> <ul style="list-style-type: none"> <li>Use of Renewable Natural Resources</li> <li>Use of Tools and Equipment</li> <li>Water Source:</li> </ul> <hr/> <ul style="list-style-type: none"> <li>Energy Source:</li> </ul>	Disturbance <ul style="list-style-type: none"> <li>Dust</li> <li>Noise</li> <li>Smell</li> <li>Smoke</li> <li>Vibrations</li> <li>Traffic Jams and Obstacles</li> </ul>

Step 3: Classify the biodiversity risk of the project.

Classification considerations:

- The biodiversity and E&S impacts of the sector.
- Impacts on biodiversity conservation areas, environmentally sensitive areas, and vulnerable areas.
- Potential irreversible biodiversity and E&S impacts.
- Extent of biodiversity and E&S impacts.

Step 4: Evaluate the biodiversity risk of the project.

Evaluate biodiversity and E&S impacts and risks in accordance with the complexity of the project, industry characteristics, and biodiversity risk classifications.

Step 5: Review proposed mitigation measures for potential project biodiversity risks throughout the project cycle.

Identified problematic biodiversity impacts must be alleviated through mitigation measures. The implementation time of specific mitigation measures may be adjusted in accordance with biodiversity risk as a condition for approval.

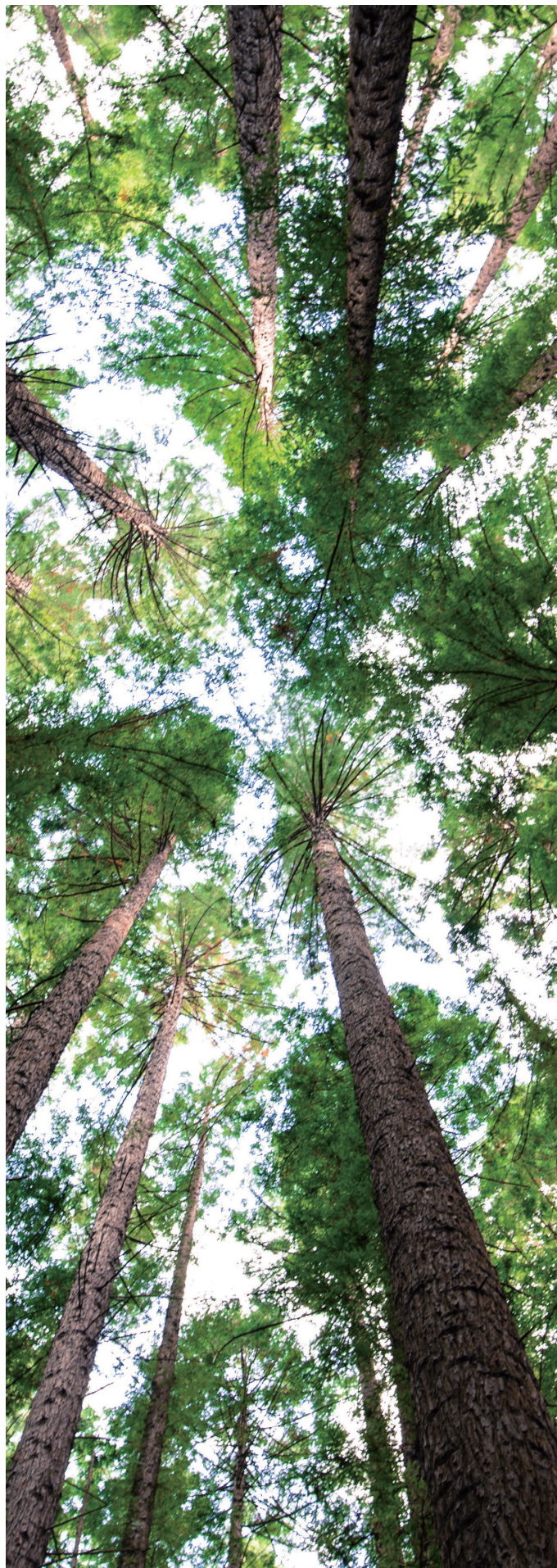
### (III) Analysis of Applicability in the Banking Sector

This research extensively consulted with typical state-owned banks, commercial banks, and other financial institutions to learn about the China's banking sector's understanding of biodiversity and related conservation policies. The research found that the loan balance of typical banking institutions, the increase in loan balance in the past three years, and the balance of non-performing loans in the transportation (such as railways and highways); mining (such as coal and oil & gas); agriculture, forestry, animal husbandry, and fisheries (land-use change); and manufacturing sectors are relatively concentrated. Banking institutions have an urgent need to avoid and mitigate biodiversity risks through investment guidance in the agriculture, forestry, animal husbandry, and fisheries; wind power; hydropower; and other sectors. But at present, the focus of banks in terms of environmental risks is concentrated on traditional environmental pollution control and climate adaptation. There is generally a lack of policies, screening standards or tools, and professional talents or training to adequately manage biodiversity risks. In order to improve the supporting role played by banking institutions



in biodiversity conservation, the research finds that at the business level, there is a great need to establish clear and applicable screening criteria to identify customers or projects that should not be extended credit, develop due diligence tools, and provide customer or project biodiversity risk information disclosure. At the management level, there is a need to drive the establishment of a dedicated team responsible for assessing biodiversity risks in credit businesses.

The research found that the identified key sectors basically cover the loan balance of the China's banking sector, the increase in loan balance in the past three years, and sectors with concentrated balances of non-performing loans. The establishment of an exclusion list for bank credit businesses is highly applicable and can be used as a reference by bank credit personnel to screen high-risk projects that will result in biodiversity loss, and reduce the risk of non-performing loans caused by biodiversity loss. The due diligence tool developed in this research makes the best use of loan project information documents submitted by existing bank business processes to fully explore project biodiversity and ecosystem risks from the aspects of project site selection and scale, project location and scale, distance of project from environmentally sensitive areas, the project plan and the efficiency of the equipment to be used, and potential for impacts on biodiversity and ecosystem services from third parties. The tool reduces the workload of credit business personnel and enterprises, driving and furthering the application of due diligence tools.





## VI. Policy Recommendations

### **(I) Optimize the Top-Level Design of Biodiversity**

Continue to thoroughly implement and drive the application of biodiversity in major plans and strategies, and pay full attention to international conventions such as the Convention on Biological Diversity and the Post-2020 Global Biodiversity Framework. Establish and implement goals, roadmaps, and action plans that are conducive to the flow of more funds to biodiversity conservation, mobilize the power of stakeholders, practice sustainable finance, and implement policies that require banking and financial institutions to support biodiversity conservation in a steady and orderly manner.

### **(II) Construct a Comprehensive Biodiversity Risk Management System**

Accelerate the incorporation of biodiversity conservation into the governance structures and core businesses of banking and financial institutions, support financial institutions in establishing and improving management systems for the identification, measurement, monitoring, and prevention of biodiversity risks. Drive the establishment of a biodiversity conservation culture in banking institutions, and improve biodiversity risk prevention and management policy systems. Establish a standard system for biodiversity information collection and accounting, further the application of information technology, and explore the establishment of an inter-bank basic biodiversity information sharing platform.

### **(III) Improve the Level of Biodiversity Information Disclosure**

Drive the inclusion of biodiversity conservation into the environmental information disclosure system of financial institutions, clearly outline policy requirements for banking and financial institutions in terms of biodiversity risk analysis and environmental information disclosure, and establish a biodiversity information disclosure system. Support banking and financial institutions in the implementation of disclosure requirements for biodiversity conservation. Encourage capable banking institutions to trial and actively understand and adopt mature international nature-related information disclosure tools such as the TNFD, and improve the quality and efficiency of biodiversity information disclosure.

### **(IV) Explore Innovative Sustainable Financial Products**

Strengthen the innovation capacity building of sustainable financial products, and support the development of biodiversity financing in terms of products and services. Actively explore paths and models for the realization of environmental resource value, encourage pilot work for the realization of environmental resource value in biodiversity-rich areas, advance diversified financing models, develop a high-quality and diversified green product system, and realize the integrated development of nature and the economy from the source.

### **(V) Deepen International Cooperation and Exchange**

Actively participate in global biodiversity governance. Encourage capable banking institutions to actively participate in international exchanges and make their voices heard in key areas such as climate-related and nature-related disclosure. Take advantage of opportunities and platforms such as the Convention on Biological Diversity, Ramsar Convention, and Belt and Road Initiative International Green Development Coalition to strengthen dialogue and cooperation among international banking and financial institutions with regard to biodiversity conservation, and encourage information exchange and the sharing of results.

### **(VI) Improve the Evaluation System of Biodiversity Conservation in the Banking Sector**

Establish a sound evaluation system for banking institutions to support biodiversity conservation (see Attachment 1 for recommended indicators), helping banking institutions identify and evaluate biodiversity risks in their supply chains, and explore opportunities for nature positive investment. Encourage capable banking institutions to take the lead in publishing comprehensive biodiversity evaluation reports. Deepen participation in international research on nature-related information disclosure, and supplement and dynamically adjust support for bank biodiversity conservation evaluation systems in a timely manner.

# Attachment 1. Recommended Indicators for Key Evaluation of Banking Sector Support for Biodiversity Conservation

Biodiversity Evaluation Indicators	Evaluation Results			
	Compliant	Mostly Compliant	Mostly Non-Compliant	N/A
<b>1. Development Strategy</b>				
1.1 The board or council approves a development strategy to strengthen biodiversity risk management and improve biodiversity performance.				
1.2 Annual and medium- to long-term goals for the implementation of the biodiversity strategy approved by the board or council.				
1.3 The board supervises and evaluates the implementation of the biodiversity conservation and development strategy in accordance with its corresponding responsibilities.				
1.4 Senior management formulates a development strategy to strengthen biodiversity risk management and improve biodiversity performance.				
1.5 Senior management establishes annual and medium- to long-term targets for the implementation of the biodiversity strategy approved by region and sector.				
1.6 Regular reports on the implementation of the biodiversity conservation strategy are made to the board.				
<b>2. Risk Management</b>				
2.1 Implement classifications and dynamic management in accordance with the nature and severity of biodiversity risks faced by clients.				
2.2 Establish a biodiversity risk identification, measurement, monitoring, and control system for the reference of institutional credit approval and other departments. The system should cover:				
— The sector and regional distribution of the customer (or project).				
— The potential biodiversity risk points of the customer (or project).				
— The biodiversity risk management measures that the customer (or project) should undertake in the future.				
— The overall evaluation of biodiversity risk before and after the customer (or project) implements the biodiversity risk management measures.				
2.3 Implementation of the sharing of biodiversity risk information.				
<b>3. Service and Product Innovation</b>				
3.1 Optimize internal processes and provide “green” channels for the research and development, approval, and promotion of traditional models such as syndicated loans and working capital loans that support biodiversity conservation.				
3.2 Improve the credit access conditions for biodiversity entities by expanding the scope of collateral and pledge.				

Biodiversity Evaluation Indicators	Evaluation Results			
	Compliant	Mostly Compliant	Mostly Non-Compliant	N/A
<b>4. International Cooperation and Exchange</b>				
4.1 Fully understand international best practices in the assessment and control of natural risks of international financing projects, and ensure that the institution's operation of the proposed financing projects is substantially consistent with the international best practices.				
4.2 Substantive participation in international practices, international standards, and international initiatives in climate-related disclosure, nature-related disclosure, such as:				
- Joining the TNFD				
- Joining the SBTi				
- Committing to the adoption of the Equator Principles				

# Acknowledgement

Since the 18th National Congress of the Communist Party of China (CPC), the CPC Central Committee, with Xi Jinping at its core, has been working with unprecedented efforts to build an ecological civilization, proposing new ideas, philosophies and strategies while adhering to the concept of green development and the blueprint for a beautiful China. Based on the Xi Jinping Thought on Ecological Civilization, the committee has launched a host of creative, forward-looking, and fundamentally important initiatives to embark on a green, low-carbon, and high-quality development path and bring sweeping, historic, and transformative changes to China's ecological civilization. On the occasion of the much-watched COP15 (Part 1) in October 2021, the China Banking Association held a theme forum, "Financial Sector Supporting Biodiversity", at the invitation of the Ministry of Ecology and Environment and under the guidance of the China Banking and Insurance Regulatory Commission (CBIRC), to fully implement the Xi Jinping Thought on Ecological Civilization as well as the major decisions and arrangements on carbon peak and carbon neutrality. The forum resulted in the release of the Joint Declaration of Banking Sector on Support for Biodiversity Conservation by more than 120 Chinese and foreign banks and international organizations. As one of the important results of COP15, the Joint Declaration aims to explore and develop the potential of banking institutions as biodiversity investors in seven areas: formulating a "biodiversity strategy", strengthening "biodiversity risk control", identifying "biodiversity preferences", increasing "biodiversity investment and innovation", enhancing "biodiversity disclosure", improving "biodiversity performance", and promoting "biodiversity cooperation".

With the help of the Beijing Office of the Switzerland-based World Wildlife Fund (WWF), the China Banking Association and the Expert Working Group conducted a research on "Banking Support for Biodiversity Conservation: From Declaration to Action". The research analyzes the driving factors affecting biodiversity, identifies key industries, and develops tools for due diligence. Based on the reality of sustainable banking in China, it summarizes and refines policy recommendations, and proposes key evaluation indicators for the implementation of biodiversity conservation by banks. This provides a practical reference for the banking sector's action plan for biodiversity conservation in the next ten years. It also serves as the foundation for this Report, "Research and Recommendations on the Role of China's Banking Sector in Supporting Biodiversity".

This Report is prepared under the CBIRC's guidance and with the support of China Banking Association members. Our special thanks go to International Finance Corporation (IFC) of the World Bank Group, World Wildlife Fund (WWF) and other international organizations.

Due to the constraints of time, this Report has left something to be desired. We would appreciate your critical advice.

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