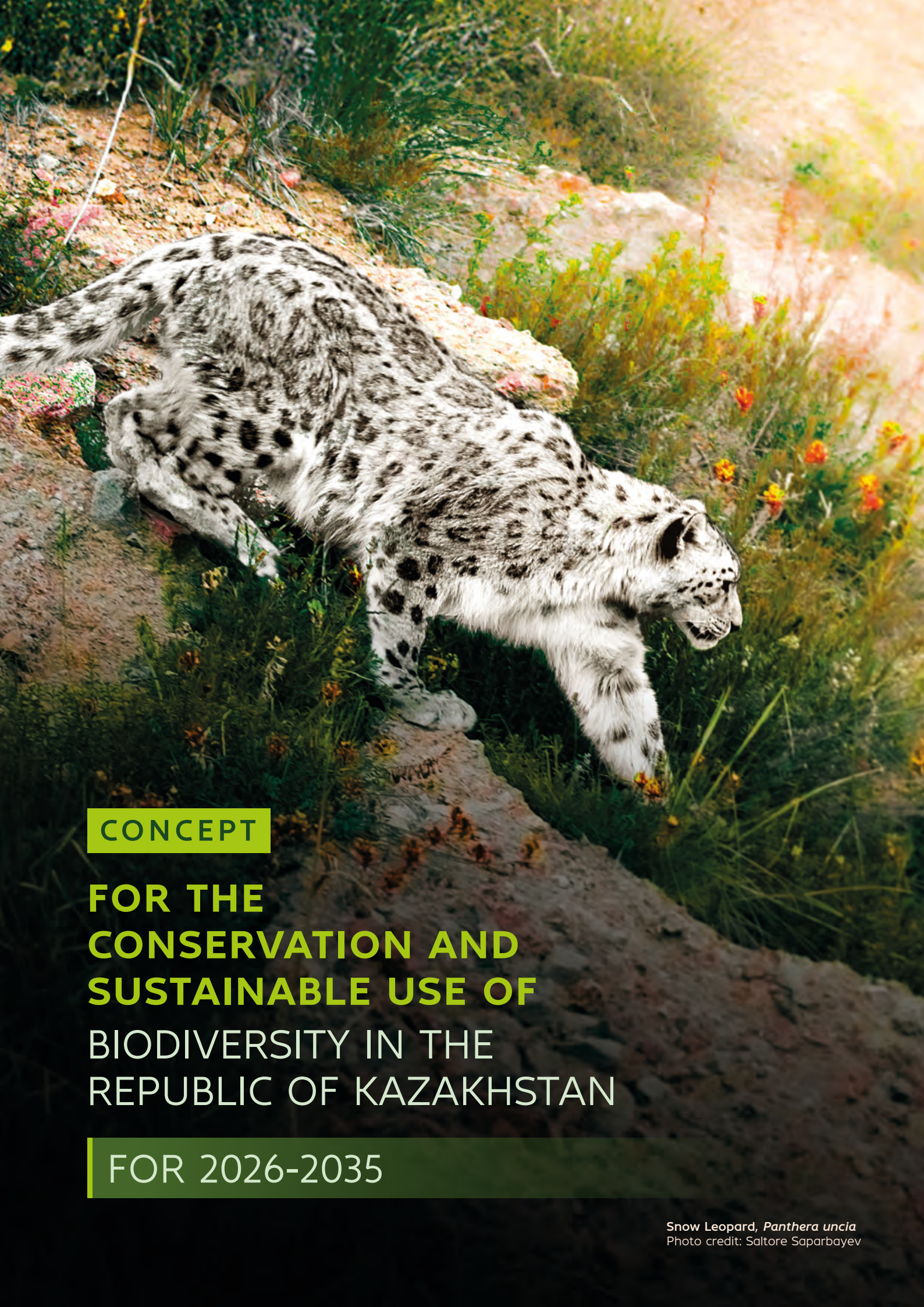




CONCEPT

**FOR THE
CONSERVATION AND
SUSTAINABLE USE OF
BIODIVERSITY IN THE
REPUBLIC OF KAZAKHSTAN**

FOR 2026-2035

Snow Leopard, *Panthera uncia*
Photo credit: Saltore Saparbayev



Siberian snowdrop, *Erythronium sibiricum*
Photo credit: Gleb Bolbotov



On Approval of the Concept for the Conservation and Sustainable Use of Biodiversity in the Republic of Kazakhstan for 2026-2035

Resolution of the Government of the Republic of Kazakhstan dated 31 December 2025 No. 1206

The Government of the Republic of Kazakhstan **HEREBY RESOLVES:**

1. To approve the attached Concept for the Conservation and Sustainable Use of Biodiversity in the Republic of Kazakhstan for 2026-2035 (hereinafter referred to as the Concept).
2. The central government and local executive bodies, state bodies directly subordinate and accountable to the President of the Republic of Kazakhstan (subject to agreement), and other organisations (subject to agreement) responsible for the implementation of the Concept shall:
 - 1) take the necessary measures to implement the Concept;
 - 2) ensure the timely implementation of the Action Plan for the implementation of the Concept;
 - 3) no later than 1 April of the year following the reporting year, submit information on the progress of implementation of the Concept to the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.
3. The Ministry of Ecology and Natural Resources of the Republic of Kazakhstan shall, no later than 1 May of the year following the reporting year, submit information on the progress of implementation of the Concept to the Ministry of National Economy of the Republic of Kazakhstan.
4. The Ministry of National Economy of the Republic of Kazakhstan shall, by 15 June of the year following the reporting year, submit consolidated information on the progress of implementation of the Concept to the Office of the Government of the Republic of Kazakhstan.
5. Control over the implementation of this Resolution shall be entrusted to the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan.
6. This Resolution shall enter into force on the date of its signing.

Prime Minister
of the Republic of Kazakhstan

O. Bektenov



Section

1

PASSPORT

Key Parameters

Snow Leopard, *Panthera uncia*
Photo credit: Saltore Saparbayev

Title	Concept for the Conservation and Sustainable Use of Biodiversity in the Republic of Kazakhstan for 2026-2035
Basis for the Development of the Programme Document	National Development Plan of the Republic of Kazakhstan until 2029, approved by Decree No. 611 of the President of the Republic of Kazakhstan dated July 30, 2024; Convention on Biological Diversity, approved by Resolution of the Cabinet of Ministers of the Republic of Kazakhstan dated August 19, 1994, No. 918
State Authority Responsible for the Development of the Programme Document	Ministry of Ecology and Natural Resources of the Republic of Kazakhstan (hereinafter referred to as the MENR)
State Authorities and Organizations Responsible for the Implementation of the Programme Document	Ministry of Agriculture of the Republic of Kazakhstan Ministry of Science and Higher Education of the Republic of Kazakhstan Ministry of Transport of the Republic of Kazakhstan Ministry of Culture and Information of the Republic of Kazakhstan Ministry of Education of the Republic of Kazakhstan Ministry of Industry and Construction of the Republic of Kazakhstan Ministry of Emergency Situations of the Republic of Kazakhstan Agency for Strategic Planning and Reforms of the Republic of Kazakhstan Ministry of Trade and Integration of the Republic of Kazakhstan Ministry of Water Resources and Irrigation of the Republic of Kazakhstan Ministry of Foreign Affairs of the Republic of Kazakhstan Ministry of National Economy of the Republic of Kazakhstan Ministry of Artificial Intelligence and Digital Development of the Republic of Kazakhstan Ministry of Ecology and Natural Resources of the Republic of Kazakhstan Ministry of Internal Affairs of the Republic of Kazakhstan Border Service of the National Security Committee of the Republic of Kazakhstan Local Executive Bodies
Implementation Period	2026-2035

Section

2

Analysis of the current situation



Saiga antelope, *Saiga tatarica*
Photo credit: Saltore Saparbayev

Since August 19, 1994, Kazakhstan has been a full Party to the Convention on Biological Diversity, signed in Rio de Janeiro on June 5, 1992. Over the past 31 years, substantial progress has been made in establishing the institutional framework for the conservation and sustainable use of biodiversity.

A legal framework for ensuring the conservation and sustainable use of biodiversity has been established, which is ultimately consolidated and implemented in practice through the provisions of the Environmental Code of the Republic of Kazakhstan and the subordinate regulatory legal acts adopted for its implementation.

The Head of State has been pursuing a clear and consistent policy on the institutionalization of environmental protection measures, including the most pressing issues of biodiversity conservation. In 2019, a separate ministry responsible for addressing environmental issues, including biodiversity conservation, was established by a Decree of the President of the Republic of Kazakhstan. A foundation has been laid for structural transformations in the country's socio-economic development strategy, setting a "green vector" for the progressive development of the entire state.

The Green Economy Transition Concept of the Republic of Kazakhstan, adopted in 2013, was updated and supplemented by the Decree of the President of the Republic of Kazakhstan dated June 10, 2024, No. 568. The **Concept for the Conservation and Sustainable Use of Biodiversity in the Republic of Kazakhstan for 2026-2035** (hereinafter referred to as the Concept) is a logical continuation of this document and aims to further expand and deepen approaches to the conservation and sustainable use of biodiversity in the context of the transition to a green economy.

Speaking at the 4th meeting of the National Kurultai in 2025, the President of the Republic of Kazakhstan outlined the tasks for the protection of biological diversity:

"The Caspian seals, pink flamingos, and other unique animals endowed to us by nature require our close attention, as they are currently under threat due to destructive human activity. I consider it necessary to establish a Biodiversity Conservation Fund".

This initiative fully reflects Kazakhstan's commitment to the implementation of the key global document on the conservation and sustainable use of biodiversity, namely the Kunming-Montreal Global Biodiversity Framework, adopted at the 15th Meeting of the Conference of the Parties to the **Convention on Biological Diversity** (hereinafter referred to as the Convention) in December 2022.

The Kunming-Montreal Global Biodiversity Framework is a key strategic document of international environmental regulation for the period up to 2030, with a perspective to 2050. It establishes obligations for Parties to the Convention to develop and implement national biodiversity strategies and action plans aligned with global targets.



The central idea of the Kunming-Montreal Global Biodiversity Framework is to halt and reverse biodiversity loss through a systemic transformation of the economic, financial, and social activities of States. The Framework sets out four overarching goals aimed at: conserving natural systems and species, ensuring the sustainable use of ecosystems, sharing the benefits arising from the use of genetic resources in a fair and equitable manner, and enhancing implementation through effective means of implementation and resource mobilization. These goals are further elaborated into 23 action-oriented targets covering, *inter alia*, the protection of 30 per cent of land and sea areas by 2030, pollution reduction, subsidy reform, transparency of business impacts on nature, improved access to finance, and the recognition of indigenous peoples' and local communities' traditional knowledge.

From a legal and institutional perspective, this global instrument marks a shift from environmental rhetoric to measurable commitments. The Framework provides for the development of universal indicators, national reporting, and mechanisms for tracking the progress. In addition, particular attention is paid to the integration of biodiversity into sectoral policies (agriculture, industry, and investment), which strengthens the cross-sectoral nature of legal regulation in the field of environmental protection.

According to the National Development Plan of the Republic of Kazakhstan until 2029, one of the tasks under the national priority "Enhancing Environmental Sustainability" is the conservation of biodiversity, with particular attention given to the conservation of rare and endangered species, the restoration of degraded natural areas, the expansion of the network of specially protected natural areas, the sustainable use of natural resources, and measures for adaptation to climate change.

Biodiversity underpins the economic development and well-being of the population of Kazakhstan. The conservation and sustainable management of biodiversity at the genetic, species, and ecosystem levels requires a comprehensive approach, including adaptive management, monitoring of the status of ecosystems and species, assessment of environmental threats, and the implementation of innovative management strategies aimed at the conservation and restoration of nature in its various forms.

Among the factors threatening the sustainability of biodiversity in Kazakhstan, the following should be highlighted:

1. Degradation of natural ecosystems:

- excessive and unsustainable land use (agriculture, overgrazing of pastures);
- desertification and decline in soil fertility;
- deforestation and degradation of forests, particularly in mountainous and riparian areas.

2. Climate change:

- increase in average annual temperatures and changes in precipitation patterns;
- reduction of water resources, drying up of water bodies, and alteration of the hydrological regime of rivers and lakes;
- shifts in species ranges and changes in the timing of life cycles of animals and plants.

3. Fires and natural hazards:

- an increase in the frequency and area of forest and steppe fires;
- threats related to droughts, dust storms and sudden temperature fluctuations.

4. Anthropogenic and industrial pressures:

- construction and expansion of transport and energy infrastructure, including highways, railways, power transmission lines (hereinafter referred to as PTLs), and pipelines;
- intensive development of land for industrial facilities (mining, oil and gas, and metallurgical industries), settlements, and agriculture;
- environmental pollution, including atmospheric emissions, contamination of soils and water bodies, and the accumulation and improper disposal of industrial and household waste;
- the cumulative impact of these factors leads to the fragmentation and degradation of natural ecosystems, loss of biodiversity, disruption of wildlife migration routes, and reduced population resilience.

5. Invasive species:

- spread of alien plant and animal species that displace native populations;
- loss of genetic diversity and disruption of food chains.

6. Underutilized potential of environmental governance:

- insufficient coordination among various stakeholders in the implementation of environmental protection measures;
- inadequate funding for biodiversity conservation and scientific research;
- fragmentation of responsibilities among different public authorities.

7. Spread of animal diseases, pests, and diseases affecting forests and flora.



A significant challenge is the lack of adequate financing for biodiversity conservation, driven by constraints in public budget resources and the difficulty of attracting private investment. According to the Biodiversity Finance Initiative (BIOFIN) of the **United Nations Development Programme** (hereinafter referred to as UNDP), a total of KZT 1.3 trillion (USD 2.75 billion) was allocated to biodiversity conservation and development in Kazakhstan during the period from 2015 to 2022, in accordance with attribution under the BIOFIN methodology. This amount represented 1.25 per cent of the country's gross domestic product in 2022 (KZT 103.8 trillion, or USD 225.58 billion) and 5.34 per cent of the consolidated state budget for the same year (KZT 22.6 trillion, or USD 49.13 billion). The majority of expenditure is covered by public funding (74.75 per cent, or KZT 947 billion). Non-governmental and international sources also play a significant role (22.21 per cent in total). At the same time, the private sector accounted for only 3.03 per cent (KZT 38.8 billion), remaining extremely limited despite its substantial impact on the environment. Financial planning is often oriented toward the short term, whereas biodiversity conservation initiatives require a long-term perspective. Currently, Kazakhstan lacks a national system for collecting and monitoring data on financing for biodiversity conservation measures.

Data collection remains fragmented and primarily covers public expenditure, while information on non-public sources is largely unavailable. This limits transparency, complicates planning processes, and reduces opportunities for effective resource mobilization.

A significant challenge remains the existence of so-called “harmful subsidies” – government support measures that directly or indirectly damage ecosystems. This applies not only to the agricultural sector (excessive use of agrochemicals and unsustainable grazing practices), but also to other sectors, including energy, water management, and fisheries, where subsidies may encourage excessive resource consumption and environmental pollution. The absence of mechanisms for reviewing and reforming such measures increases pressure on natural ecosystems and reduces the effectiveness of biodiversity conservation efforts. It is necessary to identify subsidies that have adverse impacts on ecosystems and undertake their review. This will make it possible to release financial resources and redirect them toward preventing the degradation of natural systems rather than financing the costly restoration of environmental damage.

An example of the negative impact of subsidized practices is the use of pesticides. According to research, insecticides are responsible for 95 per cent of pollinator mortality cases. In Kazakhstan, mass bee poisoning incidents are recorded annually; for example, in the southern regions, cases have been reported where thousands of bee colonies died following aerial spraying of agricultural fields. Such incidents contribute to the decline of not only managed honeybee populations but also hundreds of species of wild pollinators, including butterflies, beetles, and wild bees. This reduces the productivity of insect-pollinated crops and threatens the beekeeping sector, as well as the diversity of wild plant species.

The further effective conservation, restoration, and sustainable use of biodiversity components require the application of a systematic and interagency approach that

takes into account the diversity of ecosystems, species, and genetic resources, as well as the strengthening of the scientific basis for the use of biodiversity, including in the context of adaptation to climate change.

Despite the existence of basic regulatory provisions for biodiversity conservation, the integration of biodiversity considerations into public, sectoral, and corporate policies remains insufficiently systematic. Existing impact assessment procedures, namely **Environmental Impact Assessment** (hereinafter referred to as EIA) and **Strategic Environmental Assessment** (hereinafter referred to as SEA), have a limited effect on biodiversity conservation and do not ensure legally binding post-monitoring requirements or offsetting measures. Interagency coordination on risk zoning, accounting for biodiversity loss, and biodiversity restoration remains at an early stage of development.

The integration of gender aspects into biodiversity and climate change planning is also of key importance for ensuring inclusive, equitable, and sustainable policy outcomes.

Global commitments under the Convention and the Kunming–Montreal Global Biodiversity Framework provide for the meaningful participation of women and vulnerable groups, as well as gender-responsive actions at the stages of planning, implementation, and monitoring.

Within the framework of implementation, efforts will continue to expand opportunities for women in the processes of planning, implementation, and monitoring of biodiversity conservation measures.

2.1.

Development of a Unified Ecological Network, System of Specially Protected Natural Areas, and Ecotourism



Assessment of the Current Situation

The territory of the Republic of Kazakhstan, due to its unique combination of natural complexes (steppes, deserts, mountains, large inland water bodies with inflowing rivers and extensive deltas), is characterized by a high diversity of ecosystem types in Central Asia.

In Kazakhstan, from 2000 to 2025, the area of **Specially Protected Natural Areas** (hereinafter referred to as SPNAs) has been significantly expanded. SPNAs constitute the core element of Kazakhstan's ecological network. SPNAs are defined as areas of land, water bodies, and the airspace above them, containing natural complexes and sites of the State Nature Reserve Fund and are subject to special protection regime.

As of January 1, 2025, the system of SPNAs includes 10 state nature reserves (covering an area of 1.6 million ha); 14 state national nature parks (2.7 million ha); 8 state nature reserves (reservates) (3.6 million ha); 50 state nature sanctuaries of republican significance (8.5 million ha); 5 state protected areas (11.3 million ha); 25 state natural monuments of republican significance (6,500 ha, of which 272.7 ha are located outside other SPNAs); 6 republican botanical gardens (470.3 ha); and one dendrological park (365.43 ha).

In addition, Kazakhstan has 3 regional nature parks of local significance, 20 state nature sanctuaries of local significance, and 22 state natural monuments of local significance, as well as 1 dendrological park of local significance (Table 1).

Table 1. Number of SPNAs by protection regime and their areas

No.	Type of SPNA	Number	Area, thousand ha
1.	State nature reserves	10	1 613,7
2.	State national nature parks	14	2 727,8
3.	State nature reservates	8	3 573,7
4.	State botanical gardens	6	0,470
5.	State protected areas	5	11 312,4
6.	State nature sanctuaries	50	8 538,4
7.	State natural monuments	25	0,273
8.	State dendrological park	1	0,365
9.	State regional nature parks	3	189,1
10.	State nature sanctuaries of local significance	20	3 037,2
11.	State natural monuments of local significance	22	1,767
12.	Local dendrological park	1	0,117

Overall, the total area of SPNAs amounts to **30,957.3 thousand ha**, or **11.36%** of the territory of the Republic of Kazakhstan, including sustainably managed SPNAs with legal entity status covering 8,105.3 thousand ha, or 2.97% of the country's total territory.

Key Issues

Despite the significant progress achieved in conserving territorial ecosystem complexes and their diversity in Kazakhstan, there is a need to enhance the representativeness of the existing SPNA system, thereby reducing the risk of biodiversity loss. Existing SPNAs are distributed very unevenly across ecosystems, and many key ecosystems, including river valley, desert, and steppe zones, are not adequately represented within Kazakhstan's SPNA system (Table 2).

Table 2. Coverage of Natural Ecosystems by SPNAs

Zonal ecosystems	Area, ha	Share of all SPNA types in ecosystems, %	Share of SPNAs with legal entity status, %
Forests (forest-covered area)	12 452 000,00	4,89	1,46
Forest-steppe	7 683 000,00	5,82	2,58
Arid steppe	18 157 000,00	1,07	1,05
Dry steppe	49 041 000,00	4,26	3,96
Desertified steppe	38 419 000,00	1,44	1,27
Northern deserts	47 242 000,00	2,74	1,99
Middle and southern deserts	55 704 000,00	24,03	0,69
Mountain areas	40 520 000,00	10,09	5,49
River valleys	5 937 335,29	2,37	0,00
Lakes	4 503 200,00	4,32	0,04
Caspian Sea	11 500 000,00	6,15	0,94



The smallest areas of SPNAs with legal entity status (below 1%) are found in the central and southern desert ecosystems (0.69%), lake ecosystems (0.04%), while in river valley ecosystems, protected areas with legal entity status are virtually absent.

Given the insufficient coverage of protected areas in aquatic ecosystems, including internationally important wetlands, there is a need to expand the area of protected territories, including as a separate objective aimed at improving the management system of these areas.

Thus, a key shortcoming of the existing SPNA system is its insufficient geographic representativeness, both in terms of the diversity of zonal ecosystems and natural complexes.

The analysis of SPNA representativeness shows that the current level of biodiversity protection coverage across zonal ecosystems ranges from 0 to 5.5%. Taking these figures into account in the planning and establishment of new SPNAs will allow for optimization and improved representativeness of the existing SPNA system, thereby contributing to the reduction of the risk of ecosystem diversity loss.

At present, there is a need for targeted improvement of the knowledge and skills of mid-level SPNA personnel (inspectors, specialists in wildlife protection, tourism and recreation, foresters, environmental education specialists, etc.), as the development of SPNAs gives rise to issues requiring higher staff qualifications. The absence of regular advanced training courses, where SPNA staff could acquire a comprehensive set of knowledge and skills continuously applied in the performance of their duties, is one of the key priority areas for the development of Kazakhstan's SPNA system.

 Trends

The current state and trends of biodiversity in the country are primarily determined by changes in the area, condition, and nature of use of key natural ecosystems represented by SPNAs, hunting farms, and other structures. SPNAs are an important component of ecosystems as the most sustainably managed protected areas.



Of the 165 SPNAs identified as of January 1, 2025, 43 (covering 2.97% of the country's territory) have legal entity status and possess the necessary resources for biodiversity conservation within their boundaries.

At the same time, Kazakhstan, along with other countries, has joined the High Ambition Coalition, which aims to unite the efforts of countries in achieving Target 3 of the Global Biodiversity Framework – conserving 30 per cent of the planet's land and oceans by 2030 for the conservation of biodiversity and the fight against climate change.

An important role in achieving this goal is played by the development of a network of areas referred to in international practice as Other Effective Area-Based Conservation Measures (OECMs). Such areas, even without the official status of state protected areas, can make a significant contribution to the conservation of ecosystems, species, and natural processes.

Each country should independently determine the types of such areas. At the national level, the task has been set to analyze the compliance of specific areas with international criteria, as well as to assess the feasibility and potential for developing (establishing) corresponding national criteria. These may include, for example, territories of forestry enterprises, hunting farms, and other areas.

Protected areas with their natural landscapes and rich biodiversity represent strong demand and significant potential for the development of ecotourism. This trend has been particularly pronounced since 2020, when citizens of Kazakhstan began to actively travel within the country. At present, tourism is most actively developing in SPNAs with legal entity status (state national nature parks, state nature reserves, and state nature reserves). The management model of national parks and nature reserves allows for the development of ecotourism, while in nature reserves it supports scientific and educational tourism.

Information centres are being actively established in SPNAs, and existing nature museums are being modernised, with the aim of fostering appreciation for nature and complying with modern environmental and green technology requirements, including energy efficiency, water conservation, the use of modern waste management technologies, and the provision of appropriate sanitation facilities. The development of advertising and information support and marketing of tourism products, as well as the implementation of programmes and projects aimed at demonstrating wildlife in natural conditions to visitors, contribute to the development of both ecotourism and scientific-educational tourism, with the main emphasis placed on environmental education.

Ecotourism, as an important component of the tourism sector, contributes to strengthening the country's image and economic development. However, given the growing popularity of tourism in natural areas and the increasing number of visitors, particularly in national parks, anthropogenic pressure on these areas continues to rise, which requires the development of methodologies for calculating recreational carrying capacity standards, regular monitoring of the impact of tourism activities on ecosystems, as well as control over the number of visitors to SPNAs. The ongoing development of ecological trails serves two important purposes – environmental education and the minimisation of pressure on trails through designated routes and separate recreation areas.

2.2.

Improving the Effectiveness of Forest Protection and Reforestation through Sustainable Forest Management Practices



Assessment of the current situation

According to forest fund inventory data as of January 1, 2025, the total forest fund area amounts to 31.37 million ha, or 11.5% of the country's territory. The area of forested land is 13.9 million ha (44.3%), which corresponds to a forest cover rate of 5.1%. The area of private forest fund is 1,608 ha.



The main legislative act regulating legal relations in the field of forest conservation is the **Forest Code of the Republic of Kazakhstan**, which establishes the fundamental principles of forest legislation:

- recognition of the nationwide importance of forests performing climate-regulating, habitat-forming, field- and soil-protective, water-protection, and sanitary-hygienic functions;
- sustainable forest development (continuous increase in the forest cover of the Republic of Kazakhstan);
- conservation of forest biodiversity, objects of the State Nature Reserve Fund, and cultural and natural heritage;
- rational, continuous, and non-depleting use of forest resources.





Kokkol Waterfall.
Katon-Karagay National Park
Photo credit: Konstantin Kikvidze

It should be noted that, under the Law of the Republic of Kazakhstan dated 26 June 2025 “On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on Forestry, Specially Protected Natural Areas and Guarantees of Obligations of Private Business Entities,” the establishment of the legal framework for the conservation of forest biodiversity, sites of the state nature reserve fund, and cultural and natural heritage, as well as for their rational use, has been enshrined as one of the principles of the Forest Code of the Republic of Kazakhstan.



Overall, there is a trend of increasing forest area. Over the past 10 years, the forest-covered area has increased by 8%. This growth is due to the inclusion of previously unaccounted forests in the state forest fund, the transfer of young stands into the forest-covered area category, and natural regeneration.

In 2002, a significant part of the state forest fund was transferred to the jurisdiction of local executive bodies (regional akimats).

The distribution among government bodies is as follows:

- 25.2% of the state forest fund is under the jurisdiction of the Committee (7,804.6 thousand ha);
- 74.2% of the state forest fund is under the jurisdiction of regional akimats (22,980.1 thousand ha);
- 0.6% of the state forest fund is under the jurisdiction of other agencies, including protective forest belts along railways (Kazakhstan Temir Zholy JSC KTZ)), along highways (KazAvtoZhol), and the State National Nature Park “Burabay” under the Presidential Administration of the Republic of Kazakhstan.



Forest protection against fires and illegal logging is ensured by state forestry institutions, state nature conservation organizations (SPNAs with legal entity status), the Republican State Enterprise “Zhasyl Aimak”, the Republican State State-Owned Enterprise “Republican Forest Breeding and Seed Center”, the Republican State Institution “Sandyktau Training and Production Forestry”, and the Specialized State Republican State-Owned Enterprise “Kazavialesoohrana” of the Committee of Forestry and Wildlife of the MENR.

The regional territorial inspections of forestry and wildlife of the Committee of Forestry and Wildlife of the MENR carry out control and supervisory functions over compliance with forestry and environmental legislation.

The above-mentioned Law also introduced amendments to the Law of the Republic of Kazakhstan “On Tourist Activity in the Republic of Kazakhstan” regarding the design, construction, and maintenance of engineering infrastructure in tourism facilities within SPNAs.





Key issues

1. **Insufficient supply of high-quality planting material** due to inadequate funding for the development of forest nurseries by regional akimats and limited use of modern technologies (for example, nurseries with closed-root systems).
2. **Insufficient scientific support** for forestry development issues.
3. **Increasing wildfire risks**

Climate change, human-induced pressures and the lack of early warning systems are leading to an increase in both the frequency and scale of forest fires. The main factors contributing to the spread of fires over large areas include:

- passage of weather fronts accompanied by dry thunderstorm;
- dry and hot climate conditions;
- uncontrolled steppe burning and unauthorized recreational visits to natural areas;
- insufficient technical equipment of the state forest protection service.

These factors lead to forest loss, posing threats to biodiversity conservation and nearby settlements.

Large-scale forest fires also result in increased state budget expenditures for firefighting and ecosystem restoration.

4. Insufficient financing of the forestry sector

Financing of the country's forestry sector is often carried out on a residual basis. This prevents the introduction of innovative technologies and the strengthening of protective measures. The residual principle of financing the forest sector does not allow timely updating of existing machinery and equipment. The lack of funds also affects scientific research, the frequency of patrolling the forest fund and the prevention of forest fires. All this leads to a decrease in the effectiveness of forest protection activities, the loss of the potential of the forest fund as a source of sustainable economic and environmental development.

5. Shortage of qualified personnel

Problem description:

Ageing workforce and the low attractiveness of the forestry profession negatively affect the quality of forestry management and operations.

Causes:

- low level of social guarantees, lack of preschool childcare facilities and leisure infrastructure in forest settlements;

- insufficient access to internet connectivity;
- declining interest among young people in nature conservation professions;
- loss of traditional knowledge and skills.

6. Threats from illegal logging and poaching

Problem description:

In a number of regions, cases of illegal timber harvesting, logging of rare tree species, and collection of valuable natural resources have been recorded.

Causes:

- insufficient control in remote areas;
- lack of transparent and rapid monitoring systems (e.g., electronic labelling of timber products, broader use of satellites and drones);
- low detection and prosecution rates of environmental crimes.

Consequences:

- damage to the forest fund and the state budget;
- threat of extinction of rare species;
- disruption of ecosystem integrity.

7. Impacts of climate change

Problem description:

Global climate change is increasing pressure on forest ecosystems, particularly in areas with extreme climatic conditions (steppe, semi-deserts, mountains).

Manifestations:

- declining precipitation levels and droughts;
- increased wind and water erosion;
- expansion of the range of forest pests and diseases.

Consequences:

- reduced forest productivity;
- mortality of young plantations and increased costs of forest management;
- disruption of natural linkages between ecosystem components.

Forest fires and their prevention are a priority issue. The causes of forest fires include both natural and anthropogenic factors.



The main natural factor is lightning strikes. These are particularly significant in the Natural Forest Reserves “Semey Ormany” and “Ertis Ormany” and may account for up to 80–90 per cent of fire outbreaks. The number of recorded forest fires over the past five years (2019–2023) has increased by a factor of 2.2, reaching 3,688 cases across a total area of more than 560 thousand ha, while the average area affected by a single fire was 3.2 thousand ha, compared to the optimal level of 0.5 ha.

There are issues related to ensuring the required flight hours of aerial forest protection services in accordance with established standards. Aerial protection does not sufficiently cover the entire forest fund area. At the same time, aerial patrolling enables the detection and suppression of up to 60 per cent of forest fire incidents.

Provision of uniforms and special equipment for the state forest protection service amounts to 50–70% of the established standards, while the material and technical equipment of state forestry institutions and nature conservation organizations is approximately 70%.

The professional development of specialists involved in firefighting remains a highly relevant issue. Looking ahead, it is necessary to introduce new wildfire suppression technologies, including a digital system for modelling forest and steppe fire suppression strategies. In addition, each state forest owner responsible for forest conservation should include a fire prevention arrangement scheme within its forest management plan.

Another factor deteriorating the sanitary condition of the forest fund is the expansion of areas affected by harmful pests infestations.

The area affected by especially dangerous forest pests and diseases in the state forest fund amounts to 117.4 thousand ha, while the total area of pest and disease outbreaks as of January 1, 2025, is 302,587 ha.



The main areas affected by forest pests and diseases are located in the following regions: Akmola Region – 30,777 ha; North Kazakhstan Region – 12,379.9 ha; Almaty Region – 7,096.4 ha; Zhetisu Region – 20,020.8 ha; Kyzylorda Region – 81,699.06 ha; West Kazakhstan Region – 3,937.2 ha; East Kazakhstan Region – 119,369.9 ha; and Pavlodar Region – 17,197.2 ha.

Following forest protection measures carried out in 2023, the area of affected sites decreased by 58.5 thousand ha.

The greatest negative impacts on biodiversity in the state forest fund are caused by:

- uncontrolled livestock grazing;
- illegal harvesting and collection of medicinal plants and industrial raw materials, wild fruits, nuts, mushrooms, berries, and other food resources;
- use of state forest fund areas for health, recreational, historical-cultural, tourism, and sports purposes.

Among these negative factors, livestock grazing is the most widespread. The primary driver behind the increase and expansion of this factor is likely the annual growth in livestock numbers owned by rural residents.

Within the state forest fund, the total area of pastureland spans 4.4 million ha, of which 1.3 million ha – or 30% – was used in 2023. In several regions, namely Mangystau, North Kazakhstan, Pavlodar, Atyrau, Aktobe, Kyzylorda, and West Kazakhstan, pastures are utilized to a negligible extent. In contrast, pastures are more extensively used in Almaty, Zhambyl, Kostanay, and Turkestan regions, as well as in the Zhetysu region.



The core requirement for conserving pasture biodiversity is regulated and norm-based livestock grazing on a fee- paying basis.

The collection of mushrooms, berries, and medicinal plants by the local population in forests largely poses a threat in terms of forest fire safety. Similar risks are also associated with other types of forest use, such as the use of state forest fund areas for health, recreational, historical-cultural, tourism, and sports purposes.

An important component of forest conservation and regeneration is awareness-raising among the population, especially the youth. Forests will grow alongside these generations and can become a vital part of cultural heritage.

Raising awareness about forest protection measures, climate risks, and threats can help save thousands of hectares of forest from fires and diseases, while preserving its natural tourism and medicinal potential.

Despite its low forest cover, the Republic of Kazakhstan is one of the few countries in Asia where forest inventory, state accounting of the forest fund, forest cadastre, and forest monitoring are carried out on a systematic basis.

Up-to-date information on the condition of the forest fund and forest resources forms the basis for sustainable forest use, forest management and forestry policy. The main value of such information lies in its reliability. Obtaining it may require substantial investment, including in satellite imagery, geographic information systems, modern office equipment, stable internet connectivity and Earth remote sensing data. All of which are necessary for building a unified system for monitoring, assessing, and forecasting the condition and dynamics of the forest fund. Therefore, the introduction of digital technologies — including information processing software, geographic information systems and geoservices to be used directly by forest owners and forest users — is fundamental to forest management, sustainable forest use and the continuous increase of the country's forest cover, which is one of the key principles of forestry legislation.

Currently, the forestry enterprise where processes are almost fully digitalized (up to 99%) is the forest inventory enterprise. The data generated by forest inventory activities are used not only by the enterprise itself but also by other state bodies, including through geoservices based on forest inventory materials. Since 2021, monitoring of the planting of 2 billion trees has been conducted on an interactive map created at the direction

of the Head of State. The geoservice was developed by the enterprise jointly with the Joint Stock Company “National Company Kazakhstan “Gharysh Sapary”. The key feature distinguishing this program is the use of digital vector forest inventory maps as the basis for monitoring, while high-resolution satellite imagery is used as a basemap. The geoservice is accessible at <https://orman.gharysh.kz>.

The Forestry and Wildlife Committee operates a geoportal at <https://forest.gharysh.kz>, which provides satellite-based monitoring of forest fires, illegal logging, and unauthorized construction within the state forest fund. This portal is also built upon digital vector forest inventory maps and attribute data from the SOLI_N forest inventory database.

An interactive natural resources map <https://tabigat.gov.kz> has also been launched, which similarly uses forest management materials as its basis. In addition, digital forest management data are used by the Ministry of Emergency Situations and the Committee of Geology of the Ministry of Industry and Construction of the Republic of Kazakhstan. This is precisely why it is crucial to accelerate the digitization of the forestry sector.

The adoption of the Concept should serve as a powerful catalyst for further efforts aimed at conserving and multiplying biodiversity as well as ensuring sustainable and uninterrupted forest management based on the principle of non-depletion of forest resources.

Trends

The Head of State has directed the planting of 2 billion trees on the lands of the state forest fund. In order to implement this directive, regional akimats (local executive bodies), in coordination with the MENR, approved comprehensive forest reproduction and afforestation plans for 2021–2027. According to these comprehensive plans, more than 1.5 billion trees are to be planted by local executive bodies of the regions, 250 million by subordinate organizations of the Committee of Forestry and Wildlife of the MENR, and 210 million by land users and other initiative groups. During 2021-2024, a total of 1.15 billion trees were planted, and in 2025 it is planned to plant 336.5 million trees.

Among forestry-related activities that have a positive impact on biodiversity conservation, the placement of beehives and apiaries in forests and the establishment of forest plantations should be highlighted. Bees play a key role in biodiversity conservation as one of the main plant pollinators. They not only contribute to the reproduction of many flowering plants but also ensure ecosystem resilience by supporting the life cycles of numerous animal species. Bee pollination increases agricultural productivity and supports the formation of natural ecological communities.

According to 2024 data, approximately 6 thousand hectares of state forest fund land have been allocated for the placement of apiaries for 85 long-term and more than 2,000 short-term forest users.

Special priority is being given to the implementation of forest carbon offsets, the legal framework for which was established in Kazakhstan in 2025.

The state forest fund includes a sufficient amount of non-forested land where forest carbon projects can be implemented, which would increase the country's forest cover, enhance carbon dioxide sequestration, and boost oxygen production.

2.3.

Improvement of the System of Monitoring, Protection and Sustainable Use of Wildlife



Assessment of the situation

The modern fauna of Kazakhstan is rich yet remains insufficiently studied. It comprises at least 80,000 species of invertebrates, including at least 60,000 insect species. To date, only about 100 of the 550 insect families represented in the fauna of Kazakhstan have been relatively well studied, and overall, no more than 40% of the species composition has been identified. For many other classes of invertebrates classes, there are not even preliminary species lists occurring within the territory of the republic. It should be noted that the pivotal role of invertebrates in ecosystems is underestimated both in public awareness and in decision-making processes. The country is home to approximately 890 species of vertebrates with varying levels of scientific documentation, conservation status protection or use. The list of rare and endangered species (the Red Data Book of Kazakhstan) includes 128 species and subspecies of vertebrates and 96 species of invertebrates.



Kazakhstan has vast areas of steppe ecosystems that have been almost entirely lost in other countries of Eurasia. Consequently, the majority of the populations of steppe species, including globally threatened ones, have been preserved precisely here. These include species such as the saiga antelope, bobak marmot, steppe mouse-like hamster, and several jerboa species; among birds – the steppe harrier, steppe eagle, sociable lapwing, black-winged pratincole, white-headed duck, and several others.

Two major migratory flyways pass through the country – the West Siberian-African Flyway and the Central Asian-Indian Flyway – along which millions of birds migrate annually. A total of 127 recognized Important Bird Areas (IBAs) confirm Kazakhstan's global importance for bird conservation.

Beyond playing key role in ecosystems, wildlife meets a range of human needs in the country, representing aesthetic and economic (hunting management) value. Additionally, it constitutes an invaluable genetic resource for potential selective breeding programs.



Desert Monitor, *Varanus griseus*
Photo credit: UNDP Kazakhstan

Wild ancestors of domestic animals present in the country include the mouflon, five subspecies of the mountain sheep (argali), wild boar, onager, jackal, wolf, Asiatic wildcat (steppe cat), and several others. Among birds, these are primarily representatives of the orders Anseriformes and Galliformes.

Thanks to efforts undertaken by the state with the support of the non-governmental sector (environmental education, scientific research, and hunting management) and the corporate sector (financial support for conservation measures), the populations of a number of rare and game species have been stabilized or are steadily increasing, including the snow leopard, argali, urial, gazelle, mountain goat, red deer, and the reintroduced Bukhara deer. The restoration of the once-extirpated kulan to a population of more than 4,000 individuals, and the near-extinct saiga antelope, which has recovered to 3.9 million individuals by the beginning of the century, represents a unique achievement of global significance. Kazakhstan has also launched a project to return the tiger to its historical range, initiating the reintroduction process in the Lake Balkhash region. The program is aimed at forming a self-sustaining population through breeding and release and is accompanied by restoration of tugai forest habitats and prey base, strengthened protection measures, implementation of monitoring systems, and proactive prevention of human–wildlife conflicts in partnership with national and international organizations. Active conservation efforts are also underway for the Caspian seal, including continuous monitoring, the establishment of a rehabilitation center, planning a new SPNA, and the introduction of special navigation rules to regulate shipping lanes.

International cooperation is actively expanding. Under the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), Kazakhstan is a signatory to a number of species-specific agreements, including the “Memorandum of Understanding concerning the Conservation, Restoration and Sustainable Use of the Saiga Antelope (*Saiga tatarica tatarica*)”, the “Memorandum of Understanding concerning the Conservation and Restoration of the Bukhara Deer (*Cervus elaphus bactrianus*)”, the “Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia”, the “Memorandum of Understanding concerning Conservation Measures for the Siberian Crane (*Grus leucogeranus*)”, the “Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew (*Numenius tenuirostris*)”, as well as a participant in the “International Action Plan for the Conservation of Argali (*Ovis ammon*)” under the Central Asian Mammals Initiative.

Wildlife conservation by the State is carried out by the territorial divisions of the authorized body (regional territorial inspections for forestry and wildlife of the Committee of Forestry and Wildlife of the MENR), inspectors of republican- and local-level SPNAs, the specialized enterprise Republican State Public Enterprise “Production Association Okhotzooptom” under the Committee of Forestry and Wildlife of the Ministry of Ecology and Natural Resources, the structures of the Committee of Fisheries of the Ministry of Agriculture of the Republic of Kazakhstan, as well as regional departments of natural resources and environmental management, which oversee state institutions for the protection of forests and wildlife and maintain protection personnel responsible for wildlife management within the state forest fund.



A significant contribution to wildlife conservation is made by hunting concessions, which cover approximately 100.1 million ha, or 36.7% of the country's territory.



Currently, 735 hunting concessions have been allocated to hunting operators, employing more than 2,000 gamekeepers. They play the primary role in ensuring the conservation and sustainable use of game species, as well as rare species within the territories assigned to them. Hunting is prohibited in unassigned hunting grounds and protected areas.

The legislation governing the conservation, restoration, and sustainable use of wildlife is generally well developed and comprehensive; however, it requires further improvement in several areas, particularly with regard to the development of hunting management, species management, and environmental assessment.



Key issues

Current practices for the placement of infrastructure and agricultural projects in Kazakhstan do not yet fully take into account the biological value of territories, creating increased risks for wildlife populations and ecosystems. It is necessary to carry out spatial zoning of territories according to levels of environmental risk. To assess and prevent impacts on fauna at the early stages of project design and spatial planning, digital maps should be developed identifying high-risk areas for birds near power lines, migration routes of ungulates, and habitats of rare and vulnerable species.

One of the most pressing unresolved issues remains the mass mortality of birds on overhead power lines, particularly in regions with high bird diversity. The underlying cause is the absence of regulatory and technical requirements for the design of power lines that take biological risks into account. A similar situation exists in the transport and energy sectors, where infrastructure development often leads to habitat fragmentation and the disruption of traditional wildlife migration routes. This occurs due to the absence of mandatory design solutions such as ecoducts, wildlife crossings, and buffer and protection zones.

In practice, environmental impact assessment procedures, including Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), do not adequately integrate biodiversity as a core component of analysis. Methodological documents lack clearly defined criteria for assessing wildlife losses, mechanisms for calculating and implementing compensatory measures, as well as scientifically sound indicators that capture changes in animal population status under the influence of economic activities, which limits the ability to make balanced decisions. In addition, current corporate environmental reporting standards do not include requirements for disclosure of information on impacts on wildlife, which hinders the development of corporate responsibility in wildlife conservation and restoration measures.

A separate problem is posed by the agro-industrial sector, which largely does not apply approaches aimed at aligning agricultural development with measures for the protection of natural ecosystems.

This is particularly evident in regions with high grazing pressure, where conflicts between agricultural interests and the conservation of wildlife habitats are increasingly reported. The limited use of spatial analysis and environmental criteria in the expansion of agricultural land creates risks of wildlife displacement and degradation of their forage base.

The wildlife management system in Kazakhstan continues to evolve; however, it still retains elements of fragmentation and requires institutional strengthening. Data on the status and distribution of fauna are not yet fully integrated into strategic and spatial planning procedures, including SEA, EIA, and state environmental expertise. The establishment of a unified information database and its use in decision-making processes would improve the quality of management and ensure a balance between economic development and biodiversity conservation. At the same time, information on species can be accessed via the information portal  <https://zooldata.kz/>.

The regulatory framework does not contain methodologies for assessing impacts on wildlife, mandatory compensatory measures are not defined, and digital tools for spatial risk analysis are not systematically applied. In this regard, it is necessary to develop a unified system of indicators that would allow tracking changes in the abundance and status of animal populations under anthropogenic pressure, in order to strengthen monitoring and support timely conservation decision-making. Post-project monitoring principles and control over the implementation of project obligations for fauna protection should be established as mandatory elements of project and investment cycles.

Anthropogenic pressure associated with the development of key economic sectors and infrastructure leads to ecosystem transformation and fragmentation. This requires particular attention to maintaining habitat connectivity and ensuring the long-term viability of wildlife populations. These threats are further exacerbated by climate change, which results in shifts in climatic zones, changes in vegetation patterns, disruption of the forage base, and alterations to animal migration routes and wintering conditions. Despite existing measures, wildlife conservation considerations have not yet been fully integrated into strategic environmental assessments, state planning documents, and urban development regulations.

The existing wildlife protection system requires a comprehensive transformation aimed at the regulatory establishment of impact assessment and compensation for damage, the introduction of digital spatial analysis tools, the integration of biodiversity into project design and strategic planning procedures, as well as the development of a transparent and reliable system of monitoring and reporting.

On the whole, while the restoration of populations of rare ungulates and snow leopards has been successful, additional efforts are required to ensure species long-term viability through the establishment of new populations.

Kazakhstan is a Party to the **Convention on International Trade in Endangered Species of Wild Fauna and Flora** (hereinafter referred to as CITES). However, full compliance with the convention requires further training of customs, border, and law enforcement services in this area. Hunting raptors used in falconry require urgent and specialized attention: active reintroduction initiatives are already necessary to restore the Saker falcon population. Furthermore, golden eagles (and other eagles) are frequently taken illegally from the wild for traditional hunting practices and/or commercial photography, while dedicated rehabilitation centers for confiscated or injured birds of prey are currently non-existent.

There are a number of invasive animal species in the country; however, there is currently no assessment of their impact on ecosystems, nor systematic monitoring or, where necessary, measures to regulate their population sizes.

Regarding wildlife in general, there are issues that require further improvement of the protection system. These are driven, among other things, by staff reductions in the regional territorial inspections of the Committee of Forestry and Wildlife of the MENR, as well as insufficient qualifications and equipment of inspectors in SPNAs and state institutions for forest and wildlife protection. A positive trend has been observed over the past three years following salary increases in the sector. For further improvement of equipment and capacity, it is necessary to continue the introduction and expansion of modern methods for monitoring and detecting poaching, as well as methodologies for assessing the effectiveness of inspectors' work. The SMART patrolling system has already been successfully piloted in twelve specially protected natural areas. It is also necessary to enhance the training of rangers in hunting concessions and address the issue of allocating a portion of fines collected through legal claims toward performance bonuses for inspectors, which would increase motivation for apprehending offenders.

Hunting concessions are entrusted with responsibilities for the protection and reproduction of wildlife. At the same time, current legislation places certain limitations on the rights of hunting leaseholders, and there are barriers to conducting sustainable business in this sector. Nationally, the economic performance of hunting concessions activities as a standalone enterprise remains generally low; and in most cases, according to hunting associations, hunting concessions cover their operating costs through additional sources (membership fees, owner contributions, etc). A promising direction for supporting hunting leaseholders is game breeding, which would partially reduce pressure on wild populations of game species and contribute to the recovery of rare species. To develop this area, it is necessary to define its regulatory framework within legislation, including potential forms of state support.



Trends

The increase in the populations of a number of rare and valuable ungulate species, the snow leopard, and others is accompanied by the emergence or intensification of conflicts with the expanding agricultural sector. The issue of saiga population management is becoming increasingly acute, as its numbers have already multiplied several-fold beyond historically recorded maximum levels and continue to grow. Furthermore, accelerating infrastructure development across the country is also becoming an increasingly serious challenge to wildlife habitats and migratory species.

Climate change, combined with anthropogenic pressures, is already directly threatening species such as the Caspian seal and the Semirechensk salamander, and may potentially threaten others as well. At the same time, the scope and diversity of species reintroduction efforts are expanding: new kulan populations are being established (in the Southern Balkhash region and Central Kazakhstan); Przewalski's horse reintroduction has resumed; and the release of captive-bred great bustards into the wild has increased dramatically. There are several other species that are either of economic resource potential or simply rare – such as the Saker falcon, Bukhara deer, and argali – which may also increase in number and expand their range through captive breeding and reintroduction. To achieve this, it is necessary to establish a sustainable funding system of subsidies and ensure a long-term approach to planning such programs.

Hunting leaseholders and other business entities are showing growing interest in game breeding and the establishment of safari parks. Despite the above-mentioned challenges, safari parks and game farms are emerging in various regions of the country, which requires the development of effective cooperation mechanisms with territorial divisions of the authorized body, especially in cases involving the breeding of rare and endangered species and CITES-listed species.

In the hunting sector, there is a visible trend of an increasing proportion of hunting leaseholders with sufficient financial resources, but at the same time with poor understanding the basics of game management and striving to minimize government oversight of their activities. This requires a very careful balance between the interests of business and nature conservation. At the same time, the number of unallocated hunting concessions is quite high due to the practical impossibility of ensuring their profitability in the current conditions.

In terms of wildlife monitoring, the use of modern technologies (camera traps, satellite telemetry, GIS modelling, etc.) is increasing, along with the corresponding digitalisation of data. The SMART patrolling system is increasingly being used in SPNAs, allowing for the monitoring of inspectors' performance and the storage of monitoring data. The population is also showing growing interest in wildlife conservation issues.

Against the backdrop of shrinking habitats and the vulnerability of certain fauna species in Kazakhstan, there is a growing need to transition towards systematic wildlife management. The importance of expanding digital monitoring and spatial analysis tools is emphasized, including mapping the ranges of rare species, migration routes,

and high ecological risk zones. The interactive natural resources map  **tabigat.gov.kz** is considered a potential basis for such a transformation, facilitating the creation of a more transparent, scientifically grounded, and accessible system for integrating biodiversity data into project design, environmental impact assessment, and spatial planning procedures.

At the same time, there is a need to develop regulatory approaches to assessing impacts on fauna, including the justification and implementation of compensatory measures. Experts emphasize the need to introduce mandatory post-monitoring and the use of biological indicators to track the status of populations and ecosystem changes driven by economic activities.

An institutional understanding is emerging of the need to integrate wildlife conservation components into strategic documents, as well as to introduce the principles of “zero net loss” as part of national environmental policy and corporate ESG approaches. There is growing interest from business, scientific institutions, and the non-governmental sector in launching pilot projects aimed at reducing habitat fragmentation, preserving migration routes, and restoring habitats of key species.

2.4.

Conservation of Fish Biodiversity and Enhancement of Natural Commercial Fish Populations through Reducing Pressure on Natural Fish Resources



Assessment of the current situation

To date, the Republic of Kazakhstan is home to approximately 170 species of fish and other aquatic animals, distributed across relevant wildlife categories (lists), with some species included in multiple lists simultaneously: 17 species are included in the list of rare and endangered plant and animal species and, accordingly, in the Red Data Book of Kazakhstan; 25 species are included in the list of animal species used for other economic purposes (excluding hunting and fishing); 88 species are included in the list of animal species not used for economic purposes but having ecological, cultural, and other value; and 1 species is included in the list of animal species subject to population regulation.

There are two priorities in the fisheries sector that are in conflict with each other. The ecological priority requires the conservation and restoration of biodiversity and the reduction of pressure on natural fish populations. The economic priority requires increasing fish production through the full utilization of fishing quotas in commercial fishing, and, in the aquaculture (fish farming) sector, the allocation of water bodies for aquaculture development, with the possibility of complete harvest of native ichthyofauna

for subsequent stocking and cultivation of other targeted fish species. This necessitates complex management decisions to balance environmental and economic interests; such decisions must be well-balanced and grounded in scientific evidence.

The ichthyofauna of almost all fishery reservoirs in Kazakhstan has undergone restructuring; as a result, the majority of commercial fish in inland water bodies (50-90%) are acclimatized species. Therefore, issues of sustainable use of fish resources come to the forefront in order to ensure the preservation of the reproductive potential not only of traditional fishery species, but also the maximum possible conservation of biodiversity, as well as the prevention of the introduction and spread of invasive (alien) fish species.



Key Issues

The most urgent problems of industry are the impact of global climate change and the issue of water availability in the region, which, given the existing problem of river regulation and increased anthropogenic pressures, can lead to a serious reduction in the biodiversity of aquatic organisms.

The invasion of numerous alien species from neighboring countries into the aquatic ecosystems of Kazakhstan, including the unauthorized introduction of fish by local populations, has become a serious problem for the conservation of biological diversity and the preservation of the resource potential of the country's water bodies.

As in many countries worldwide, Kazakhstan is affected by so-called IUU (illegal, unreported and unregulated) fishing, which leads to the depletion of fish resources, primarily commercially valuable species, reduces their reproductive potential, causes undesirable changes in fish populations, and creates difficulties in fisheries regulation and planning. According to data on the control and inspection activities of territorial fish protection authorities in 2024, 24,446.73 kg of cyprinid and sturgeon species were seized from violators of fish protection legislation. However, estimates of IUU fishing volumes based solely on data from law enforcement and fish protection agencies cannot reflect the true scale of such fishing, which is significantly higher than the figures reported. The problem of comprehensively assessing the overall volume of IUU catches is further complicated by the absence of a universal methodology for its calculation.

Commercial fishing remains insufficiently mechanized and automated. Commercial fishing shows a trend toward a shift from the use of active gear (seines, trawls) to passive fishing gear (nets), which leads to the capture of the most commercially valuable fish species and, consequently, to the restructuring of local fish populations and the subsequent replacement of valuable species with less valuable ones. There is a need to develop marine fisheries in the Caspian Sea, which will allow for the rational and full utilization of existing fish stocks. The development of seabed resource exploitation in the Caspian Sea and increased shipping intensity pose additional risks to the safety



Charyn Canyon. Valley of Castles
Photo credit: Vitaliy Shuptar

and normal functioning of the marine ecosystem. The consequences of activities related to hydrocarbon extraction and potential pollution in emergency situations are a risk factor for sturgeon species, the Caspian seal, and other representatives of the Caspian ecosystem.

There is an expansion in the range of fish diseases, which increases the risk of transmission to natural fish populations and may consequently lead to disease outbreaks and mass mortality, with a risk of complete loss of the most susceptible fish species. There is a need to regulate the allocation (assignment) of water bodies for the purpose of breeding non-native (for the given basin) fish species, particularly in water bodies connected to other internationally and nationally significant aquatic systems, in order to prevent the introduction and spread of invasive fish species and other aquatic organisms.

There is a need to develop artificial reproduction and fish stocking, including for the conservation of rare and endangered fish species. It is necessary to carry out genetic analysis of stocked fish species (of all age groups) prior to their release into water bodies of international and national importance, or other water bodies if they are connected to the aforementioned systems, in order to prevent the introduction of hybrid and invasive fish species and other aquatic organisms.

To increase the effectiveness of anti-poaching efforts, it is necessary to improve the provision of fish inspection services with watercraft. Thus, according to the Order of the Minister of Agriculture of the Republic of Kazakhstan dated November 19, 2025, No. 429, the standards for equipping state institutions under the jurisdiction of the Fisheries Committee of the Ministry of Agriculture of the Republic of Kazakhstan with specialized water transport amount to 330 units. At present, the inspection service is equipped with 158 units of specialized water transport, or 48%.

The number of basin fisheries inspection staff amounts to 340 full-time positions, which is three times lower than 20 years ago, although over this period the number of fisheries water bodies, the volume of fish harvest, and the number of fishermen engaged in fishing, as well as opportunities for poaching, have not changed. At the same time, on April 5, 2021, the Government approved and is implementing the Fisheries Development Programme until 2030, where the main target indicator is an increase in fish production to 270 thousand tonnes per year.



Trends

One of the sectors of Kazakhstan's economy where there are potential reserves for the growth of environmentally friendly production is fisheries. The Republic of Kazakhstan has many fishery water bodies, differing both in morphology and hydrology (inland brackish lakes – the Caspian and Aral Seas, freshwater rivers, lakes and reservoirs), and in the composition of ichthyofauna, including commercial species. In terms of their ecological state, the water bodies exhibit a satisfactory level of water quality.

The impact of anthropogenic factors—specifically the influx of toxicants – does not disrupt the fundamental biological characteristics of fish populations, such as their morphology, physiology, or suitability for human consumption. Through the implementation of measures – including restriction and optimization of commercial fishing, the introduction of waste-free technologies in industrial enterprises, the stocking of reservoirs with valuable fish species, standards of fishing effort and the definition of catch limits based on the maximum sustainable yield criterion, the fight against poaching – it has succeeded in stabilizing the number of most commercial fish species above critical thresholds. Furthermore, these measures restored the population of one rare species, the kutum, to commercially viable levels, and have minimized the threat of complete extinction for several populations of rare and endangered fish species, such as taimen, Siberian sturgeon, Balkhash perch, Aral and Turkestan barbels. However, in large commercial fishery water bodies, there is a tendency to increasing anthropogenic pressure and decreasing water availability, which can lead to a reduction in favorable habitats (water areas), primarily for rare and endangered fish species, as well as for more widespread commercial fish species in the future. The share of commercially valuable and nutritionally high-priority fish species (walleye, carp, whitefish, catfish, rapeseed) in catches remains low, which requires the intensification of measures to ensure conditions for their natural reproduction, as well as to increase and expand the range of fish species being harvested with the development of a strategy for targeted stock formation and population management to maintain the fish productivity of water bodies.

A positive trend is the pilot implementation of an information system for the traceability of fish products. This system integrates the information systems of government agencies involved in issuing certificates of the origin, thereby verifying the legal origin of fish products. This will help prevent the sale of illegally sourced fish products and thereby prevent illicit trade. In addition, fisheries entities and territorial divisions of the competent authority are registered and operating within the system.

2.5.

Implementation of Effective Measures for the Protection, Restoration and Use of Flora



Assessment of the current situation

The flora of Kazakhstan comprises 13 thousand species, including 5,754 species of higher vascular plants, 5 species of clubmosses (lycophytes), 8 species of horsetails, 26 species of gymnosperms, 35 species of ferns, about 500 species of bryophytes, more than 2,000 species of algae, over 500 species of lichens, and about 5,000 species of fungi. Among vascular plants, 14% of the total number of species are endemic, meaning they are restricted to this territory, which indicates the uniqueness of the flora of the Republic.



The south and south-east of Kazakhstan are characterized by the highest level of species endemism, exceeding 41% of the total number of species in the country. 387 plant species are included in the list of rare and endangered plant species as of 2022.

At least 1,406 species of medicinal plants grow on the territory of Kazakhstan, accounting for one quarter of all vascular plant species in the country's flora, 65 of which are listed in the Red Data Book of Kazakhstan. The reserves of these species are insufficiently studied. Thus, of the 230 species used in official medicine, only 82 species (36%) have assessed raw material reserves. The reserves of medicinal plants are most studied in southern (64%) and eastern (42%) Kazakhstan. In northern Kazakhstan, raw material reserves have been identified for 13% of species, while the proportion of studied medicinal species is significantly lower in Central (5%) and Western (4%) Kazakhstan.



The issue of the representation of botanical diversity within SNPAs requires further analysis and the expansion of inventory studies. The representation of plant species in individual SNPAs does not exceed one quarter of the country's total species diversity. As an example, one can compare the number of higher vascular plants in the state nature reserves of Kazakhstan – the most studied SNPAs with the strictest protection regime, which are guaranteed to have comprehensive vegetation cover descriptions.

The number of recorded plant species varies significantly, ranging from 263 to 1,600 species, i.e., from 4.24% to 25.81% of the flora. This is attributed not only to differences in environmental conditions but also to the degree of scientific study conducted across these territories.



Key issues

The globally significant wild fruit forest ecosystems of the Zhetysu and Ile-Alatau mountain systems are currently under great anthropogenic influence. Conservation and reforestation of these ecosystems can and must be secured by the conservation and restoration of wild populations of forest-forming species – Sivers apple and common apricot. Therefore highly valuable fruit forests must be included in the zones of ecological stabilization of the Ile-Alatau and Zhongar-Alatau State National Nature Parks with enforcement of the protective regimes mandated for these zones by the legislation. These regimes should be supplemented by special measures to prevent genetic erosion of natural populations of apple and apricot trees, and to protect ecosystems from aggressive alien plant species. Along with the protection of fruit forests, their expansion should be ensured through reforestation in the zones of ecological stabilization of national natural parks.

One of the problems having a negative impact on the conservation of biodiversity is the exploitation of valuable medicinal plants, the lack of a systematic harvesting system and regime, and systematic control over recommended and actual volumes of exports of plant raw materials. It is necessary to conduct systematic resource research for periodic reassessment of the current state and update the resource inventory of economically



Caspian Seal, *Pusa caspica*
Photo credit: Assel Baimukanova

significant resource species of medicinal plants. A modern assessment of medicinal plant resources will contribute to strengthening the biological and food security of the country.

In recent decades, the threat to the biological security of the country has been posed by invasive species that can change natural ecosystems to their complete extinction. Their danger is related to hybridization between natural and introduced species. Currently, invasive alien plants are considered to be the main cause of the decline in biological diversity, with serious social and economic consequences.

It is necessary to develop management plans for the regulation of key alien species that threaten plants, plant communities, and associated habitats and ecosystems. The issue of invasive species is addressed in the Forest Code of the Republic of Kazakhstan, as well as in the laws of the Republic of Kazakhstan “On Plant Quarantine”, “On Plant Protection”, and “On Flora”. However, Kazakhstan still lacks a unified database on invasive species, as well as information on ecosystems altered by invasive species, including the most valuable ones.



For the development of collection funds of state botanical gardens, which ensure the conservation of the gene pool of plant resources and, consequently, the ecological and resource security of Kazakhstan, dedicated and continuous state funding is required. The expansion of the network of botanical gardens in Kazakhstan is also a relevant issue, as according to the Global Strategy for Plant Conservation, botanical gardens are assigned a key mission in preserving plant diversity. Kazakhstan has all the necessary components for the functioning of a unified centralized network of botanical institutions based on botanical gardens and dendrological parks, botanical institutions and university departments, as well as non-governmental “green” organizations.

An additional limitation is the absence of institutional mechanisms that incentivize the restoration of vegetation cover. In Kazakhstan, practices such as ecological fees for vegetation loss or bio-offsets – mechanisms requiring the compensation of environmental damage through the implementation of restoration measures – have not yet been implemented. This reduces the ability to mobilise resources for ecological restoration and hinders the development of sustainable models of interaction between business and the state’s environmental policy.

Thus, addressing the challenges of plant conservation and restoration requires a systemic revision of existing approaches, including the development of cartographic and indicator tools, the regulatory specification of assessment and compensation procedures, as well as the introduction of economic mechanisms that ensure the restoration of natural ecosystems.



Trends



In 2023, the new Law of the Republic of Kazakhstan “On Flora” came into force, the main objectives of which are to regulate relations in the field of protection, restoration, and use of flora, as well as to establish the legal framework for the conservation of natural diversity and the gene pool of wild plants and their sustainable use. The implementation of this Law allows: regulating relations in the use of flora and providing conditions for their conservation, reproduction, and sustainable use as a valuable, irreplaceable, and renewable natural resource; planning measures for the restoration of flora not only in technogenically disturbed territories provided for by the Environmental Code, but also on anthropogenically disturbed lands (settlement areas, pastures, fallow lands, etc.) based on the recommendations of scientific and planning organisations; preventing threats of the spread of invasive species through systematic scientific research on inventory, the creation of a unified database, and the assessment of the impact of invasive species on natural ecosystems; and preserving the unique botanical diversity of Kazakhstan in botanical collections and plant genetic resource repositories.



Over the past 10 years, systematic scientific research has been carried out in Kazakhstan on the study, conservation, sustainable use, and reproduction of the country's flora. During this period, the Seed Bank of Kazakhstan's wild flora was established for the first time in the country, currently preserving more than 5,000 seed samples representing 1,300 species of Kazakhstan's flora.

However, despite positive trends in the implementation of projects and programmes focused on studying and conserving Kazakhstan's flora, there are currently risks to the long-term sustainability of such fundamental research. This is due to the fact that these projects are executed under competitive, short-term grant funding cycles of three years. Such conditions do not ensure the stability and systematic nature of work required for the comprehensive study and resolution of issues related to the flora conservation in Kazakhstan.

There are positive trends in the development of approaches transitioning from in situ preservation of populations toward ex situ preservation of the gene pool at cellular and molecular levels.

There is also potential for the adoption and adaptation of the criteria of the International Union for Conservation of Nature (hereinafter referred to as the IUCN) Red List, which is an important tool for assessing the risk of extinction of taxa at the species level due to its clearly defined and traceable procedures. This makes it a useful basis for planning measures for the conservation and restoration of specific species. However, its application in Kazakhstan is currently constrained by insufficient assessment of the regional flora.

The IUCN Red List includes 401 species of higher plants in Kazakhstan, which accounts for 6% of the national flora of approximately 6,200 species. Of these, 21 species are classified as Threatened, 14 species are categorized as Near Threatened, and 333 species are listed as Least Concern (or Lower Risk). At the same time, the flora of Kazakhstan includes, according to different estimates, between 299 and 451 endemic species.



2.6.

Restoration of Degraded Pastures through the Introduction of Sustainable Management and Use Practices and Landscape Planning



Assessment of the current situation

Pasture lands in Kazakhstan are not only the main source of fodder and the spatial basis of livestock production, but also a key habitat for the majority of the country's animal and plant life.

As of 2023 (Summary Analytical Report on the State and Use of Land in the Republic of Kazakhstan for 2023), the area of forage lands amounts to 182.9 million ha, including 178 million ha of pastures (excluding lands used by other states). Of this total, pastures on agricultural lands account for 82.8 million hectares; on settlement lands — 21.6 million hectares; on reserve lands — 62.5 million hectares; on forest fund lands — 6.5 million hectares; on SPNA lands — 3.6 million hectares; and on lands of other special-purpose categories — 1 million hectares. Overall, pasture lands account for 67.7% of the entire land fund used by the Republic of Kazakhstan; natural forage lands as a whole (including hayfields) account for almost 70% of the land fund.

Currently, most of the available livestock is grazed all year round on agricultural pastures, public pastures near villages (lands of settlements) and pastures designated within reserve lands. At the same time, permanent grazing of farm animals is possible only on pastures where there is a watering place for livestock. The area of such watered pastures is 104.7 million hectares (including 82.8 million hectares on agricultural land).

The importance of pasture and, more broadly, natural forage lands for biodiversity is determined by the fact that these lands occupy the majority (almost two-thirds) of the country's territory. The dominant ecosystem types in Kazakhstan, including those that are endemic and subendemic to the Republic of Kazakhstan, exist exclusively or almost exclusively within pasture and natural forage lands. These primarily include all zonal types of steppe ecosystems, most mountain steppe ecosystems, most types of meadows, shrub-steppe ecosystems, all wormwood deserts, and most perennial saltwort deserts (with the exception of saxaul forests).





Greater Flamingo, *Phoenicopterus roseus*
Korgalzhyn Nature Reserve
Photo credit: Alexey Koshkin

On the other hand, Kazakhstan's pasture lands are not only vital for biodiversity conservation; conversely, the biodiversity of steppe, meadow, and desert ecosystems within these lands is critical for the very existence of natural forage lands, as well as for maintaining their productivity and the quality of their output. Of particular importance for ensuring their economic value are the species composition of forage plants, their seasonal dynamics, as well as the activity of soil organisms – from microorganisms to burrowing mammals.

The distinguishing feature of Kazakhstan's natural forage lands is the long history and a vast spatial extent of their use for livestock husbandry. This practice has persisted for many millennia across the entire territory of the country. As a result, the ecosystems used as pastures have already lost part of their original biodiversity in historical past. At the same time, the functioning of these ecosystems has become closely linked to pastoral use. Grazing (and in some cases haymaking) plays a critically important role in the functioning of pasture ecosystems and is necessary for maintaining their key ecological processes.

In February 2024, amendments and additions were introduced to certain legislative acts of the Republic of Kazakhstan on pasture use, including the Land Code and the Forest Code. Thus, the possibility of obtaining land under the regime of temporary gratuitous land use (for a 5-year period) for livestock farming and grazing was abolished. Instead, pasture lands are now allocated for these purposes on a competitive basis. In order to ensure the efficient use of forest fund potential, forestry protection institutions annually inform akimats about forest fund areas where livestock grazing is permitted.

Amendments have been introduced to Article 13 of the Law of the Republic of Kazakhstan "On Pastures", according to which the pasture management and use plan is approved as the main regulatory legal act governing the organization of the rational use of pasture lands. In addition, the regulatory requirements for the procedures for the development and approval of this plan have been strengthened.

Due to the projected acute shortage of water resources in Kazakhstan, it is necessary to assess the potential of groundwater and develop preventive measures for pasture water supply to preserve biodiversity in arid areas.



Key issues

The use of pasture lands and natural forage lands in general is regulated by special pasture legislation, as well as agricultural and land legislation. However, sectoral legislation on pastures lacks provisions reflecting the value and importance of these lands for biodiversity conservation. Accordingly, there are no provisions recognizing the role of biodiversity in ensuring the optimal functioning, maintaining productivity, and sustaining the quality of production of natural forage lands. As a result, biodiversity conservation objectives are not taken into account in the management and use of pasture lands on agricultural lands and within settlement areas.



Illegal grazing of livestock and haymaking are not uncommon on pasture lands within SNPAs and forest fund lands. These activities often lead to conflicts between agricultural producers and nature conservation authorities.

An analysis of the situation has shown that the developed management plans for SNPAs do not include measures for the sustainable management of pasture resources. Similarly, forest management plans of forestry institutions do not provide for measures related to the management and use of pastures within forest fund lands. In this regard, there is an urgent need to develop a pasture management and use plan for forest fund territories and SNPAs.

Due to the uneven distribution of livestock across pasture areas and non-compliance with seasonal grazing regimes in the most intensively used pastures, especially around rural settlements, livestock pressure often significantly (by up to 3-10 times) exceeds recommended standards. This leads to the degradation and reduced productivity of pasture ecosystems and poses a threat to biodiversity both within pasture lands and in adjacent forest fund areas and SNPAs.

There is a trend of increasing areas of overgrazed pastures in the country. In total, 27.1 million hectares of moderately and severely overgrazed pastures are recorded in the Republic, which accounts for more than one quarter of the land used for livestock grazing. As the degree of degradation increases, pastures progressively lose their natural biodiversity, experience a decline in productivity, and are affected by both areal and linear soil erosion processes, while the content of humus and humic acids in the soil decreases. The largest areas of degraded pastures are found in Atyrau (4.1 million ha), Aktope (3.9 million ha), West Kazakhstan (2.5 million ha), Kyzylorda (2.0 million ha), Akmola (1.9 million ha), and Almaty (1.7 million ha) regions.

The share of degraded lands is estimated at 26% of the total pasture area. These areas are particularly vulnerable and require special measures both to halt and reverse degradation processes, as well as to conserve biodiversity.

Subsidizing the use of mineral fertilizers hinders the transition of agricultural enterprises to organic farming, contributing to further soil degradation in arable lands, which in turn leads to the spread of erosion processes to surrounding pasture areas.

There is no systematic work on regulating grazing pressure and restoring pastures. Reversing this trend requires devoting focused attention. This is important for the country's food and environmental security, as well as the development of the carbon market.





Trends

The carbon credit market is actively developing worldwide, built on the monetization of ecosystem services for carbon sequestration by natural ecosystems and the prevention of greenhouse gas emissions from these ecosystems. Forest ecosystems are the most widely recognized in this context; however, in recent years there has been growing global recognition of the importance of similar processes in non-forest pasture ecosystems, primarily steppes and similar landscapes. According to current estimates, grassland ecosystems store 35% of all carbon sequestered in terrestrial ecosystems.

In particular, the key role of carbon sequestration in grassland (pasture) ecosystems lies in the fact that these ecosystems accumulate carbon in soils rather than in woody biomass, as is the case with forests.

The vast area of pasture ecosystems, which exceeds the country's forested area by more than 13 times, also highlights their particular importance as a carbon sink and long-term carbon reservoir in the context of Kazakhstan. Thus, Kazakhstan has significant potential for the development of a carbon credit market generated by steppe and other pasture ecosystems. The development of this market could become an important instrument for the conservation and restoration of steppe and other natural forage land ecosystems.

Digitalization and ecological passporting of pastures for various categories of pasture users, including information on types, productivity, degree of degradation, carbon sequestration capacity, and avoided greenhouse gas emissions, should also become part of the preparatory procedures. This will create a scientifically sound basis for decision-making on the management, use, and restoration of pastures.

Amidst sustained economic growth, Kazakhstan is facing intensifying anthropogenic pressure on natural ecosystems, particularly in areas of resource extraction, infrastructure development, and agro-industrial production. As a result, the country is witnessing habitat fragmentation, vegetation degradation, declining populations of wild animals, and reduced ecosystem resilience to climate-related and technogenic threats.



3

Section

Review of
international
experience

Ili River Delta,
Ile-Balkhash Nature Reserve
Photo credit: UNDP Kazakhstan

3.1.

Development of an Integrated Ecological Network, a System of Specially Protected Natural Areas, and Ecotourism

Effective and innovative management of SPNAs in different countries around the world encompasses a variety of approaches, ranging from the application of modern technologies to engagement of local communities and the creation of unique public-private partnerships, including the development of networks of private protected areas.

Of particular interest is the experience of countries in developing long-term financing programs for protected area systems, known as Project Finance for Permanence (PFP). This financing model brings together the efforts of government and private organizations, non-profit organizations, and donors to mobilize the necessary financial resources and ensure their effective allocation. The PFP model provides for the establishment of trust funds or other long-term mechanisms to sustain protected areas in the future. These may include conservation trust funds or guaranteed revenues streams from designated income sources. The approach has been successfully implemented in Brazil and Canada for the establishment of new protected areas.

A relevant example of the development and launch of the PFP model is the cooperation between the Government of **Mongolia** and the major conservation organization The Nature Conservancy. Signed in April 2024, the agreement establishes a 15-year program to support the network of protected areas in Mongolia with a budget of USD 198 million. Out of this total budget, USD 71 million will be provided through investments from donors and conservation funds, while USD 126.8 million will be generated through guaranteed revenues (for example, payments for the use of natural resources, entrance fees to national parks, etc.). For this purpose, a conservation trust fund was established with a transparent governance mechanism. The program includes activities aimed at involving local communities in the processes of establishing and subsequently managing protected areas, with particular attention given to the protection of water resources.

Despite the relatively short period of development of the international initiative to expand the network of protected areas through OECMs (Other Effective Area-Based Conservation Measures), 15 countries already have experience in adapting this approach at the national level, and a total of 6,463 sites have been identified by countries. These are areas that are not formally designated as state protected natural areas, yet they maintain a protection regime and impose restrictions on certain types of economic activities. Colombia stands out as one of the leading countries in developing an OECM network. The country has formulated a dedicated national roadmap and established a clear process for nominating, verifying, and designating areas as national OECMs. The Ministry of Environment serves as the responsible coordinating authority, and assessments are conducted with the participation of stakeholders, including civil society and scientific organizations.

No distinct legal term was introduced for identifying OECMs. They are considered within the framework of an existing ministerial decree under the category of “additional conservation areas” that meet the OECM criteria. As of the end of 2024, a total of 55 areas had been designated in Colombia, the vast majority of which are indigenous territories.

To achieve the target of protecting 30% of territories by 2030, including through the development of the OECM network, the Ministry of the Environment of **Japan** approved the “Japan’s 30by30 Roadmap” in 2022, which includes the development of a national OECM certification system and was successfully piloted in 2023. By the end of 2024, approximately 100 areas had been identified and approved in Japan, including privately managed protected areas. A similar roadmap was developed and adopted by the Ministry of the Environment of **Peru** in 2024. In most countries, OECMs have included indigenous territories, private protected areas, and military base territories. In **Morocco** and **Cameroon**, certain hunting concessions were included in the list of certified OECMs.

From the perspective of ecotourism development, the centralized, «one-stop-shop» approach utilized by the United States is highly noteworthy. All information, including booking and trip-planning systems, is available on a single website and duplicated across mobile applications operated by the National Park Service. Kenya, with its highly developed ecotourism sector, offers a similarly visitor-oriented experience. The **Kenya** Wildlife Service provides services for all parks. The experience of this country demonstrates how tour organization can reduce pressure on nature and minimize disturbance to wildlife while simultaneously enhancing the visitor experience. Excursions are conducted according to strict rules, and lodges are designed in a local traditional style while providing all essential amenities. Infrastructure in the **United States** differs somewhat from this approach, as it is developed according to a more standardized format, which helps address issues of economic optimization and ensures a certain level of comfort in every park. At the same time, infrastructure is not located in the most scenic areas in order to preserve the visitor’s sense of connection with nature. There are many examples of trail development – from Kenya, where there are no trails but rather unpaved dirt roads with limits on the number of vehicles per day and the number of people per vehicle, to Lake Baikal which features wooden boardwalks. Both approaches minimize pressure on natural ecosystems. The United States also provides a highly instructive example of reservation management – some parks do not require reservations or entry fees, while others that experience excessive tourist pressure require advance reservations for specific dates. In this way, parks prevent exceeding acceptable recreational carrying-capacity limits.

3.2.

Improving the Efficiency of Forest Protection and Regeneration through the Application of Sustainable Forest Management Practices

An interesting example is the experience of the **Russian Federation**, where forest fire protection is carried out by creating mineralized firebreak strips using blasting method, which may be applied in the pine forests of the Irtysh region.

In addition, the experience of Russia and the Republic of Belarus in the marking of forest products for the purpose of combating illegal logging is noteworthy.

In the field of forest protection from pests and diseases, biological methods of forest pest control are increasingly being applied in international forestry practice and should be widely adopted in the forests of Kazakhstan. In combating bacterial wetwood disease in the birch forests of Northern Kazakhstan, the experience of Belarus may be applicable, based on the selection of disease-resistant forms in nature.

For the development of forest regeneration activities, attention should be paid to the experience of countries with highly advanced forestry sectors that have transitioned to the use of planting material with a closed root system (**Finland, Sweden, Germany**, etc.) for forest restoration, grown from selected seeds with improved hereditary characteristics. Such experience has been introduced in Kazakhstan at the forest seed complex of the State Natural Forest Reserve Semey Ormany and will be scaled up in forest enterprises across the country.

In 2026, the construction of such complexes will begin in Almaty, Kostanay, East Kazakhstan, and Abai regions.

For state support of wood processing and logging industries in Kazakhstan, the experience of the Russian Federation and Belarus is considered the most suitable. The Industrial Development Fund (IDF) of the Russian Federation has significantly expanded opportunities for obtaining preferential loans for enterprises engaged in wood processing. First and foremost, this includes the joint financing program with regional IDFs launched at the end of December 2020. The program is called Forestry Industry Projects. Small and medium-sized enterprises wishing to acquire technological equipment for the modernization of their production facilities may participate in the program. Such enterprises are provided with joint preferential loans by federal and regional funds ranging from 20 to 100 million rubles at annual interest rates of 1% or 3%. The loan amount is financed from two budgets: 70% federal funds and 30% regional funds. For the implementation of larger-scale projects, forestry companies may use the existing IDF's "Development Projects" program and obtain loans ranging from 50 to 500 million rubles, also at annual interest rates of 1% or 3%. Under this program, preferential co-financing is provided for projects aimed at import substitution, the production of high-tech civil-use products, and the introduction of modern technologies.



Eastern Pasqueflower, *Pulsatilla patens*
Photo credit: Gleb Bolbotov

The list of equipment eligible under the “Leasing Projects” program has also been expanded. Wood-processing enterprises can lease, through a simplified procedure and at 1% annual interest, any industrial equipment they require, including sorting, sawmilling, drying, crushing, and pressing equipment, machinery for deep wood processing, wood finger-jointing and gluing, as well as equipment for pelletizing and producing pellets and briquettes. Additional benefits are provided for wood-processing enterprises, including leasing of machine tools, harvesters, and forwarders at 1% annual interest. Preferential conditions also apply to auxiliary equipment, including loading and unloading machinery and self-propelled vehicles, such as forklifts and cranes.

In the Republic of Belarus, in order to improve the efficiency of the forestry and wood-processing sectors of the economy, at least 100 km of forestry roads are constructed annually using state budget funds. This experience is particularly relevant for the East Kazakhstan Region, where this issue is most acute.

Forest plantations, also referred to as ‘timber plantations,’ are successfully established and utilized in many countries around the world (**China, Chile, South Africa, Sweden, Finland, Italy, Canada, the United States**, etc.), primarily to meet timber demand, as well as for other purposes. This is one of the important areas of forestry and the use of forest fund lands aimed at expanding forest ecosystems. One of the key aspects of establishing forest plantations is the selection of suitable tree and shrub species. Different regions of the world use various species adapted to local climatic conditions and soils. An important aspect is silvicultural practice, particularly regarding the possibility of establishing irrigated plantations. In some cases, agroforestry is practiced, combining tree cultivation with agricultural crops. International experience in establishing forest plantations demonstrates that they can provide various environmental, social, and economic benefits, but can also have negative consequences, such as the displacement of native plant communities and adverse impacts on biodiversity. Therefore, the establishment of forest plantations should be approached responsibly, taking into account potential risks and benefits.

3.3.

Improvement of the System for Monitoring, Protection, and Sustainable Use of Wildlife

Different countries have different wildlife management systems, depending on land ownership rights, traditions, and other factors, upon which national and regional legislation is structured accordingly. Thus, the countries of the European Union have adopted the Nature Restoration Law, which is a key element of the EU Biodiversity Strategy and establishes binding targets for the restoration of degraded ecosystems, including biodiversity. The Birds Directive is specifically aimed at bird conservation in the EU and, among other provisions, completely prohibits spring hunting, with only a few exceptions. The EU also enforces a set of regulations to combat invasive alien species (IAS).

In the **United States**, one of the most important federal laws is the Endangered Species Act (ESA). Beyond the ESA, many states have their own biodiversity protection regulations, including rules on wetland protection, wildlife management, and the protection of rare and endangered species. In North and Central America, intergovernmental agreements are effective in conserving migratory birds and their habitats.

With regard to wildlife ownership, for example, in **Mongolia** wildlife belongs to the state, but various government institutions are vested with wildlife management authority. In most European countries (**England, Germany, Austria, the Czech Republic**, and others), ownership rights to wildlife are linked to land tenure. Consequently, hunting quotas for game species are determined by landowners and hunting management organizations.

The legislation of **EU** countries and **Armenia** stipulates the responsibility of landowners to conserve rare animal species inhabiting their lands.

In the countries of Central Europe (the **Czech Republic, Slovakia, Austria**, and partially **Germany**), as well as in the **United Kingdom**, hunting enterprises are generally located on privately owned lands. The right to manage hunting activities is granted either to the landowners themselves or leased to hunting groups and associations. Alongside open hunting grounds, there are also enclosed estates (game enclosures and parks) where game animals are maintained and bred for subsequent hunting use. In **Türkiye, Ukraine, Belarus, Russia, Western and Central Asia, Canada**, and **African countries**, the majority of hunting enterprises are organized on state-owned lands under various forms of land tenure. In many countries, hunting enterprises and game farms coexist. Farms breed both game species and rare and endangered animals, which are privately owned by the farm owners; the owner determines the conditions for the use of these animals. In Kazakhstan, despite the fact that most land belongs to the state, the experience of European countries is quite applicable to privately owned lands and areas of intensive agricultural use.

Wildlife protection in European countries is entrusted to the police, whereas in most countries of the Commonwealth of Independent States, it is the responsibility of specialized authorities. However, increasing array of enforcement rights is being transferred to the ranger services of hunting concessions or to specialized security services hired by landowners. In many countries, legislation provides for public participation in wildlife management, including direct involvement in conservation activities.

Kyrgyzstan has adopted progressive legislative norms under which 40% of resource-use fees are returned to hunting operators for implementation of biotechnical measures, 25% is transferred to local budgets, and 35% to the authorized government body. The country also has an institution of public inspectors who, like hunting rangers, receive remuneration amounting to 30% of collected fines and claims. Incentives for identifying cases of illegal hunting are also applied in **Uzbekistan**. This practice also existed in the former Kazakh Soviet Socialist Republic. As a result, hunting rangers and public inspectors identified more poaching violations than state inspectors.

In **Mongolia**, non-governmental organizations are also vested with wildlife protection authority. In the **United Kingdom**, the non-governmental Royal Society for the Protection of Birds (RSPB) detects more cases of illegal wildlife harvesting than the police (the organization identifies violations, collects primary evidence, and transfers the materials to the police for procedural decisions).

Virtually all countries require mandatory training for hunters and ranger services, with particularly stringent requirements observed in EU countries. Nature enthusiasts play an enormous role in monitoring rare and common animal species (primarily birds) in Europe by submitting observation data through widely used internet portals and mobile applications.

The following examples illustrate best practices in the implementation of conservation measures in industry.

In **Spain**, a high-speed railway line was planned to pass through natural areas included in the Natura 2000 network (Natura 2000 Viewer). Under the Strategic Environmental Assessment (SEA) Directive and the Habitats Directive, detailed environmental assessments were carried out, making it possible to avoid construction in the most vulnerable areas and to implement compensatory measures. The outcomes included the preservation of valuable ecosystems, minimization of negative impacts on biodiversity, and the successful completion of the infrastructure project.

The Horns Rev 2 offshore wind farm renewable energy project in **Denmark** involved the construction of one of the largest offshore wind power plants in Europe. Under the Environmental Impact Assessment (EIA) Directive and the EU Marine Strategy, extensive studies of impacts on the marine ecosystem were conducted, and measures were developed to protect marine species and account for bird migration routes. The results included the successful integration of the wind farm into the natural environment, minimization of impacts on biodiversity, and a significant contribution to the development of renewable energy sources.

3.4.

Conservation of Ichthyofauna Biodiversity and Increase of Natural Populations of Commercial Fish through the Reduction of Pressure on Natural Fish Resources

In developing systems for documenting and controlling invasive (alien) species, attention should be paid to the experience of the European Union, which enforces a comprehensive set of rules to combat invasive alien species regulated under the IAS framework.

Under the EU Regulation on Invasive Alien Species, the European Union seeks to prevent the introduction and spread of invasive alien species and to minimize their impacts on biodiversity and ecosystem services.



Brown Bear, *Ursus arctos*
Photo credit: Alexander Klimenko

The Rhine River restoration project is an example of the environmentally sound implementation of conservation intervention. Industrialization and dam construction led to severe environmental problems throughout the Rhine River basin. Under the Environmental Impact Assessment (EIA) Directive and the Habitats Directive, projects were implemented to restore the river's natural flow, construct fishways, and improve water quality. As a result, biodiversity improved significantly, many fish species, including salmon, returned, and wetlands were restored.

3.5.

Implementation of Effective Measures for the Protection, Restoration, and Use of Flora

In addition to national biodiversity conservation strategies, some countries have separate national plant conservation strategies. Among these countries is the **United Kingdom**, where the program Plant Diversity Challenge – the UK's Response to the Global Strategy for Plant Conservation has been adopted. In the **Republic of Belarus**, the plant conservation strategy became part of the National Biodiversity Conservation Strategy approved by the Government of the country.

In March 2013, the South African National Biodiversity Institute (SANBI) organized a workshop to develop **South Africa's** National Plant Conservation Strategy. Mexico's Plant Conservation Strategy for 2012–2030 was launched in November 2012 by the **Mexican** Commission for the Knowledge and Use of Biodiversity (CONABIO). The Caucasus Plant Red List Authority, established under the auspices of the IUCN Species Survival Commission, developed a regional plant conservation strategy whose objectives correspond to those of the Global Strategy for Plant Conservation (GSPC) for 2011–2020.

Within the framework of the plant conservation strategy, Türkiye was the first to identify specific areas critical for plant preservation. One of the most well-known programs became the Important Plant Areas initiative. The designation of these Important Plant Areas (hereinafter – IPAs) is intended to facilitate the optimization of the protected area network by enabling conservation efforts and financial resources to be focused on biodiversity hotspots. This approach has received the most widespread support worldwide. In European countries, the organization Planta Europa has been established, bringing together independent non-governmental organizations, governmental organizations, and private individuals working jointly to conserve European wild plants and fungi. The Kazakhstani Institute of Botany and Phytointroduction joined this organization in 2015 and has been developing cooperation in the implementation of joint projects aimed at creating a network of IPAs in Kazakhstan as part of the global IPA network, laying the groundwork for the establishment of new protected areas.

Considerable efforts are being undertaken worldwide to conserve endangered plant species in botanical gardens and nurseries (*ex-situ*). Despite the successes of this approach, it should be remembered that only conservation under natural conditions allows the preservation of the genetic diversity of populations. Therefore, conservation in collections should be regarded as a complement to conservation in the wild.

3.6.

Restoration of Degraded Pastures through the Introduction of Sustainable Management and Use Practices

The experience of some countries with regulated grazing pressure on SPNAs is of interest, particularly in steppe zones, since natural steppe ecosystems were formed under the influence of wild herd-forming ungulates (which are now extinct or have become very scarce). To maintain their natural balance, these ecosystems require moderate grazing pressure. This reduces the amount of dead plant material in the grass cover, enriches the soil with manure, and consequently increases its capacity to remove and retain carbon. This approach is widespread in the prairies of U.S. national parks and in certain steppe national and natural parks in [Russia](#).

Great attention is given to sustainable pasture management approaches in neighboring Kyrgyzstan. Pursuant to the Law “On Pastures,” authority over for pasture management was decentralized and returned to local pasture user associations. Under the Law, 454 pasture committees were established, responsible for monitoring pasture conditions, developing pasture management plans, issuing pasture tickets, and managing revenues generated from pasture use. Pasture use is carried out in accordance with the community pasture management and use plan and the annual pasture use plan. Responsibility and oversight for the management of state pasture lands, except for the right of disposal, are exercised by local self-government bodies, which may delegate management and utilization powers to pasture user associations.

In 2024, [Kyrgyzstan](#) adopted a separate Pasture Development Program for 2024-2029, which focuses on three priority areas:

- 1) regular training sessions and seminars for members of pasture committees and pasture users, contributing to improved competence in sustainable pasture management;
- 2) the use of automated management systems and methods, enabling more effective monitoring of pasture conditions and prevention of degradation;
- 3) restoration of roads, bridges, and watering points on remote pastures, which will encourage their use and reduce pressure on village-adjacent pastures.

The development of carbon offsets in grassland (pasture) ecosystems is accelerating globally and represents an optimal approach for Kazakhstan to prevent the conversion of steppe ecosystems that would lead to the release of accumulated soil carbon. The premise of these offset schemes is that tillage and other agricultural practices are the only disturbances capable of causing the rapid emission of soil carbon accumulated by a grassland ecosystem. Preventing the conversion of grassland ecosystems is globally recognized as a valid method of preserving carbon sinks. Moreover, this approach, in addition to contributing to climate protection, is the one that effectively ensures the conservation of biodiversity in pasture lands. Such offset schemes have become widespread in the **United States**, where, as in Kazakhstan, large areas of grassland ecosystems remain and are used for low-intensity livestock grazing. Since 2019, several such programs have appeared and are currently represented on the U.S. carbon market through various land trusts and their associations (Avoided Grassland Conversion Carbon Offset Program of the Land Trust Alliance, Avoided Grasslands Conversion Carbon Credits of the Texas Agricultural Land Trust & AgriCapture Co, and others). Projects of this type fall under the category Avoided Conversion of Grasslands and Shrublands (ACoGS) and belong to the group of Agriculture, Forestry, and Other Land Use (AFOLU) standards, together with categories more familiar in Kazakhstan, such as Reduced Emissions from Deforestation and Degradation (REDD) and Agricultural Land Management (ALM).

At present, VERRA, the global leader in the development and advancement of carbon offset standards, is updating standard VM0032 – Methodology for the Adoption of Sustainable Grasslands through Adjustment of Fire and Grazing, which was developed in 2015 for projects of this type. In July 2024, VERRA launched a pilot project in Mongolia aimed at adapting the standard and implementing measures to support the development of a national voluntary carbon market.

4

Section

Vision for the conservation and sustainable use of biodiversity



The vision for the conservation and sustainable use of biodiversity in Kazakhstan is based on the following strategic priorities:

1. DATA-DRIVEN BIODIVERSITY CONSERVATION MANAGEMENT:

collection of all data relevant to biodiversity conservation, its analytical processing, and dissemination among all stakeholders through a unified information platform.

2. BIODIVERSITY-INCLUSIVE SPATIAL PLANNING:

development of a geographic information system reflecting key biodiversity components and/or biodiversity conservation objectives linked to geographic coordinates and accessible to a wide range of stakeholders.

3. TRANSITION FROM AN APPROACH FOCUSED ON MAINTAINING THE BIODIVERSITY STATUS QUO:

a genuine understanding of the economic value of biodiversity and broad awareness of the objectives and challenges related to biodiversity conservation.

4. TRANSITION FROM AN APPROACH FOCUSED ON MAINTAINING THE BIODIVERSITY STATUS QUO

to an approach aimed at achieving Biodiversity Net Gain.

5. EFFECTIVE ENGAGEMENT OF ALL STAKEHOLDERS

in the processes required for the conservation and sustainable use of biodiversity, with coordination of government stakeholders through a high-level interagency Coordinating Council.

6. CONSOLIDATION AND EFFECTIVE UTILIZATION OF AVAILABLE FINANCIAL RESOURCES,

as well as the identification and mobilization of new funding sources to support measures for the biodiversity conservation and sustainable use.

Thus, it is envisaged that strategic government decisions on economic and investment policy will be accompanied by a biodiversity cost-benefit analysis. The priorities of the State's economic policy should be the conservation and sustainable use of biodiversity as a key national asset.

At the same time, taking into account the constitutional reform carried out in 2022, which enshrined the ownership of flora, fauna, and other natural resources by the people, it is necessary to cultivate a “sense of ownership” paradigm among citizens toward biodiversity. Such a mindset is rooted in a clear understanding of the direct and indirect economic benefits of biodiversity. Achieving this objective will be facilitated by increasing public awareness of biodiversity challenges and the importance of its sustainable use.

Within the emerging vision for biodiversity conservation and sustainable use, businesses are tasked with expanding and deepening the coverage of Environmental, Social and Governance (hereinafter – ESG) reporting across economic sectors. For example, compliance by business entities with ESG principles should be a determining factor in decisions made by second-tier banks regarding the allocation of financial resources (loans). Ultimately, this should lead to restrictions on bank financing for projects that involve direct or indirect harm to biodiversity.

This reflects an approach based on the economic disincentives of activities that negatively affect biodiversity.

The implementation of the above vision across specific areas will be achieved through the following pathways:

4.1.

Development of a Climate-Resilient Ecological Network, a System of Protected Areas, and Ecotourism

Kazakhstan’s ecological network will be expanded by increasing the area of protected areas to 12.5% of the country’s total territory, as well as by incorporating other conservation areas with different protection statuses, provided that they are managed effectively. The active and sustainable development of ecotourism will contribute not only to nature conservation but also to environmental education and public awareness. Environmental education will become widely integrated into the country’s education system, playing a key role in fostering an environmental culture among citizens.

4.2.

Improving the Efficiency of Forest Protection and Regeneration through the Application of Sustainable Forest Management Practices

By applying the existing scientific base and further developing it, drawing on extensive experience in forest management under harsh forest-growing conditions, studying and adapting advanced global forestry technologies, improving personnel training, and

ensuring stable and adequate financing of the sector over the ten-year implementation period of the Action Plan of the Concept, it is planned to achieve the following:

- the area affected by forest fires, despite the number of fire outbreaks, will be reduced, with the average area of a single fire not exceeding 0.5 ha by 2035;
- in combating forest disease and pest outbreaks, predominantly biological control methods will be applied, and the affected area will not exceed 60 thousand ha per year;
- the volume of illegal logging will be minimized;
- by increasing forest planting volumes, including the use of planting material with a closed root system grown from seeds with improved genetic traits, it will be possible to achieve standard survival rates and, by placing under protection previously unaccounted forests, significantly increase the country's forested areas, reaching a forest cover of 5.2%;
- state support for the development of the logging and wood-processing industries will contribute to more rational use of available timber resources and will play a significant role in import substitution in the timber market;
- by improving the system of personnel training and professional development, the sector will be staffed with qualified specialists with relevant education. The growth of human capital in the industry is a key condition for the successful conservation and expansion of Kazakhstan's forests, enhancing their ecological and resource potential, and ultimately ensuring a favorable environmental quality for people.



4.3.

Improvement of the System for Monitoring, Protection, and Sustainable Use of Wildlife

The wildlife of Kazakhstan will exist in a sustainable manner, ensuring the full functioning of all ecosystem types and meeting the economic, aesthetic, and other needs of the country's population.

Wildlife conservation imperatives will be carefully considered in the design and planning of all types of infrastructure development, including urban planning. The mortality rate of birds on power lines and other energy infrastructure will be reduced.

Hunting management will develop as a fully-fledged economic sector, managed efficiently to ensure the sustainable use of game species and the conservation of rare species within designated hunting areas, while also promoting game breeding and hunting tourism.



Lady's Slipper Orchid, *Cypripedium calceolus*
Photo credit: Gleb Bolbotov

Wildlife conservation will become an attractive employment sector and will be supported with qualified personnel both in government institutions and in hunting concessions, as well as necessary material and technical resources.

Modern technologies for wildlife research and monitoring will be widely applied, using best international practices. Key valuable and rare species will be integrated into the state monitoring and population management system. Digitalization will be implemented to the maximum extent possible.

Populations of rare and endangered species will be stabilized or increased, thereby reducing the number of threatened species and enabling the delisting from the Red Data Book. The numbers of saker falcon, steppe eagle, and other raptor species will grow. New subpopulations of the kulan, Bukhara deer, Przewalski's horse, snow leopard, and other species will be established or expanded. The reintroduction of the tiger will be initiated. Saiga populations, as a valuable resource species, will be maintained at a consistently high level and managed with consideration for the interests of agriculture and local communities.

A Red List will be introduced to assess the conservation status of the maximum possible number of fauna species in Kazakhstan according to IUCN criteria, and the Red Data Book will be updated on a regular basis.

In order to improve the effectiveness of state policy in the field of wildlife conservation, biodiversity considerations will be integrated into strategic, territorial, and sectoral planning. Approaches aimed at preventing biodiversity loss at pre-construction stages will be introduced, including spatial mapping of risk zones and consideration of migration routes, habitats, and biologically sensitive areas.

Regulatory and methodological documents will be developed and implemented to ensure the mandatory integration of biological criteria into Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), and national urban planning policy. The introduction of indicative and post-project wildlife population monitoring, the creation of a digital infrastructure for spatial analysis, and strengthened interagency cooperation are also planned.

The development of biodiversity-positive infrastructure and sustainable agricultural practices will be carried out with due regard to maintaining ecological connectivity and ecosystem functionality. Mechanisms for compensating lost ecosystem components will also be introduced, along with expanded environmental reporting requirements for business entities and participation of private sector and the scientific community in pilot and restoration projects.

4.4.

Conservation of Ichthyofauna Biodiversity and Increase of Natural Populations of Commercial Fish through the Reduction of Pressure on Natural Fish Resources

The achievement of objectives in this area will be ensured through the application of a scientifically based set of measures aimed at restoring and conserving the habitat of ichthyofauna and commercial fish species, preserving the genetic resources of fish stocks, and improving the activities of state organizations responsible for biodiversity conservation in this field.

A cryobank will be established for the preservation of genetic material of valuable, rare, and endangered aquatic organisms. The qualifications of state inspectors and employees of state fishery enterprises and institutions will be enhanced, with annual training coverage of up to 20%.

Feasibility studies, design and estimate documentation will be developed, and existing state fish breeding enterprises will be modernized with the development and implementation of new technologies to expand the range of fish species used for stocking programs.

4.5.

Implementation of Effective Measures for the Protection, Restoration, and Use of Flora

The flora of Kazakhstan is preserved both in natural habitats and in the collections of botanical gardens and seed banks. Regular monitoring and cadastral appraisal will enable the effective development of measures for the conservation and sustainable use of plant resources. As a result of the cadastral appraisal, the species composition of plant resources will be determined across seven regions covering a total area of 1,289,435 square kilometers. The identified Key Botanical Areas and genetic reserves will serve as an important basis for the protection of key ecosystems and rare species. An inventory of invasive species will be conducted, and a monograph listing alien species of the Republic of Kazakhstan will be published.

To ensure the sustainable use and conservation of plant resources, the development of a regulatory, scientific-methodological, and digital framework in this field will be ensured. Priorities will include the development of mechanisms for assessing impacts on vegetation, establishing procedures for calculating and compensating losses, and introducing obligations for the restoration of degraded areas within project activities.

Measures will be implemented to create digital cartography of vegetation cover, linked to ecosystem types, levels of degradation, and sensitivity to anthropogenic pressures. Spatial ecological risk zoning will make it possible to take vulnerable natural complexes in steppe, desert, and floodplain landscapes into account in project planning and urban development documentation.

The introduction of vegetation condition indicators and thresholds for ecological carrying capacity is envisaged, along with the establishment of restoration standards and the institutionalization of biodiversity offset mechanisms, environmental fees, and other incentive-based instruments. The integration of restoration activities into state development programs will also be ensured, with a priority given to nature-based solutions. Provisions are also made to expand the participation of business and the non-governmental organizations in pilot projects aimed at restoring vegetation cover and preserving ecosystem functions.

4.6.

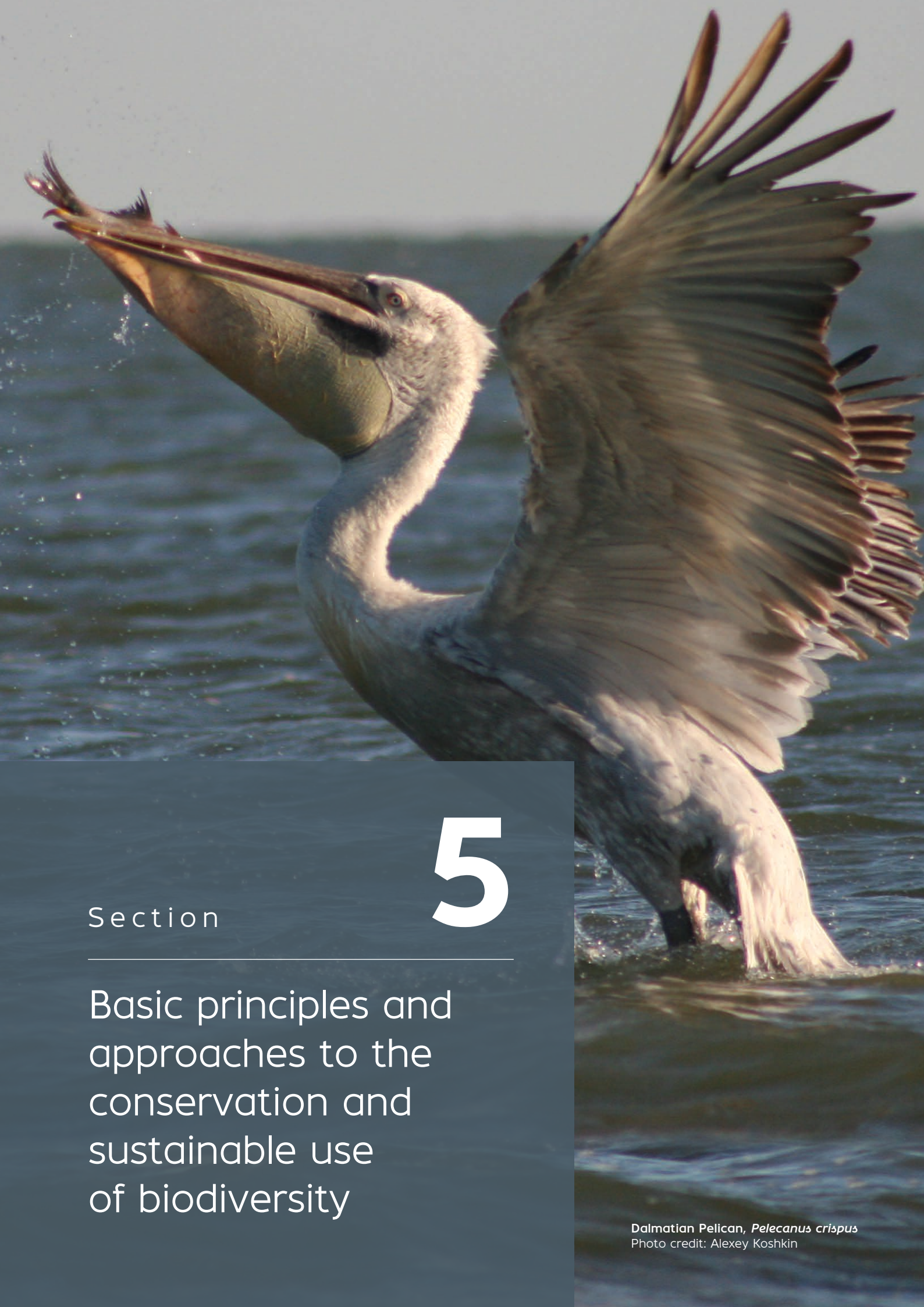
Restoration of Degraded Pastures through the Introduction of Sustainable Management and Use Methods

Degraded pastures will be restored through the implementation of targeted actions for the accelerated rehabilitation of degraded forage lands, the enhancement of carbon biosequestration, and the conservation of biodiversity. Innovative technologies for the sowing/planting of drought-resistant arid and other crops will be applied, along with the organization of anti-erosion pasture rotation systems and other measures. 'Green' financing mechanisms will be introduced to support measures aimed at restoring pasture productivity. The capacity and practical skills of pasture users will be strengthened in relation to the conservation of the ecological integrity of pasture ecosystems and the country's biodiversity in the present and future.

4.7.

Creation of a National System for the Collection and Monitoring of Data on Financing Biodiversity Conservation Measures

Accurate data on biodiversity financing will make it possible to assess the contributions of the private sector, non-governmental organizations, international institutions, and industry, thereby ensuring effective resource planning and the attraction of additional investments. These measures contribute to increased transparency of financial flows, support sustainable development, improve management decision-making, and strengthen cooperation with partners.



5

Section

Basic principles and
approaches to the
conservation and
sustainable use
of biodiversity

Dalmatian Pelican, *Pelecanus crispus*
Photo credit: Alexey Koshkin

The implementation of the Concept is based on the following key principles:

PRINCIPLE OF UNITY, INTEGRITY, CENTRALIZATION, AND COHERENCE

unity in the organization and management of the biodiversity management system of the Republic of Kazakhstan, unity in the procedures for biodiversity management, and consistency of biodiversity-related legislation.

PRINCIPLE OF SUSTAINABLE DEVELOPMENT

decisions and actions taken within the framework of the implementation of this Concept are aimed at ensuring the sustainable state and development of the Republic of Kazakhstan and humanity as a whole.

PRINCIPLE OF ADAPTIVE MANAGEMENT

management that takes into account the uncertainties associated with climate change.

PRINCIPLE OF HUMAN AND RESOURCE CAPACITY

identifying and securing of funding sources, human capital, and other material and intangible resources required to achieve the established goals and objectives.

PRINCIPLE OF EFFECTIVENESS AND SUFFICIENCY

achievement of goals, objectives, and performance indicators with the minimal expenditure of resources, while ensuring the full and sufficient execution of the set targets, tasks, and activities.

PRINCIPLE OF RESPONSIBILITY

responsibility of all participants involved in the conservation and sustainable use of biodiversity.

PRINCIPLE OF TRANSPARENCY AND PUBLIC ACCESSIBILITY

mandatory dissemination of information on the goals, objectives, and implementation of the Concept for the Conservation and Sustainable Use of Biodiversity of the Republic of Kazakhstan, including in a clear format for the general public.

To achieve the goals and objectives of the Concept, the following approaches/solutions will be applied across the respective areas:

5.1.

Institutionalization of Approaches to the Conservation and Sustainable Use of Biodiversity

Building an institutional foundation for the conservation and sustainable use of biodiversity requires a fundamental rethinking of the role of biodiversity, in both substance and form.

First and foremost, it is proposed to establish a new paradigm of thinking: Biological diversity is the foundation of the state sovereignty of the Republic of Kazakhstan.

One of the fundamental components of the state sovereignty of the Republic of Kazakhstan is the exclusive right of ownership over land, subsoil resources, water, forests, flora and fauna, and other natural resources located within the territory of the country, as well as their use for ensuring the life and well-being of the people of Kazakhstan. This principle was enshrined in Article 9 of the Declaration on State Sovereignty adopted by Kazakhstan on October 25, 1990.

According to paragraph 3 of Article 6 of the Constitution of the Republic of Kazakhstan, land and its subsoil, waters, flora and fauna, and other natural resources belong to the people. The State exercises the right of ownership on behalf of the people.

At the same time, the right of ownership also entails the obligation of the State to take all necessary measures to protect the ownership rights of the people of Kazakhstan over the above-mentioned assets. These provisions were affirmed in Regulatory Resolution No. 20-NP of the Constitutional Court of the Republic of Kazakhstan dated July 11, 2023.

Thus, issues related to the conservation and sustainable use of biological diversity (biodiversity) are not merely operational tasks of government bodies. Instead, they constitute paramount and critically important existential tasks of the people of Kazakhstan – as the sole and rightful owners of all natural resources – and of all branches of government, to which the relevant powers and responsibilities have been delegated.

One of the fundamental approaches to the conservation and sustainable use of biodiversity is fostering a «stewardship mindset» (the paradigm of an owner) toward biodiversity among the citizens of Kazakhstan, along with establishing a clear association between state sovereignty and biodiversity preservation.

An example of a measurable indicator of a shift in this paradigm could be the level of awareness among citizens of Kazakhstan regarding climate change issues and their threatening consequences both for humanity as a whole and for Kazakhstan. This assumption is based on the premise that if an individual systematically receives information about various environmental issues from different sources, including information generated by government bodies and messages regarding government efforts to address climate change-related challenges, such an individual is more likely to be open to, and interested in, independently seeking out related information, at least in the media. Consequently, such an individual cannot remain uninformed about biodiversity issues in some capacity.

The above-mentioned indicator was the subject of a decade-long study conducted by the Desenta Public Foundation in 2012, 2020, and 2022, commissioned by UNDP. The level of respondents' awareness of climate change issues was as follows:

2012 year – 51 %;

2020 year – 63 %;

2022 year – 49,05 %.

Thus, considering the dynamics of this indicator over a ten-year period, it can be assumed that achieving an awareness level exceeding 90% could serve as a measurable and qualitative indicator of a shift in the environmental mindset of Kazakhstan's citizens.

Secondly, a linguistic reframing of the concept of 'biodiversity' appears necessary.

From the perspective of linguistics and cognitive psychology, the term 'biodiversity' is a typical example of a scientific borrowing that, despite its formal precision, suffers from low semantic transparency for the general public. Unlike words such as 'forest,' 'animals,' 'nature,' or 'life,' it does not evoke an immediate visual or emotional association for most people. As a result, the term does not generate empathy and therefore does not motivate action. It sounds detached and abstract, even when referring to the extinction of living organisms.

Furthermore, 'biodiversity' is a compound term of Latin origin that belongs to scientific discourse rather than everyday language. Its morphological structure is relatively complex: 'bio' (life) + 'diversity' (multiplicity of forms), which already implies a cognitive burden above the average level. For non-specialists, it is easily confused with other similar-sounding but conceptually different terms (such as 'ecosystem,' 'gene pool,' or 'biome'), leading to blurred conceptual boundaries and misunderstanding of the term itself.

It is also important to consider that the term does not denote a specific object or action. It is an abstract category encompassing everything from microorganisms to coniferous forests, from genes to entire ecosystems. As a result, the general public does not form a clear mental image with which they can identify or for which they can be motivated to act. This reduces its mobilizing potential in public and political discourse: terms that do not evoke an emotional response do not become slogans or brands.

Thus, the very linguistic framing of the concept of 'biodiversity' works against the goal of its popularization. To promote nature conservation ideas more effectively, it is advisable to use concepts with stronger visual and emotional resonance, taking into account the cultural characteristics and traditions of the population.

It is considered appropriate to retain the term 'biodiversity' in legislative and regulatory texts while simultaneously developing the conditional brand Zher-Ana for active use in law enforcement practice, educational activities, and public outreach, with the gradual incorporation of the concept of Zher-Ana into selected state planning documents and official reports of government bodies.



The proposed measures are fully aligned with the approaches set out in one of the principal international documents on biodiversity conservation – the Kunming-Montreal Global Biodiversity Framework. In this document, the words ‘Mother Earth’ are used five times throughout the text.

Moreover, the definition of ‘Mother Earth’ provided in footnote 13 to subparagraph (f) of Target 19 is fully consistent with the traditional understanding of this concept within Kazakhstani society:

“Mother Earth-centered actions: an ecocentric and rights-based approach that enables actions aimed at ensuring harmonious and complementary relationships between people and nature, promotes continuity among all living beings and their communities, and prevents the commodification of Mother Earth’s ecosystem functions”.

5.2.

Integrated Development of a Unified Ecological Network

An ecological network is a system of SPNAs of various categories and types interconnected through ecological corridors and organized with due consideration of the natural, historical-cultural, and socio-economic characteristics of a region. The integrated development of Kazakhstan’s ecological network as a unified and interconnected system is one of the priority objectives of this Concept.

During the implementation of the Concept, the system of SPNAs will be actively developed, including the expansion of existing protected areas with legal entity status. Kazakhstan’s network of conservation areas will be transformed to address climate change-related challenges through systematic expansion and adaptive management. The network will protect climate refugia, facilitate species migration, and maintain ecosystem integrity under changing environmental conditions. Particular attention will be paid to improving SPNAs management through the implementation of effective management plans for all protected areas, enhancement of legislation governing ecological corridors, and strengthening the capacity of protected area personnel. Special management plans will be developed for the conservation of key wetlands.

By 2035, the establishment of new protected areas with legal entity status and the expansion of existing ones are planned. In particular, this includes the establishment of the Zhaiyq Ormany State Nature Reserve in the West Kazakhstan Region for the conservation of river floodplain ecosystems; the Aral State Forest Nature Reserve in the Kyzylorda Region to further continue afforestation efforts on the dried bed of the Aral Sea; and the expansion of existing protected areas for the conservation of coniferous and deciduous forests of the Kokshetau Uplands and the development of ecotourism. It is also planned to expand the territory of the Ustyurt State Nature



Ill Barberry, *Berberis illensis*
Photo credit: Viktoriya Kovshar

Reserve to conserve populations and habitats of the Ustyurt mouflon, as well as the Itbalygy State Nature Reserve in the Mangystau Region, taking into account the impacts of climate change and anthropogenic pressures on the Caspian Sea.

One of the most effective mechanisms for ensuring financial support for the development of the ecological network is the promotion of ecotourism.

To stimulate ecotourism and strengthen nature conservation, amendments will be introduced to legislation regulating visitor numbers within SPNAs. A pilot project on recreational carrying-capacity management will be implemented to develop mechanisms for controlling visitor flows. As part of efforts to promote biodiversity conservation and sustainable use, as well as to support ecotourism development, informational visitor centers will be established. In addition, a unified information platform will be launched, covering all aspects of ecotourism, including activities within SPNAs – from environmental education and awareness-raising to visitor management and monitoring compliance with legal requirements.

5.3.

Improving the Efficiency of Forest Protection and Regeneration through the Application of Sustainable Forest Management Practices

In the area of forest protection against fires and illegal logging, emphasis will be placed on expanding the use of digital technologies, including early fire detection systems, geographic information systems, remote sensing technologies, timber traceability and marking systems, as well as the use of unmanned aerial vehicles. Measures aimed at reducing forest fire susceptibility will be implemented through tending operations in young stands and other silvicultural treatments designed to create fire-resistant forest plantations around populated areas.

Forest protection measures against pests and diseases will be carried out using biological methods, including the application of entomophages reared under laboratory conditions.

In the field of forest regeneration and afforestation, the scale of forest planting activities will be increased, including through the use of planting material with a closed root system grown from seeds with improved genetic characteristics. The establishment of a permanent forest seed base will continue in accordance with forest seed zoning requirements for major forest-forming species. The prioritization of forest plantation fund development will be determined based on the ecological value of forests, including logged and burned areas, green belts around settlements, river basin catchment areas, and erosion-prone lands. To increase financing volumes, forest offset projects will be implemented.



Sustainable forest use with respect to timber resources will be promoted through the improvement of final harvesting practices, as well as by increasing the harvesting and processing of low-grade softwood and hardwood timber through state support measures for logging and wood-processing enterprises.

The improvement of regulatory legal acts governing such forms of forest use as the placement of beehives and apiaries within the state forest fund, as well as the establishment of private forest plantations and forest nurseries, will facilitate the development of these activities. This, in turn, will have a positive impact on bee populations – the primary pollinators of flowering plants – and contribute to the expansion of the private forest estate.

A systematic review of approaches to the training, professional development, and day-to-day organization of the work of forestry personnel and SPNAs staff is considered necessary. In particular, it is recommended to adopt onboarding and training approaches for newly recruited personnel based on the experience of U.S. national parks. For example, a newly appointed employee is provided with a guide outlining tasks by day, week, and month, specifying what should be completed and studied on the first working day, during the first working week, and within the first month, identifying whom to contact on specific issues, and providing a list of training videos covering the most critical aspects of the job. It is also necessary to replicate the successful experience of applying the SMART system, which has been piloted in a number of SPNAs, by incorporating requirements for its use into the legal acts regulating the activities of the relevant services.

5.4.

Improvement of the System for Monitoring, Protection, and Sustainable Use of Wildlife

Wildlife is regarded as a key component of ecosystems and a valuable renewable natural resource. The proposed measures are aimed at its conservation at the species, population, and genetic levels, the recovery of threatened species, and the provision of rational and sustainable use in the interests of the people of Kazakhstan, while taking into account the development of agriculture and other sectors of the economy.

Efforts to conserve and restore populations of rare and endangered wild animal species will continue, including the snow leopard, Caspian seal, goitered gazelle, Bukhara deer, kulan, all subspecies of argali, and the Ustyurt urial. New sustainable populations of kulan and Bukhara deer will be established, breeding centers for argali will be created, pilot projects on the reintroduction of the snow leopard will be undertaken, and work on tiger reintroduction will continue.



Stone Marten, *Martes foina*
Photo credit: Saltore Saparbayev

The conservation of the Caspian seal will be ensured at a level not lower than the minimum sustainable population of 260,000 individuals through regular monitoring, the use of new technologies, and the expansion of international cooperation.

The effectiveness of the state nature protection system will be enhanced through staff capacity building, improved material and technical resources, digitalization, and consideration of the possibility of providing performance-based bonuses as a share of recovered compensation payments for damage caused to wildlife.

A biodiversity monitoring system will be established. Information will be accumulated and analyzed by an inventory and monitoring unit created within a subordinate organization of the authorized body. Unified methodologies for the census and monitoring of key animal species and groups will be refined or developed and approved for nationwide application. Population assessments and monitoring systems will be established for the saker falcon, golden eagle, steppe eagle, bear, wolf, jackal, mountain amphibians (Semirechye salamander and Central Asian frog), and other key species, enabling their inclusion in the state statistical reporting system, population monitoring schemes, and management frameworks supported by regular scientific research.

New technologies for wildlife and habitat monitoring will be widely adopted, including remote sensing, telemetry, camera traps, GIS-based modeling, and molecular genetic analyses.

Monitoring results will be used to support the regular updating of the list of rare and endangered animal species and the Red Data Book, alongside the introduction of a Red List of fauna based on IUCN categories and criteria.

Population management and financing of conservation measures for key terrestrial vertebrate species will be carried out on the basis of species-specific and group-specific action plans. The management system will include not only rare species but also economically significant species such as the wolf and the saiga antelope. Saiga population management will be science-based, maintaining sustainably high population levels, taking into account habitat carrying capacity, agricultural interests, and the achievement of the maximum possible yield from sustainable use. To conserve particularly vulnerable birds of prey, a rehabilitation center will be established, reintroduction programs for the saker falcon will be implemented, and opportunities for the in vitro preservation of Kazakhstan's animal genetic resources through the creation of a germplasm biobank will be explored. The conservation of invertebrates will be ensured both through the preservation of diverse landscape types, primarily within the SPNAs and ecological network, and through improvements to environmental assessment procedures across various sectors of the economy.

The management framework for the hunting sector will be improved through a review of the powers of local executive bodies and hunting operators, consideration of the role of non-governmental organizations in the state regulation of wildlife management, expansion of wildlife disease monitoring, and mandatory professional development for gamekeepers. Legal protections for hunting sector entities will be strengthened, wildlife population management mechanisms will be improved through consideration

of categories of quota-regulated and non-quota-regulated species, and support will be provided for the development of international hunting tourism, as well as the breeding of game species and rare and endangered wild animals.

Additional measures concerning CITES-listed species will be adopted, including the development and implementation of mechanisms for controlling the trade of saiga derivatives, amendments to the registration procedures for captive birds of prey to allow their lawful acquisition for traditional hunting purposes, targeted conservation measures for the saker falcon, and enhanced training of customs and border service personnel in combating the illegal trade in wildlife and plant specimens.

The impacts of invasive species from various animal groups will be assessed, and, where necessary, measures for their control will be implemented.

Sustainable wildlife management requires a transition from fragmented and localized actions to a systematic and preventive model based on the principles of spatial planning, risk assessment, and the mandatory integration of biodiversity considerations into decision-making processes.

A key area of focus will be the development of territorial mapping and zoning tools based on levels of ecological sensitivity. This will enable the consideration of migration routes, critical habitats, and areas of high conservation value during the planning and implementation of infrastructure and economic development projects. Spatial planning will be integrated with landscape-based approaches to wildlife conservation and management.

The regulatory and methodological framework for assessing impacts on fauna will be improved, including the development of unified assessment standards, requirements for impact mitigation and compensation, and practical guidelines for habitat restoration and the reduction of landscape fragmentation. These measures will provide legal certainty within Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) procedures and will contribute to greater transparency in environmental decision-making.

Special attention will be given to the establishment of a system of indicators for monitoring the status of wild animal populations, enabling the tracking of changes resulting from economic activities and supporting the development of corrective measures. The development of a digital platform for storing and analyzing such data, including automated and remote monitoring capabilities, will ensure accessibility of information for planning and regulatory authorities.

The legal requirement to incorporate biodiversity considerations at the early stages of project and spatial planning will strengthen the institutional role of wildlife conservation and increase the accountability of both public and private stakeholders. This approach will provide the foundation for a preventive, science-based, and intersectoral integrated wildlife management system, particularly under conditions of increasing infrastructure development and climate-related pressures.

As part of a broader communication strategy on biodiversity conservation, to be developed and implemented by the authorized body in cooperation with the expert community, it is considered necessary to prepare and conduct in advance an information campaign based on a provisionally titled Biodiversity Calendar. This calendar may include all internationally recognized biodiversity-related observances, such as the International Day for Biological Diversity, World Migratory Bird Day, Saiga Day, Snow Leopard Day, World Bee Day, and others.

5.5.

Conservation of Ichthyofauna Biodiversity and Increase of Natural Populations of Commercial Fish through the Reduction of Pressure on Natural Fish Resources

Through systematic research on habitat conditions, food resources, and the population structure of commercial fish species and other aquatic organisms, recommendations will be developed for the rational use, conservation, and enhancement of fish resources, including assessments of stocking volumes, species composition for stocking programs, and reintroduction measures. Existing state-owned fish hatcheries will be modernized, and new technologies will be developed and introduced to expand the range of fish species used in stocking programs. The number of state inspectors will be increased, appropriate material and technical resources will be strengthened, and a fish and fish product traceability information system will be supported to ensure the protection and rational use of fish resources.

Through systematic studies of the biodiversity of aquatic biocenoses, assessments of population dynamics of rare and endangered fish species, and monitoring of the introduction of invasive aquatic species, scientifically substantiated recommendations and measures for the conservation of aquatic biodiversity will be developed. State support measures will be designed and implemented to stimulate the reproduction and commercial cultivation of valuable, rare, and endangered fish species, and a cryobank will be established to preserve the genetic material of valuable, rare, and endangered aquatic organisms.

A training program will be developed for a professional development center for fisheries personnel. Comprehensive efforts will be undertaken to analyze the fish product supply chain with the objective of fundamentally eliminating opportunities for the marketing of products harvested through illegal fishing. In particular, the procedure for issuing veterinary certificates for fish products requires revision to ensure the mandatory availability of documentation confirming the origin of such products, as well as to eliminate the possibility of obtaining veterinary certificates for illegally harvested products on the basis of origin certificates issued for different consignments.



Stone Fairy Tale.
West Altai Nature Reserve
Photo credit: Natalia Premina

A unified digital record-keeping system based on blockchain principles will be established, preventing duplicate records and the issuance of documents based on fraudulent documentation. Operational and preventive measures will be organized to ensure regular and unannounced inspections of fish product sales outlets, as well as the identification and monitoring of fish storage facilities in settlements located near water bodies, including cold storage warehouses and collection points.

Mechanisms for utilizing consumer protection legislation to monitor and identify illegally harvested fish products within the fish product supply chain will be developed.

The above set of measures is aimed at the economic destimulation of poaching by limiting opportunities for the sale of large volumes of illegally harvested fish products.

5.6.

Implementation of Effective Measures for the Protection, Restoration, and Use of Flora

To establish an effective system for the cadastral appraisal of the flora of the Republic of Kazakhstan, work will be carried out in the following areas:

- a unified methodology for the cadastral appraisal of the flora of the Republic of Kazakhstan will be developed and approved;
- methodological guidelines will be developed on modern IUCN approaches and criteria for updating the national list of rare and endangered species;
- state inventory of flora objects will be established for planning and decision-making purposes;
- an inventory of invasive alien plant species will be conducted to develop measures aimed at reducing their negative impact on biodiversity;
- further research will be continued on the breeding and genetic assessment of wild fruit plants (Niedzwetzky's apple, common apricot, pistachio, common almond, Regel pear, and others), including cultivar-clones of Sievers apple and the selection of promising forms; on the introduction into production of new immune and highly scab-resistant cultivars and forms of wild apple for juice production. To achieve this objective, the following scientific and technical program will be initiated and implemented: Assessment of the Current Status and Rational Use of the Gene Pool of Wild Fruit and Nut Plants of Kazakhstan for Forest Restoration and the Development of Domestic Horticulture (Molecular Genetic Passportization and Selection of Forms for *In-Situ* and *Ex-Situ* Conservation);
- work on the application of geographic information systems for the effective management of plant resources will continue; databases on flora objects of the Republic of Kazakhstan will be established.



To periodically reassess the current status and refine the resource base of economically significant medicinal plant species, systematic resource studies will be conducted. A contemporary assessment of medicinal plant resources as a key naturally renewable component of Kazakhstan's economy under increasing anthropogenic pressures and global climate change will support the establishment and maintenance of the State Inventory of Flora of the Republic of Kazakhstan and contribute to strengthening the country's biological and food security. A long-term program for the comprehensive study and utilization of medicinal plant resources at both regional and national levels (2028–2035) will be initiated and implemented.

In response to the threat of extinction of rare plant species, scientifically grounded conservation measures will be ensured for these species, and action plans will be developed to create conditions for the long-term protection of the populations of the most vulnerable species. Modern IUCN approaches and criteria will be applied to update the list of rare and endangered species, and the lists of species included in the Red Book and Green Book will be revised.

Another approach to identifying rare species will be the regular monitoring of their habitats. Efforts to develop ex situ collections of rare and endangered plant species of Kazakhstan for their conservation and subsequent reintroduction will be intensified.

To preserve genetic resources in the collection holdings of state botanical gardens (living plants and seed banks), provision should be made at the state level for the expansion of the network of introduction centers.

In addition, a scientific and technical program will be developed and implemented under program-targeted funding for 2026-2027: Analysis, Development, and Monitoring of the Collection Holdings of State Botanical Gardens under Changing Climate Conditions to Address Scientific and Practical Challenges of Greening and Horticulture in the Republic of Kazakhstan.

To scale up efforts in identifying Important Plant Areas, an expert group will be established to adapt international criteria to the local composition of flora and vegetation.

To facilitate research activities aimed at the study and conservation of flora objects, amendments should be introduced into legislation to allow the implementation of scientific and technical programs outside competitive procurement procedures.

The approach to the protection and sustainable use of flora will be based on an integrated system combining digital tools, harmonized regulatory frameworks, and scientifically based indicators. Central elements will include the creation and implementation of thematic digital maps covering ecosystem types, vegetation structure, ranges of rare species, and territories with varying levels of anthropogenic disturbance. These tools will be integrated into environmental assessment procedures, state environmental review processes, and spatial planning systems, ensuring a sound spatial basis for decision-making.

To improve the effectiveness of assessing impacts on vegetation, regulatory and methodological documents will be developed establishing the structure of analysis, criteria for calculating losses, and mandatory measures for the prevention and compensation of damage. This will address existing gaps in legal regulation and enhance the transparency and reproducibility of environmental review procedures.

A system of indicators reflecting the condition of vegetation cover and the ecological carrying capacity of ecosystems will be introduced. These indicators will be used both for monitoring purposes and for assessing territorial sustainability, substantiating restoration measures, and setting priorities for conservation policy.

To strengthen business accountability and improve the quality of biodiversity-related data, indicators concerning impacts on flora will be incorporated into corporate environmental reporting systems.

This will ensure the integration of biodiversity considerations into corporate strategies and natural resource management processes.

The implementation of this approach will provide the foundation for effective and adaptive management of plant resources under increasing climatic and anthropogenic pressures and will ensure the reproducibility and long-term sustainability of ecosystem functions.

5.7.

Restoration of Degraded Pastures through the Implementation of Sustainable Management and Use Practices

The Concept envisions the restoration of the productivity of degraded (overgrazed) pastures by 2035. To achieve this goal, the following actions will be taken:

- electronic platforms will be created containing indicators of the agrotechnical and reclamation condition of pastures across all categories of land users; based on these data, pasture management plans will be developed and implemented, aimed at the accelerated rehabilitation of degraded forage lands, increasing carbon biosequestration, and conserving biodiversity;
- the productivity of degraded pastures will be restored through agroforestry land improvement measures, direct seeding methods (No-Till) and minimal tillage, sowing/planting of drought-resistant arid and other crops, anti-erosion pasture rotation, and regulated grazing of livestock;





Greig's Tulip, *Tulipa greigii*
Photo credit: Rustem Yegenberdiyev



- international methodologies for carbon offset and credit mechanisms applicable to pastures in Kazakhstan will be assessed for the introduction of green financing mechanisms for biodiversity conservation;
- the potential of groundwater will be assessed, and measures for pasture watering will be developed to preserve biodiversity in arid areas;
- Pastoralist field schools will be established in various regions of Kazakhstan to enhance the capacity and practical skills of pasture users in developing and implementing pasture management and utilization plans aimed at the accelerated rehabilitation of degraded forage lands, increasing stored carbon volumes, and conserving biodiversity.

Along with this, it is proposed to consider the tasks in a broader context, namely the restoration of steppe ecosystems through the implementation of sustainable management and use practices.

5.8.

Implementation of the One Health Approach

To ensure sustainable coordination among biodiversity conservation, public health, and agriculture, it is recommended to introduce and develop the integrated «One Health» approach, as reflected in the Kunming-Montreal Global Biodiversity Framework. This approach involves systematic coordination among the environmental, public health, agricultural, and veterinary sectors to prevent, detect, and respond to zoonotic diseases resulting from the loss or degradation of natural ecosystems.

It is advisable to incorporate an assessment of health risks associated with biodiversity loss into national sustainable development strategies and climate change adaptation programs. Such integration will enable Kazakhstan to strengthen ecosystem resilience and reduce the population's vulnerability to threats arising at the intersection of health, nature, and economic activity. In doing so, special attention should be paid to ecosystem conservation.

To comply with international obligations under the Convention on Biological Diversity, it is recommended to gradually introduce national target indicators for the prevention of pandemics and other health threats linked to environmental degradation. It is also important to take into account the One Health principle when conducting environmental impact assessments and developing regulatory acts in the field of natural resource use.

It should be noted that this issue is also grounded in the Budapest Declaration on One Health, which was adopted in June 2023 at the Third International High-Level Conference on One Health, organized by the World Health Organization (WHO).

The Budapest Declaration calls on Member States to integrate the One Health principle into national policies, legislation, and sustainable development strategies, as well as to invest in science, education, and training that contribute to the prevention of biological threats at the intersection of health and the environment.

6

Section

Target indicators and expected results by 2035



Marmot
Photo credit: UNDP Kazakhstan

The implementation of the principles, vision, and approaches for biodiversity conservation and sustainable use defined in the Concept over the period 2026–2035 will make it possible to achieve the following target indicators:

N ^o п/п	Target Indicator	Unit of Measurement	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	2	3	4	5	6	7	8	9	10	11	12	13
Direction 1. Development of an integrated ecological network, a system of specially protected natural areas, and ecotourism												
1.	Specially protected natural areas coverage	million ha	31,0	31,6	33,0	33,2	33,2	33,2	33,2	33,2	33,2	33,2
Direction 2. Improving the efficiency of forest protection and regeneration and developing sustainable forest management practices												
2.	Forest-covered area	million ha	14,03	14,14	14,27	14,39	14,48	14,53	14,58	14,62	14,67	14,70
3.	Increase in output of the wood-processing industry (excluding furniture manufacturing)	million tenge	64,8	77,7	93,3	111,9	134,3	161,2	193,5	232,2	278,6	334,3
Direction 3. Improving the system for monitoring, protection, and sustainable use of wildlife												
4.	Number of valuable, rare, and endangered wildlife species (conservation and recovery)	number of individuals										
	Snow leopard	individuals	192	194	196	198	200	202	204	206	208	210
	Caspian seal	thousand individuals	260	260	260	260	260	260	260	260	260	260
	Goitered gazelle	thousand individuals	15,9	16,0	16,3	16,5	16,8	17,1	17,4	17,6	17,9	18,2
	Tugai deer	thousand individuals	1,32	1,37	1,40	1,46	1,50	1,55	1,63	1,70	1,77	1,80
	Kulan	thousand individuals	4,80	4,90	4,99	5,09	5,19	5,29	5,39	5,50	5,61	5,71
	Argali (Karatau, Tian Shan, Kazakh populations)	thousand individuals	18,0	18,4	18,8	19,1	19,5	19,9	20,3	20,7	21,1	21,5
	Ustyurt urial	thousand individuals	4,10	4,20	4,28	4,36	4,45	4,54	4,63	4,72	4,81	4,90

N ^o п/п	Target Indicator	Unit of Measurement	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	2	3	4	5	6	7	8	9	10	11	12	13
5.	Number of wildlife species included in the environmental statistics indicator system for environmental monitoring and assessment, and population conservation and management	number of species	12	14	16	17	18	19	20	21	22	23
Direction 4. Conservation of ichthyofauna biodiversity and increase of natural populations of commercial fish through the reduction of pressure on natural fish resources												
6.	Natural populations of commercial fish species	thousand tonnes						239,5	241,1	242,8	244,5	246,2
Direction 5. Implementation of effective measures for the protection, restoration, and use of flora												
7.	Land area covered by the cadastral assessment of flora components	km ²	188 936	200 629	88 936	100 000	85 601	80 000	151 339	100 001	96 000	97 993
8.	Genetic resources in the collection funds of state botanical gardens (living plants and seed banks) for the conservation of plant species outside their natural habitats (<i>ex situ</i>)	number of taxa	10 200	10450	10750	11000	11250	11500	11750	12000	12250	12500
9.	Genetic resources in the collection funds of state botanical gardens (living plants and seed banks) for the <i>ex-situ</i> conservation of plant species outside their natural habitats	number of seed samples	5450	5900	6350	6800	7250	7700	8150	8600	9050	9500
Direction 6. Restoration of Degraded Pastures through the Introduction of Sustainable Management and Use Methods												
10.	Restoration of degraded (overgrazed) pastures	million ha	0,6	0,7	0,8	0,9	1,0	1,0	1,0	1,0	1,2	1,3

N ^o п/п	Target Indicator	Unit of Measurement	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
1	2	3	4	5	6	7	8	9	10	11	12	13
Direction 7. Establishment of a national system for collecting and monitoring data on biodiversity conservation financing												
11.	Coverage of direct and indirect biodiversity indicators in the state environmental information fund	%	35	40	45	50	55	60	65	75	90	100
12.	Level of provision of the state environmental information fund with spatial data on direct and indirect biodiversity indicators	%	35	40	45	50	55	60	65	75	90	100
Direction 8. Institutionalization of approaches to the conservation and sustainable use of biodiversity*												
13.	Level of public awareness in Kazakhstan regarding biodiversity conservation issues, including climate change factors and their threatening consequences for both humanity as a whole and Kazakhstan	%	52,5 %	55 %	57,5%	60 %	65 %	70 %	75 %	80 %	85 %	90 %

* The baseline coverage indicator is subject to clarification as of 2026, followed by subsequent adjustment of the target indicators. The ultimate goal is to reach 90% coverage by 2035.

Annex
to the Concept for the Conservation
and Sustainable Use of Biodiversity
in the Republic of Kazakhstan
for 2026–2035

ACTION PLAN
FOR THE IMPLEMENTATION OF THE CONCEPT
FOR THE CONSERVATION AND SUSTAINABLE USE
OF BIODIVERSITY IN THE REPUBLIC OF KAZAKHSTAN
FOR 2026–2035

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Area 1. Development of a Unified Ecological Network, the System of Specially Protected Natural Areas, and Ecotourism						
Target Indicator 1. Area of Specially Protected Natural Areas (million ha): 2026 – 31.0; 2027 – 31.6; 2028 – 33.0; 2029-2035 – 33.2.						
1	Evaluation of the management effectiveness of existing state nature sanctuaries (zakazniks) to analyze the viability of their establishment and operations, with the subsequent upgrading of designated territories to protected areas holding legal entity status.	Proposal to the Government Office	December 2027	MENR	Not required	Not required
2	Preparation of the Natural Science Justification and Feasibility Study for the expansion of the territory of the Akzhaiyq State Nature Reserve, taking into account the impacts of climate change and anthropogenic pressures on the Caspian Sea, as well as the reservation of the relevant land plots	Order of the Committee of Forestry and Wildlife (CFW), Resolution of the Akimat of Atyrau Region	December 2026	MENR, Akimat of Atyrau Region	Within the funds allocated from the republican budget	RB
3	Expansion of the territory of the Akzhaiyq State Nature Reserve	Government Resolution	December 2028	MENR	Not required	Not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
4	Expansion of the territory of the Ile-Balkhash State Nature Reserve	Government Resolution	1 quarter 2026	MENR	Not required	Not required
5	Preparation of the Feasibility Study for the establishment of the Zhaiyk Ormany State Nature Reserve in the West Kazakhstan Region, as well as the reservation of the relevant land plots	Order of the CFW, Resolution of the Akimat of West Kazakhstan Region	December 2026	MENR, Akimat of West Kazakhstan Region	Financed through projects of international organizations	Other sources
6	Establishment of the Zhaiyq Ormany State Nature Reserve in the West Kazakhstan Region	Government Resolution	December 2027	MENR	Within the funds allocated from the republican budget	RB
7	Preparation of the Natural Science Justification and Feasibility Study for the establishment of the Tukti State National Nature Park on the basis of the Bolshe-Tyuktinskoye and Malo-Tyuktinskoye Forest Protection Institutions in the Akmola Region, as well as the reservation of the relevant land plots	Order of the CFW, Resolution of the Akimat of Akmola Region	December 2027	MENR, Akimat of Akmola Region	Financed through projects of international organizations	Other sources
8	Establishment of the Tukti State National Nature Park	Government Resolution	December 2028	MENR	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
9	Preparation of the Natural Science Justification and Feasibility Study for the expansion of the territory of the Kaspiy Itbalygy State Nature Reserve for the conservation of the Caspian seal population, taking into account the impacts of climate change and anthropogenic pressures on the Caspian Sea, as well as the reservation of the relevant land plots	Order of the CFW, Resolutions of the Akimats of Atyrau and Mangystau Regions	December 2028	MENR, Akimats of Atyrau and Mangystau Regions	Financed through projects of international organizations	other sources
10	Expansion of the territory of the Kaspiy Itbalygy State Nature Reserve	Government Resolution	December 2029	MENR	not required	not required
11	Preparation of the Natural Science Justification and Feasibility Study for the expansion of the territory of the Altyn Dala State Nature Reserve within the framework of the Przewalski's horse reintroduction project, as well as the reservation of the relevant land plots	Order of the CFW, Resolution of the Akimat of Kostanay Region	December 2026	MENR, Akimat of Kostanay Region	Financed through projects of international organizations	other sources
12	Expansion of the territory of the Altyn Dala State Nature Reserve	Government Resolution	December 2027	MENR	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
13	Preparation of the Natural Science Justification and Feasibility Study for the expansion of the territory of the Karatau State Nature Sanctuary for the conservation of the endemic Karatau argali population, as well as the reservation of the relevant land plots	Order of the CFW, Resolution of the Akimat of Turkistan Region	December 2027	MENR	Financed through projects of international organizations	not required
14	Expansion of the territory of the Karatau State Nature Sanctuary	Government Resolution	December 2028	MENR	not required	not required
15	Preparation of the Natural Science Justification and Feasibility Study for the establishment of the Zharkent State Nature Park for the conservation of mountain ecosystems, the habitat range of the snow leopard, and the Semirechye salamander, as well as the reservation of the relevant land plots	Order of the CFW, Resolution of the Akimat of Zhetisu Region	December 2027	Akimat of Zhetisu Region, MENR	Within the funds allocated from the local budget	LB
16	Establishment of the Zharkent State Nature Park	Resolution of the Akimat of Zhetisu Region	December 2027	Akimat of Zhetisu Region, MENR	Within the funds allocated from the local budget	LB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
17	Establishment of the legal framework for the creation and management of ecological corridors and vesting the MENR with the authority to approve standard regulations on the management of ecological corridors, as well as vesting local executive bodies with the authority to approve regional regulations on the management of ecological corridors based on the standard regulations, taking into account regional specificities	Proposal to the Government Office	December 2026	MENR, regional Akimats	not required	not required
18	Preparation of the Natural Science Justification for the establishment of the Kolsai Kolderi – Altyn Emel Ecological Corridor to facilitate snow leopard migration	Order of the CFW	December 2027	MENR, Akimat of Almaty Region	Within the funds allocated from the republican budget	RB
19	Establishment of the Kolsai Kolderi – Altyn Emel Ecological Corridor to facilitate snow leopard migration	Resolution of the Akimat of Almaty Region	December 2026	Akimat of Almaty Region, MENR	not required	not required
20	Restoration of the Aksuat lake system of the Naurzum Nature Reserve	Information submitted to the Government Office	December 2028	MENR	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
21	Incorporation of the international approach to developing Other Effective Area-Based Conservation Measures (OECMs) – protected areas not formally designated as SPNAs – into the environmental legislation of the Republic of Kazakhstan	Proposal to the Government Office	December 2026	MENR, regional Akimats	not required	not required
22	Consideration of the development and approval of a methodology for determining recreational carrying-capacity standards on recreational lands, as well as in national parks	Proposal to the Government Office	December 2026	MENR	Financed through projects of international organizations	other sources
23	Assessment of the feasibility of establishing a system for advance booking of visits to national parks	Information submitted to the Government Office	December 2026	MENR	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Area 2 Improving the Efficiency of Forest Protection and Regeneration through the Application of Sustainable Forest Management Practices						
Target Indicator 2. Forest-Covered Area (thousand ha): 2026 – 14038,6; 2027 – 14140,5; 2028 – 14277,7; 2029 – 14395,3; 2030 – 14483,2; 2031 – 14531,6; 2032 – 14580,0; 2033 – 14628,4; 2034 – 14676,8; 2035 – 14700,2.						
Target Indicator 3. Increase in Output of the Wood Processing Industry (excluding furniture manufacturing), million KZT: 2026 – 64,8; 2027 – 77,7; 2028 – 93,3; 2029 – 111,9; 2030 – 134,3; 2031 – 161,2; 2032 – 193,5; 2033 – 232,2; 2034 – 278,6; 2035 – 334,3.						
24	Bringing the material and technical equipment of environmental protection organizations and forestry institutions into compliance with the standards established by Order No. 18-02/664 of the Minister of Agriculture of the Republic of Kazakhstan dated 20 July 2015	Information submitted to the Government Office	Annually until 2030	MENR, regional Akimats	Within funds allocated from local budgets	LB
25	Provision of state forest protection service with uniforms, protective equipment and firefighting clothing in accordance with the standards established by Orders No. 18-02/664 of 20 July 2015 and No. 18-02/292 of 31 March 2015 of the Minister of Agriculture of the Republic of Kazakhstan	Information submitted to the Government Office	Annually	MENR, regional Akimats	Within the funds allocated from the republican and local budgets	RB, LB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
26	Ensuring 100% aerial patrol coverage of the State Forest Fund territory	Information submitted to the Government Office	Annually	MENR, MT	Within the funds allocated from the republican budget	RB
27	Introduction of new technologies, including early forest fire detection systems in the most wildfire-prone regions of the country	Information submitted to the Government Office	Annually until 2030	MENR, MAID, regional Akimats	Within the funds allocated from the local budget	LB
28	Transfer of new forest firefighting technologies	Information submitted to the Government Office	Annually until 2030	MENR, MES regional Akimats	Financed through projects of international organizations	other sources
29	Implementation of a pilot project in the Semey Ormany State Natural Forest Reserve on forest pest control through the use of entomophages	Information submitted to the Government Office	Annually until 2028	MENR	Financed through projects of international organizations	other sources
30	Establishment of a Republican Forest Protection Centre on the basis of the existing Republican Forest Selection and Seed Centre (without increasing staff numbers)	Information submitted to the Government Office	December 2026	MENR	not required	not required
31	Development of recommendations for adapting approaches to reforestation and greening in the context of climate change	Information submitted to the Government Office	December 2027	MENR	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
32	Establishment of forest plantations in the catchment areas of the Irtys, Zhaiyq, Syr Darya and Ili river floodplains	Information submitted to the Government Office	annually	MENR, MWRI, regional Akimats	Within the funds allocated from the republican and local budgets	RB, LB
33	Establishment of forest stands around populated areas, along republican, regional and district roads, as well as along railways	Information submitted to the Government Office	annually	MENR, MT, SC NC KTZ (upon agreement), JSC NC KazAutoZhol (upon agreement), regional Akimats	Within the funds allocated from the republican and local budgets, Financed through projects of international organizations	RB, LB, other sources
34	Scaling up experience in growing planting stock with a closed root system	Information submitted to the Government Office	2027-2028	MENR, Akimats of Akmola, Almaty, Kostanay, East Kazakhstan and Abai Regions	Within the funds allocated from the republican and local budgets	RB, LB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
35	Establishment of a permanent forest seed base considering the annual seed requirement for reforestation on an area of 80 thousand ha and for planting on the dried bed of the Aral Sea on an area of 20 thousand hectares	Information submitted to the Government Office	annually	MENR, regional Akimats	Within the funds allocated from the republican and local budgets	RB, LB
36	Reconstruction of existing forest nurseries and establishment of new forest nurseries using advanced technologies, taking into account the annual establishment of forest plantations on an area of 80 thousand hectares and planting on the dried bed of the Aral Sea on an area of 20 thousand hectares	Information submitted to the Government Office	annually	regional Akimats, MENR	Within the funds allocated from the republican and local budgets	RB, LB
37	Expansion of the green belt of the city of Astana to 150 thousand hectares	Information submitted to the Government Office	annually	MENR	Within the funds allocated from the republican budget	RB
38	Introduction of new technologies for the processing and storage of forest seeds	Information submitted to the Government Office	annually	MENR, regional Akimats	Financed through projects of international organizations	other sources
39	Implementation of measures to promote beekeeping within the territory of the State Forest Fund	Information submitted to the Government Office	Annually until 2027	MENR, MA, regional Akimats	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
40	Consideration of the development and approval of a methodology for calculating carbon dioxide removal by different tree species and soils under the global BIOFIN programme	Information submitted to the Government Office	December 2026	MENR	Financed through projects of international organizations	other sources
41	Establishment of a mechanism to ensure the targeted use of funds within the implementation of greenhouse gas removal projects on the territory of the State Forest Fund	Information submitted to the Government Office	December 2026	MENR	Financed through projects of international organizations	other sources
42	Development and implementation of a package of measures for climate change adaptation in the forestry sector (reforestation and greening)	Information submitted to the Government Office	December 2027	MENR	Financed through projects of international organizations	other sources
43	Implementation of pilot greenhouse gas removal projects on the territory of the State Forest Fund	Information submitted to the Government Office	annually	MENR, regional Akimats	Financed through projects of international organizations	not required
44	Conduct of design and survey works to identify forest-suitable areas for afforestation	Detailed design documentation	annually	MENR, regional Akimats	Within the funds allocated from the republican and local budgets	RB, LB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
45	Inventory and legal registration, in accordance with the legislation, of unaccounted forests areas with their inclusion in the State Forest Fund	Inventory reports submitted to the Ministry of Ecology and Natural Resources (MENR), and resolutions of regional Akimats	annually	regional Akimats, MA	Financed through projects of international organizations	other sources
46	Promotion and support of private afforestation	Proposal to the Government Office	December 2027	MENR, MA	not required	not required
47	Revision of approaches to the training of forestry specialists in higher education institutions, taking into account academic level	Proposal to the Government Office	December 2026	MENR, MSHE, MA	not required	not required
48	Consideration of the establishment of a professional development center for workers of forestry enterprises	Proposal to the Government Office	December 2026	MENR	not required	not required
49	Consideration of the establishment of a Republican Museum of Forests and Afforestation in the Baum House building in Almaty	Proposal to the Almaty City Maslikhat	December 2026	Akimat of Almaty city	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
50	Development of support measures for young professionals in the forestry sector	Proposal to the Government Office	December 2028	MENR, MNE	not required	not required
51	Consideration of the introduction of electronic marking and tracking of timber products produced in the Republic of Kazakhstan, including the implementation of a pilot project in the Semey Ormany State Natural Forest Reserve	Proposal to the Government Office	December 2026	MENR, MTI, MAID, JSC Kazakh telecom (upon agreement)	Funded through projects of international organizations	other sources
52	Development of measures for the comprehensive development of the wood-processing industry in the Republic of Kazakhstan	Proposal to the Government Office	December 2026	MNE, MENR, MPS	Funded through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 3. Improving the system of monitoring, protection and sustainable use of wildlife						
	Target indicator 4. Number of valuable, rare and endangered animal species (conservation and restoration) (number)					
	Snow leopard (individuals): 2026 – 192; 2027 – 194; 2028 – 196; 2029 – 198; 2030 – 200; 2031 – 202; 2032 – 204; 2033 – 206; 2034 – 208; 2035 – 210					
	Caspian seal (thousands of individuals): 2026 – 260; 2027 – 260; 2028 – 260; 2029 – 260; 2030 – 260; 2031 – 260; 2032 – 260; 2033 – 260; 2034 – 260; 2035 – 260					
	Gazelle (thousands of individuals): 2026 – 15,9; 2027 – 16,0; 2028 – 16,3; 2029 – 16,5; 2030 – 16,8; 2031 – 17,1; 2032 – 17,4; 2033 – 17,6; 2034 – 17,9; 2035 – 18,2					
	Tugai deer (thousands of individuals): 2026 – 1,32; 2027 – 1,37; 2028 – 1,40; 2029 – 1,46; 2030 – 1,50; 2031 – 1,55; 2032 – 1,63; 2033 – 1,70; 2034 – 1,77; 2035 – 1,80					
	Kulan (thousands of individuals): 2026 – 4,80; 2027 – 4,90; 2028 – 4,99; 2029 – 5,09; 2030 – 5,19; 2031 – 5,29; 2032 – 5,39; 2033 – 5,50; 2034 – 5,61; 2035 – 5,71					
	Argali (Karatau, Tien Shan, Kazakhstan) (thousands of individuals): 2026 – 18,0; 2027 – 18,4; 2028 – 18,8; 2029 – 19,1; 2030 – 19,5; 2031 – 19,9; 2032 – 20,3; 2033 – 20,7; 2034 – 1,1; 2035 – 21,5					
	Ustyurt urial (thousands of individuals): 2026 – 4,1; 2027 – 4,2; 2028 – 4,28; 2029 – 4,36; 2030 – 4,45; 2031 – 4,54; 2032 – 4,63; 2033 – 4,72; 2034 – 4,81; 2035 – 4,90					
	Target indicator 5. The number of animal species included in the system of indicators of environmental statistics for monitoring and evaluation of the environment, conservation and management of populations. 2026 – 12; 2027 – 14; 2028 – 16; 2029 – 17; 2030 – 18; 2031 – 19; 2032 – 20; 2033 – 21; 2034 – 22; 2035 – 23.					

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
53	Creation of sustainable prey base for the reintroduction of the Turanian tiger, is a State Nature Reserve "Ile Balkhash"	Information submitted to the Government Office	annually	MENR	Within the funds allocated from the republican budget	RB
54	Release five tigers into the wild in the Ile-Balkhash State Nature Reserve	Information submitted to the Government Office	December 2032	MENR	Financed through projects of international organizations	other sources
55	Reintroduction of Tugai deer in the middle reaches of the Syrdarya river, with the potential to establish a transboundary population with Uzbekistan	Information submitted to the Government Office	December 2030	MENR, MSHE	Within the funds allocated from the republican budget	RB
56	Creating sustainable populations of kulans and Przewalski's horses in the Altyn Dala State Nature Reserve	Information submitted to the Government Office	December 2035	MENR	Financed through projects of international organizations	other sources
57	Consideration of the creation of a semi-wild breeding stock argali in SNNP "Ulytau" for subsequent reintroduction into the wild	of the Information submitted to the Government Office	December 2030	MENR	Financed through projects of international organizations	other sources
58	Management snow leopard population	Information submitted to the Government Office	annually with 2029	MENR, MSHE	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
59	Annual census and monitoring of populations of goitered gazelle, kulan, Bukhara deer, species and subspecies of mountain sheep	Information submitted to the Government Office	annually	MENR	Within the funds allocated from the republican budget	RB
60	Introduction of digitalization systems, including SMART and other tools, into the work of inspectors of nature conservation organizations and enterprises	Information submitted to the Government Office	annually	MENR, MAID	Within the funds allocated from the republican budget	RB
61	Annual scientific research on the habitat, prey base, population structure, distribution and migration of the Caspian seal	reports with practical recommendations placed on the information resource MA	annually	MA, MSHE, MENR	Within the funds allocated from the republican budget	RB
62	Assessment of the Caspian seal population using multispectral aerial surveys during the ice season	reports with practical recommendations, posted on the information resource MA	annually	MA, MSHE, MENR	Within the funds allocated from the republican budget	RB
63	Development of international and regional cooperation to study the population size and distribution of the transboundary Caspian seal population and to develop joint action plans for its conservation	a cooperation agreement	on December 2031	MA, MFA, MENR, the akimat of Atyrau and Mangystau oblasts	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
64	Assessment of the size and development of a system annual monitoring of brown bear, golden eagle, steppe eagle, saker falcon, mountain amphibians species (Semirechensk salamander, Central Asian frog)	reports with practical recommendations posted on the MENR information resource	annually	MENR	Within the funds allocated from the republican budget	RB
65	Consideration of the development of an accounting methodology for key species and groups of species, as well as for maintaining centralized accounting of such groups	Proposal to the Government Office	December 2027	MENR	Financed through projects of international organizations	other sources
66	Conducting scientific research at approved intervals to study the habitat, food base, population structure, distribution and migration of species included in the populations monitoring and management system	reports with practical recommendations, posted on the information resource MENR	annually	MENR, MA MSHE	Within the funds allocated from the republican budget	RB
67	Adaptation of the list of rare and endangered species of animals and the Red Book of the Republic of Kazakhstan in accordance with the criteria and categories of IUCN	Information submitted to the Government Office	annually	MENR, MSHE	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
68	Development of recommendations for the use of innovative technologies and solutions, including space-based monitoring and monitoring using unmanned aircraft systems with artificial intelligence, for assessing population size of wild animals and the state of their habitats	recommendations, posted on the information resource MENR	December 2027	MENR, MSHE, MAID	not required	not required
69	Integration of wildlife monitoring and census data collected by nature conservation institutions and hunting concessions into the Interactive map of natural resources at tabigat.gov.kz	Proposal to the Government Office	December 2028	MENR, MAID	Within the funds allocated from the republican budget	RB
70	Extension of the program for remote monitoring of saiga antelope and snow leopard	Information submitted to the Government Office	annually	MENR, MAID	Financed through projects of international organizations	other sources
71	Consideration of improvements to legislation on the protection, reproduction and use of wildlife including the introduction of an approach based on the development and implementation of action plans for individual species	Proposal to the Government Office	December 2027	MENR	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
72	Consideration of the development and approval of action plans for individual species, taking into account international action plans and programmes for certain species that live in Kazakhstan	Proposal to the Government Office	2026-2027	MENR	Financed through projects of international organizations	other sources
73	Implementation of action plans at least for 9 species taking into account the existing international action plans and programmes for certain animal species occurring in Kazakhstan.	Information submitted to the Government Office	annually with 2028	MENR	Financed through projects of international organizations	other sources
74	Implementation of a package of measures for the captive breeding and release into the wild of the saker falcon	Information submitted to the Government Office	December 2027	MENR	not required	not required
75	Establishment of a rehabilitation center for birds of prey at the Almaty Zoo	Information submitted to the Government Office	December 2030	MENR	not required	not required
76	Expansion of the cryobank for the in vitro conservation of Kazakhstan's wild animal biodiversity, with scientific and methodological support for such activity	Information submitted to the Government Office	2028-2030	MSHE, MENR	Within the funds allocated from the republican budget	RB
77	Improvement of the regulatory framework for managing the hunting sector	Draft Regulatory Legal Act	December 2027	MENR	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
78	1) Consideration of the development of scientific, methodological and organizational approaches to detecting and monitoring the spread of wildlife diseases	Proposal to the Government Office	December 2027	MENR, MA	Within the funds allocated from the republican budget	RB
	2) Implementation of measures to detect and monitor the spread of wildlife diseases	Information submitted to the Government Office	December 2028	MENR, MA	Within the funds allocated from the republican budget	RB
79	Development of recommendations on state support measures for hunting concessions to promote conservation initiatives and preserve rare and endangered fauna species.	Proposal to the Government Office	December 2027	MENR	not required	not required
80	Improvement of legislation to ensure systematic monitoring of key rare species with the involvement of hunting concessions.	Proposal to the Government Office	December 2030	MENR	not required	not required
81	Development of recommendations on monitoring of the maintaining and breeding of rare hunting birds of prey in captive and semi-wild conditions	Proposal to the Government Office	December 2026	MENR	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
82	Development and approval of an interagency comprehensive plan to combat illegal capture and smuggling of falcons	Comprehensive action plan	December 2026	MENR, MIA, regional Akimats	not required	not required
83	Conducting operational and preventive measures to combat the illegal capture of falcons	Information submitted to the Government Office	annually	MENR, MIA, regional Akimats	not required	not required
84	Capacity-building for customs and border services and the police on illegal trade in wildlife and plant species, taking into account the provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora	reports on the results placed on the information resource MENR	annually	MENR, MIA, Border Service of the NSC (upon agreement)	Funded through projects of international organizations	other sources
85	Improvement of wildlife protection legislation on the management of invasive species	Proposal to the Government Office	2026-2027	MSHE, MENR	not required	not required
86	Development of regulatory and technical documents on the protection of birds on power transmission lines	Proposal to the Government Office	December 2026	MOE, MENR	Funded through projects of international organizations	other sources
87	Consideration of creating wildlife crossings for ungulates on linear infrastructure	Proposal to the Government Office	December 2026	MENR, MAID	Funded through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
88	Consideration of developing a methodology for assessing impacts on wildlife	Proposal to the Government Office	December 2027	MENR	Funded through projects of international organizations	other sources
89	Consideration of developing a methodology of biodiversity loss compensation used under SEA and EIA	Proposal to the Government Office	December 2026	MENR	Funded through projects of international organizations	other sources
90	Expansion of enterprise environmental reporting requirements to include biodiversity-related (wildlife) information	Proposal to the Government Office	December 2026	MENR	not required	not required
91	Development of recommendations on aligning the development of the agro-industrial sector with the needs of flora and fauna conservation	Proposal to the Government Office	December 2027	MA, MENR	not required	not required
92	Development of recommendations on integrating urban fauna biodiversity considerations in the preparation of master plans for settlements	Proposal to the Government Office	December 2026	MENR, regional Akimats, cities of national significance	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 4. Conservation of ichthyofauna biodiversity and increase of natural populations of commercial fish through the reduction of pressure on natural fish resources						
Target indicator 6. Natural populations of commercial fish species (thousand tons): 2031 – 239,5; 2032 – 241,1; 2033 – 242,8; 2034 – 244,5; 2035 – 246,2.						
93	Systematic studies of the condition of habitats, food base and population structure of commercial fish species and other aquatic animals, and development of recommendations on the rational use, conservation and increase of fishery resources, including the assessment of the volumes and range species for stocking and reintroduction	Information submitted to the Government Office	annually	MA, MENR	Within the funds allocated from the republican budget	RB
94	Modernization of existing state enterprises for the artificial reproduction of fish with the development and introduction of new technologies to expand the range of fish species used for stocking, in order to maintain the biological diversity and productivity of fishery water bodies	Information submitted to the Government Office	annually from 2027 to 2030	MA, MAID	Financed through projects of international organizations	other sources
95	Increase of material and technical equipment of the interregional basin inspection of fisheries to 95 % of the required level	Information is submitted to the Government Office	annually	MA, regional Akimats	in under a Finance lease	LB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
96	Support information system E-Fish for traceability of fish and other aquatic animals	Information submitted to the Government Office	annually	MA	Within the funds allocated from the republican budget	RB
97	Consideration of the development of environmental quality standards for biological indicators of aquatic ecosystems in eight fishery basins, based on assessment of the status of indicator fish species, invertebrates and aquatic vegetation	Proposal to the Government Office	December 2030	MA	not required	not required
98	Systematic studies of the biological diversity of hydrobiocenoses and assessment of populations dynamics of rare and endangered fish species as well as invasion of alien aquatic species	reports on the results of studies placed on the information resource MA	annually	MA	Within the funds allocated from the republican budget	RB
99	Development of recommendations on incentive measures for the reproduction and commercial cultivation of valuable, rare and endangered fish species	Proposal to the Government Office	December 2026	MA	not required	not required
100	Creation and replenishment of the cryobank for the preservation of genetic material of valuable, rare and endangered aquatic species	Information submitted to the Government Office	annually	MA	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
101	Creation of a training programme for the professional development centre of the Ministry of Agriculture for fishery workers	training program	December 2026	MA	not required	not required
102	Professional development training, with annual coverage of up to 20% of the total staff number of state inspectors and employees of state fishery enterprises and institutions	reports, placed on the information resource MA	annually	MA	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 5. Implementation of effective measures for the protection, restoration and use of flora						
Target indicator 7. Land area covered by the cadastral assessment of flora components (km²): 2026 – 188 936; 2027 – 200 629; 2028 – 88 936; 2029 – 100 000; 2030 – 85 601; 2031 – 80 000; 2032 – 151 339; 2033 – 100 001; 2034 – 96 000; 2035 – 97 993.						
Target indicator 8. Genetic resources in the collection funds of state botanical gardens (living plants and seed banks) for the conservation of plant species outside their natural habitats (<i>ex situ</i>): the Number of taxa: 2026 – 10200; 2027 – 10450; 2028 – 10750; 2029 – 11000; 2030 – 11250; 2031 – 11500; 2032 – 11750; 2033 – 12000; 2034 – 12250; 2035 – 12500.						
Target indicator 9. Genetic resources in the collection funds of state botanical gardens (living plants and seed banks) for the <i>ex-situ</i> conservation of plant species outside their natural habitats: 2026 – 5450; 2027 – 5900; 2028 – 6350; 2029 – 6800; 2030 – 7250; 2031 – 7700; 2032 – 8150; 2033 – 8600; 2034 – 9050; 2035 – 9500.						
103	Improvement of the terminology in the law of Republic Kazakhstan "On Flora" in accordance with international conventions	Proposal to the Government Office	December 2027	MENR, MSHE	not required	not required
104	Allocation and monitoring of key botanical areas for the <i>in situ</i> species conservation	Monitoring reports posted on the MENR information resource	annually	MENR, MSHE	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
105	Analysis of threats affecting the state of vegetation cover and ecosystems in general, development of recommendations to eliminate the drivers and preventing their consequences	Information submitted to the Government Office	annually	MSHE, MENR	Within the funds allocated from the republican budget	RB
106	Creation and population of a digital database on flora sites in Kazakhstan	Information submitted to the Government Office	annually	MENR	MENR Financed through projects of international organizations	other sources
107	Consideration of the issue of developing methodological documents for conducting plant inventories	Proposal to the Government Office	December 2027	MENR	not required	not required
108	Conservation of the gene pool of valuable plant species in their natural habitats (<i>in situ</i>).	Reports on measures taken, published on the MENR information resource	annually	MENR	Within the funds allocated from the republican budget	RB
109	Assessment of the state of the gene pool of Kazakhstan's wild fruit and nut plants (Sievers apple, Niedzvetsky's apple, common apricot, Pistacia vera, common almond, Regel's pear). Molecular genetic passportization of Sievers apple tree forms and others. Selection of forms for <i>in situ</i> and <i>ex situ</i> conservation	Scientific reports, publications, conservation recommendations posted on the MENR information resource	annually	MENR	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
110	Conducting a study to assess the extinction risk of Kazakhstan's plant extinction according to the IUCN Red List criteria	Updated IUCN Red List with at least 30 endemic, protected, economically and culturally significant plant species of Kazakhstan	annually	MENR, MSHE	Within the funds allocated from the republic budget	RB
111	Update of the list of rare and endangered plant species and reissue of the national Red Data Book of Plants of Kazakhstan	Government Resolution reissued Red Book	December 2026 to be updated periodically as the list is expanded	MENR, MSHE	Within the funds allocated from the Republic of Kazakhstan is actually expanded republic budget	RB
112	Monitoring and control of invasive species. Preparation and publication of the monograph "Black Book"	monograph "Black Book" for 3 regions	annually	MENR, MSHE	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
113	1) Analysis and monitoring of the living collections of state botanical gardens of the Republic of Kazakhstan to address scientific and practical targets of landscaping and horticulture	scientific and technical programs	2026-2027 MENR	MENR, MSHE	Within the funds allocated from the republican budget	RB
	2) Development and implementation of scientific and technical programs for the conservation and development of living collections of the state botanical gardens of the Republic of Kazakhstan	information on implementation on the information resource MENR, MSHE	2026-2027 MENR	MENR, MSHE	Within the funds allocated from the republican budget	RB
114	Inclusion of the collections of the Main Botanical Garden of Kazakhstan in the list of scientific natural sites with the status of National Heritage of the Republic of Kazakhstan.	Government Resolution	December 2026	MENR, MSHE	not required	not required
115	Development of recommendations on the conceptual revision of botanical garden management	Proposal to the Government Office	December 2026	MENR, MSHE	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 6. Restoration of Degraded Pastures through the Introduction of Sustainable Management and Use Method						
Target indicator 10. Restoration of at least 35% of degraded (overgrazed) pastures by 2035 in million hectares: 2026 – 0.6; 2027 – 0.7; 2028 – 0.8; 2029 – 0.9; 2030 – 1.0; 2031 – 1.0; 2032 – 1.0; 2033 – 1.0; 2034 – 1.2; 2035 – 1.3.						
116	1) Conducting a study on the selection of crops depending on the technical condition of pastures, by natural zone, region and category of pasture user.	research reports placed on the information resource MA	annually	MA, MAID, regional Akimats	Within the funds allocated from the republican budget	RB
	2) Consideration of the creation of an electronic platform containing indicators of pasture condition and crop suitability on agricultural land, specially protected natural areas, and lands of the forest and water funds	Proposal to the Government Office	annually	MA, MENR, MWRI, MAID, regional Akimats	Within the funds allocated from the republican budget	RB
117	Adaptation of international carbon offset methodologies to Kazakhstan's pastures to introduce green finance mechanisms for activities aimed at combating pasture degradation and conserving biodiversity	Information submitted to the Government Office	December 2026	MENR, MA, regional Akimats	Financed through projects of international organizations	other sources
118	Restoration of the productivity of degraded pastures using environmentally safe agricultural technologies.	Information submitted to the Government Office	annually	MA, regional Akimats, cities of Republican significance	Within the funds allocated from the republican budget	RB

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
119	Organization of at least six pasture field schools to strengthen the capacity (knowledge) and practical skills of pasture users in developing and implementing pasture management and use plans to increase carbon biosequestration and conserve biodiversity	Information submitted to the Government Office	annually	MA, MSHE	Within the funds allocated from the republican budget	RB
120	Implementation of nature-based pilot projects to restore soil properties on agricultural land	Information submitted to the Government Office	annually	regional Akimats, MA, MWRI, MENR	Within the funds allocated from the local budget	LB
121	Revision of legally established permissible stocking rates for the total pasture area in order to conserve biodiversity and provide ecosystem services	Proposal to the Government Office	December 2026	MA, MENR	not required	not required
122	Improvement of the Model Pasture Management and Use Plan, taking into account climate change adaptation approaches	the order of the MA	December 2026	MA, MENR	not required	not required
123	Development of recommendations on the comprehensive development of agroforestry in the Republic of Kazakhstan	Proposal to the Government Office	December 2027	MA, MENR, regional Akimats	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
124	Piloting of a mechanism for developing functional landscape zoning schemes, using North Kazakhstan Region and Ulytau District of Ulytau Region as examples, and integration of landscape planning into regional development programmes of the pilot regions.	Information submitted to the Government Office	2026-2027	MA, the akimat of the North Kazakhstan region, Ulytau region	Financed through projects of international organizations	not required
125	Consideration of improvements to land legislation with regard to functional landscape zoning based on landscape planning, including vesting the relevant authorized body a new competence	Proposal to the Government Office	December 2026	MA, MENR	Financed through projects of international organizations	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 7. Establishment of a national system for collecting and monitoring data on biodiversity conservation financing						
Target indicator 11. Coverage of direct and indirect biodiversity indicators in the state environmental information fund: 2026 – 35 %; 2027 – 40 %; 2028 – 45 %; 2029 – 50 %; 2030 – 55 %; 2031 – 60%; 2032 – 65 %; 2033 – 75 %; 2034 – 90 %; 2035 – 100 %.						
Target indicator 12. Level of provision of the state environmental information fund with spatial data on direct and indirect biodiversity indicators: 2026 – 35 %; 2027 – 40 %; 2028 – 45 %; 2029 – 50 %; 2030 – 55 %; 2031 – 60%; 2032 – 65%; 2033 – 75%; 2034 – 90%; 2035 – 100 %.						
126	Consideration of the establishment of unified regulations and standards for the provision of data related to biodiversity conservation.	Proposal to the Government Office	December 2026	MENR	not required	not required
127	Publication of information on biodiversity conservation expenditures in official sources and on the website of the Ministry of Ecology and Natural Resources, and presentation of this information at international forums	reports review of the costs of biodiversity at the BIOFIN methodology for the reporting period	I quarter of 2029 I quarter of 2032 I quarter of 2035	MENR	Financed through projects of international organizations	other sources
128	Development of recommendations on the integration of biodiversity indicators into the State Environmental Information Fund	Proposal to the Government Office	December 2026	MENR	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
129	Preparation of the national biodiversity report under the Convention on Biological Diversity (CBD), in accordance with Article 26 of the CBD, and submission of the report to the CBD Secretariat	7th national report 8th national report 9th national report	I quarter of 2026 IV quarter of 2029 IV quarter of 2032	MENR	Financed through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
Direction 8. Institutionalization of approaches to the conservation and sustainable use of biodiversity						
Target indicator 13. Level of public awareness in Kazakhstan regarding biodiversity conservation issues, including climate change factors and their threatening consequences for both humanity as a whole and Kazakhstan (%): 2026 – 52,5; 2027 – 55; 2028 – 57,5; 2029 – 60; 2030 – 65; 2031 – 70; 2032 – 75; 2033 – 80; 2034 – 85; 2035 – 90.						
130	130 Development of recommendations for the establishment of a Coordinating Council on Biodiversity with the participation of international organizations and financial institutions	Proposal to the Government Office	December 2026	MENR, ASPR (as agreed), MA	not required	not required
131	Development and implementation of media plan to raise awareness of the citizens of Kazakhstan on the issues of conservation and sustainable use of biodiversity	media plan for 2026-2028 media plan for 2029-2031 media plan for 2031-2035	II quarter 2026 IV quarter 2028 IV quarter 2031	MENR, MCI, MP, MSHE, MAID, MOJ, regional Akimats	not required	not required
132	Creation of a “Zher-Ana” section on the information resources of regional akimats, dedicated to biodiversity conservation and sustainable use	Proposal to the Government Office	II quarter 2026	MCI, regional Akimats, MENR	not required	Not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
133	Development and regular updating of the “Zher-Ana” section on the information resources of regional akimats with information on regional biodiversity, key issues related to biodiversity conservation and sustainable use, statistical data on regional biodiversity, and other information necessary to raise awareness among citizens of Kazakhstan on biodiversity conservation and sustainable use	information in MENR	annually	regional Akimats, MENR	not required	not required
134	Organization of a webinar on Kazakhstan’s biodiversity, key measures for its conservation, and approaches to sustainable use, aimed at a broad audience	recording of the webinar hosted on information andm online MENR, links to the webinar on state information resources	II quarter of 2026	MENR, MCI, MAID	not required	not required
135	Organization of an online training webinar for Kazakhstani journalists on conservation and sustainable use of biodiversity	recording of the webinar hosted on MENR information resource, links to a webinar on state information resources	III quarter of 2026	MENR, MCI	not required	not required

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
136	1) Monitoring of publications of professional journalists of Kazakhstan on conservation and sustainable use of biodiversity	reports on the results of monitoring are placed on the information resource MENR	annually	MENR	not required	not required
	2) Holding the “Zher-Ana Tilshisi” event, including the awarding of certificates of appreciation from the Minister of Ecology and Natural Resources to professional journalists who authored the best publications on biodiversity conservation and sustainable use	of the ceremony	annually	MENR	Within the funds allocated from the republican budget	RB
137	Development of recommendations on improving environmental legislation based on the principle and approach of biodiversity net gain (BNG)	Proposal to the Government Office	December 2027	MENR, MNE, MOJ	not required	not required
138	Developing recommendations for resource mobilization for biodiversity conservation based on the methodology of the global BIOFIN program	resource mobilization plan for biodiversity conservation	December 2026	MENR, MA	Funded through projects of international organizations	other sources

Seq. No.	Goals, Targets and Activities	Form of Completion	Timeline	Responsible Entities	Funding Amount (million tenge)	Sources of Funding
1	2	3	4	5	6	7
139	Monitoring of gender mainstreaming in biodiversity conservation and sustainable use, and development of recommendations based on the monitoring results	reports on the results of monitoring with recommendations published on the MENR information resource	annually	MENR	Funded through projects of international organizations	other sources
140	Professional development of employees in the fields of protected areas, forest resources and wildlife, development of training programs, ensuring annual coverage of at least 20% of the total staffing level through professional development measures	results reports posted on the MENR information resource	annually	MENR	Within the funds allocated from the republican budget	RB
141	Consideration of the development of a catalogue of measurable indicators of changes in ecosystems and wildlife and flora resources, as well as threshold pressures, allowing changes caused by industrial pressures to be tracked and taken into account in the preparation of EIAs. Projected vegetation and land cover (%)	Proposal to the Government Office	December 2026	MENR, BNS ASPR (as agreed)	at the expense of projects of international organizations	Other sources

NOTE: ABBREVIATIONS:

MA	– Ministry of Agriculture of the Republic of Kazakhstan
MoJ	– Ministry of Justice of the Republic of Kazakhstan
MSHE	– Ministry of Science and Higher Education of the Republic of Kazakhstan
LB	– Local Budget
NSJ	– Natural Science Justification
MAID	– Ministry of Artificial Intelligence and Digital Development of the Republic of Kazakhstan
MT	– Ministry of Transport of the Republic of Kazakhstan
JSC NC KazAutoZhol	– Joint Stock CoMEany “National Company KazAutoZhol”
JSC NC KTZ	– Joint Stock Company “National CoMEany Kazakhstan Temir Zholy”
JSC Kazakhtelecom	– Joint Stock Company “Kazakhtelecom”
MCI	– Ministry of Culture and Information of the Republic of Kazakhstan
RLAs	– Regulatory Legal Acts
ME	– Ministry of Education of the Republic of Kazakhstan
CFW	– Committee of Forestry and Wildlife of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan
MIC	– Ministry of Industry and Construction of the Republic of Kazakhstan
RB	– Republican Budget
IUCN	– International Union for Conservation of Nature
ASPR	– Agency for Strategic Planning and Reforms of the Republic of Kazakhstan
BNS ASPR	– Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan
MTI	– Ministry of Trade and Integration of the Republic of Kazakhstan
MFA	– Ministry of Foreign Affairs of the Republic of Kazakhstan
MWRI	– Ministry of Water Resources and Irrigation of the Republic of Kazakhstan
MES	– Ministry for Emergency Situations of the Republic of Kazakhstan
FS	– Feasibility Study
Border Service of the NSC	– Border Service of the National Security Committee of the Republic of Kazakhstan
MNE	– Ministry of National Economy of the Republic of Kazakhstan
MIA	– Ministry of Internal Affairs of the Republic of Kazakhstan
MENR	– Ministry of Ecology and Natural Resources of the Republic of Kazakhstan