

Chapter 6
Existing Measures and Programmes
for Biodiversity Conservation

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6.1 Legislation and policy

6.1.1 Laws for environmental protection and regulation

The constitution of the Republic of Azerbaijan defines principles for environmental protection, ownership of natural resources, and regulations for their use. Accordingly, the Republic ultimately owns all natural resources, and no damage must be caused to the environment that would affect other's future use of this resource. Furthermore, everyone has the right to live in a healthy environment, and in order to ensure a good lifestyle for current and future generations, the State is committed to the improvement of scientific approaches and use of modern technologies to protect the environment, to ensure sustainable use of resources, and to enrich the natural wealth of the country.

The legislative framework in the field of the use and conservation of biodiversity within Azerbaijan consists of the following legal structures:

- Parliamentary legislation that establishes the State regulation of strictly protected natural areas, and the protection and use of the environment and of biodiversity
- Presidential Decrees and orders and the resolutions of the Cabinet of Ministers that ensure the implementation of the major provisions of the laws
- By-laws of the executive authorities (Ministries and Committees) that specify the activities to implement the laws
- International Agreements and Conventions in the field of biodiversity, to which the Republic is a signatory.

After Azerbaijan gained its independence, the legislative framework of the country, including the area relating to biodiversity, was re-drafted in line with modern international standards. Since 1996, 23 laws have been passed that deal with various issues related to the use and protection of biodiversity. These address environmental protection, soil conservation, internal waters, fauna and flora protection, and fisheries. Of particular note is the decision of the Republic of Azerbaijan "On Environmental Protection" (dated 8 August 1999) which represents the main legislative document about nature conservation (of land, forest and water habitats) and sustainable use.

The legislative base for Nakhichevan Autonomous Republic follows that for the rest of Azerbaijan.

6.1.2 Protected areas legislation

The Law on Environment Protection (1999) of the Republic of Azerbaijan defines the protected area estate and buffer zones. The Land Code (1999) defines the actual types of

areas protected by the State for biodiversity. Brief descriptions of these protected area types are given in Section 6.2.1.

Legislation relating to the protection of water is defined by the "Water Code" of the Republic of Azerbaijan (1997) and includes several types of aquatic habitats including: rivers, lakes, the Caspian Sea, wetlands, riparian habitats, river catchments, water sources, and other wetland areas related with protected natural resources. Zones protecting water bodies and habitats are intended to ensure the health of associated ecosystems, prevent pollution, maintain healthy soils, and to protect groundwater. Water bodies with scientific, historical, cultural and natural value can also be strictly protected.

6.1.3 Wildlife protection legislation

Although there is no single law relating to the protection of biological diversity in Azerbaijan, many laws have been enacted to protect, and ensure sustainable use of, natural resources including biodiversity. These include: "Law on Plant Protection" (1996), "Forestry Code" (1997), "Law on Fisheries" (1998), "Law on Fauna" (1999) and "Law on Protected Areas" (2000), including national parks and reserves (2003)⁶⁰.

The Ministry of Ecology and Natural Resources, and the Ministry of Agriculture ensure the effective implementation of the relevant laws and resolutions, and the identification of the necessary implementation activities.

6.1.4 Legislation on land use and development

The legislation relating to land in Azerbaijan consists of the 'Land Code' and some other legislative acts. In recent years more than 40 legislative acts have been enacted relating to land reform, use of municipal areas, and the land market. Laws enabling land reform were enacted in 1995 (on reforms of the sovkhozes and kolkhozes) and 1996 (on land reform; see section 2.6). A number of further laws supporting this land reform have been enacted, however these laws still require greater harmonization. In addition, other land laws exist, such as legislation on land survey and monitoring of lands (1998), and on land fertility (1999).

6.1.5 Legislation on pollution

In recent years five laws have been enacted to regulate environmental pollutants. These laws cover environmental protection (1999), ecological security (1999), atmospheric pollution (2001), pesticides and agrochemicals (1997), industrial and domestic waste (1998), and water supply and waste water (1999). A number of other laws also refer to the regulation of pollutants.

6.1.6 Other relevant sectoral legislation affecting biodiversity

Further legislation exists that establishes the penalties for violation of the laws described in previous sections. There are 38 articles of The Administrative Code of the Republic of Azerbaijan and 15 articles of the Criminal Code of the Republic of Azerbaijan that define the penalties appropriate for individuals and companies for offences against environmental protection, use of natural resources, or ecological safety laws.

⁶⁰ In addition, a law regarding hunting is currently under discussion by the Parliament.

In addition, legislation has been passed on access to environmental information (2002) and ecological awareness and public education (2002).

6.1.7 International agreements and conventions

Azerbaijan is a member of most international agreements and conventions relating to biodiversity (Table 6.1).

Table 6.1 International environmental conventions ratified by Azerbaijan

International convention	Year ratified
UNESCO Convention on Protection of World Cultural and Natural Heritage	1994
UN Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)	2001
UNESCO Convention on Wetlands of International Importance especially as Waterfowl Habitat' (Ramsar Convention)	2000
UN Framework Convention on Climate Change	1995
Protocol on UN Framework Convention on Climate Change (Kyoto Protocol)	2000
UN Convention on Biological Diversity (CBD)	2000
UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention)	1999
UNECE Convention on Environment Impact Assessment in the Trans-boundary Context (Espoo Convention)	1999
UNECE Convention on Long-range Trans-boundary Air Pollution	2002
Convention on Conservation of European Wildlife and Natural Habitats (Bern Convention)	1999
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and Agreement on Protection of Sturgeons	1998
UN Convention to Combat Desertification (CCD)	1998
UNECE Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (Helsinki Convention)	2000
FAO Convention on Plant Protection	2000
UN Convention for the Protection of the Ozone Layer (Vienna Convention)	1996
Agreement on Mutual Cooperation of Commonwealth of Independent States in the area of Hydrometeorology	1998
Protocol on Substances that Deplete the Ozone Layer (Montreal)	2000
European Agreement about Transportation of Dangerous Loads on International Routes	2000

6.2 Protected Areas Network

6.2.1. Description and coverage of Protected Areas

Protected areas are established in order to preserve areas of natural importance from the negative effects of human activities. The following categories of protected area are legally permitted in Azerbaijan.

- Strict nature reserves (or "zapovedniks") including biosphere reserves. Zapovedniks are state-owned, strictly protected areas designated for nature protection and scientific research. No economic activity is allowed. All have management plans and both enforcement and scientific staff.
- Wildlife sanctuaries (or "zakazniks") are designated for nature protection, but limited human activities - for example agriculture - are permitted according to certain regulations, provided that they do not adversely affect nature conservation. Land title is retained by the original owners. All are managed, often by staff attached to a nearby zapovednik.
- National parks are areas with ecological, historical, and aesthetic values, designated for nature protection, environmental awareness, scientific, cultural and other purposes. All land and natural resources belong to the Park management authority, and some economic activities (including ecological tourism) are allowed.
- Natural monuments are protected objects that have ecological, cultural or aesthetic value. They range in size from individual trees (of which 2,083 over 100 years old are designated) to patches of ancient forest, and also include caves, paleontological sites and landscapes. Their destruction or damage is strictly forbidden.
- Zoological parks or gardens
- Botanic gardens and dendrological parks
- Health spas and resorts
- Natural parks may be designated for protection and recreation. There are currently none in Azerbaijan.
- Ecological parks may be created for promoting environmental awareness. There are currently none in Azerbaijan.

There are also special buffer zones around these areas, and other natural areas such as rivers and water sources. The level of protection given to different protected areas depends on their significance - be it international, national, regional or local.

A network of protected areas of various types has been created in Azerbaijan (Table 6.2). They are not evenly distributed across the country, but the main landscapes of ecological importance are represented within the protected areas system. The Ministry of Ecology and Natural Resources manages these reserves, including two National Parks, the Strict Nature Reserves, Wildlife Sanctuaries and Natural Monuments. However, around 13% (273) of the individual trees, 54% (8,153 ha) of the 15,097 ha of ancient woodland and two of the 37 geological sites protected as Natural Monuments are currently outside the Ministry's control as they are now in the territories occupied by Armenian forces.

Table 6.2 The number of protected areas established in Azerbaijan.

Type of reserve	Number of reserves
National Parks ("milli parki")	4
Strict Nature Reserves ("zapovedniks")	16
Wildlife Sanctuaries ("zakazniks")	22
Natural Monuments - Protected trees (over 100 years old)	2,083
Natural Monuments - Protected geological and paleontological sites	37
Coastal national park (Baku)	1
Historical natural state reserve (Gobustan)	1

The most important protected areas in Azerbaijan are briefly described below:

- **Aggol Strict Nature Reserve.** This reserve was gazetted in 1978, and became a National Park in 2003. It is located next to Aggol Wildlife Sanctuary, and was established in order

to increase and protect the winter feeding grounds of migratory wetland birds, and to restore fisheries. It is situated in the Kura-Araz lowland, and as such is one of the most important over-wintering and breeding areas for birds in Azerbaijan. UNESCO included this area on the list of wetlands of international importance in 2001.

- **Altigaj Strict Nature Reserve.** This reserve was created in 1990 in order to prevent soil erosion in the south-eastern part of the Greater Caucasus, and to restore the rare and valuable plants of the Altigaj-Khuzu region.
- **Basitchay Strict Nature Reserve.** This reserve was created in 1974, in order to protect endangered plain ecosystems, and represents one of the largest protected areas of growth of Eastern Platan in the world. Unfortunately the area is within territories occupied by Armenian forces, and as such is no longer being actively managed.
- **Garagol Strict Nature Reserve.** Created in 1987, this reserve was established in order to protect a mountain lake and its surrounding ecosystems. This reserve is also located in territories occupied by Armenian forces.
- **Garayazi Strict Nature Reserve.** This reserve was created in 1978 in order to protect and restore forest ecosystems on the bank of the Kura River.
- **Gizilagaj Strict Nature Reserve.** Created in 1929 next to a Wildlife Sanctuary, the reserve aims to protect a wintering ground for migratory birds of the Caspian region. This large reserve was listed as a Ramsar site in 2001.
- **Zagatala Strict Nature Reserve.** This reserve was created in 1929 to protect the natural habitats (mainly (alpine meadows and forests) of the southern area of the Greater Caucasus.
- **Ilisu Strict Nature Reserve.** This reserve was created in 1987 in order to protect natural ecosystems of the southern area of the Greater Caucasus that were threatened by erosion. In 2003 the reserve was expanded to 17,300 ha.
- **Ismayilli Strict Nature Reserve.** This reserve was created in 1981 in order to protect natural ecosystems of the southern area of the Greater Caucasus. In 2003 the reserve was expanded to 16,700 ha.
- **Turyanchay Strict Nature Reserve.** Created in 1958 the reserve was established to protect and restore the forest landscapes of the Bozdag area, and to prevent soil erosion. The area was expanded to 22,500 ha in 2003.
- **Goy-gol Strict Nature Reserve.** This reserve, established in 1925, was the first in Azerbaijan. It was created in order to protect the natural ecosystems of the north-eastern area of the Lesser Caucasus. The reserve has changed status several times, and it was classified as a strict nature reserve in 1965. There are two parts to the reserve - the main Goy-gol area, and the "Eldar shami". These areas protect the arid forest on the Gabarli River, and also safeguard a population of Eldar pines (*Pinus eldarica*), a restricted range species.
- **Pirgulu Strict Nature Reserve.** This reserve was created in 1968, in order to protect the mountain and forest landscapes of the south-eastern Greater Caucasus. Specifically, the reserve protects important plants, prevents erosion, and conserves important forest stands. In 2003 the reserve was expanded to 4,270 ha.
- **Hirkan Strict Nature Reserve.** This reserve is situated in the damp sub-tropical Lankaran region. It was created in 1936 in order to protect forest cover and the endemic species of the region. Its name and status have changed several times, most recently in 1969.
- **Shirvan Strict Nature Reserve.** This reserve, created in 1969, aims to protect the mammals (specifically the goitred gazelle (*Gazella subgutturosa*), and migratory birds of the Shirvan plain. The total area of the reserve is approximately 6,200 ha. In 2003 Shirvan National Park, covering 54,373 ha, was created next to the Shirvan Strict Nature Reserve and Bendovan Wildlife Sanctuary.

- **Shahbuz Strict Nature Reserve.** This reserve, established in 2003, protects the environment of the Shahbuz district of Nakhichevan Autonomous Republic.

In 1988 the government published a plan for the future development of the national protected areas system up to 2010, with a target for covering a total of 954,000 ha. To date the area covered by five of the protected areas has been increased by 36,600 ha, and they now cover a total area of 70,700 ha. In addition, a Presidential Decree established Ordubad National Park (12,131 ha), Shahbuz Strict Nature Reserve in Nakhichevan Autonomous Republic (3,139 ha), Gakh Strict Nature Reserve (36,836 ha), Shirvan National Park (54,373 ha) and Ag-Gol National Park (17,924 ha). Finally, according to the decree N-81 of the President of The Republic of Azerbaijan dated 9th of February 2004, the Hirkan National Park was created on the base of Hirkan State Reserve with a total area of 21435 ha of Lenkoran and Astara regions.

Future expansions are still planned (Table 6.3).

Table 6.3 Protected areas to be created or expanded in Azerbaijan

Name	Type	Final total area (hectares)
Samukh "Eldar shami"	Strict Nature Reserve	1,442 (to be expanded by 1,050)
Kurdili	Strict Nature Reserve	20,000
Absheron	National Park	1,000 (to be expanded by 185)
Shahdag	National Park	268,000
Samur-Yalama	National Park	30,000
Altigaj		9,438 (to be expanded by 5,000)
Goy-gol		12,131 (to be expanded by 5,000)

There is almost nowhere in Nakhichevan Autonomous Republic which is not subject to human use, and the protected areas system is very important as a means to protect some representative and important natural areas. The first protected area was established in Nakhichevan in 1969 (Ordubad-Julfa Strict Nature Reserve), which was given the status of Ordubad National Park in 2003 (Presidential Decree, dated 16 June 2003), covering 40,000 ha. The National Park protects a wide range of rare and endemic plants, along with a number of mammal species (such as mouflon, bezoar goat, Caucasian leopard, and partridge). Within the National Park a number of zones have been determined, both for species protection and recreation. Under the same Presidential Decree the Shahbuz (Batabat) Strict Nature Reserve was established, covering 3,100 ha of mountain ecosystems at altitudes of 1600-3100m.

6.2.2 Weaknesses in the current protected areas system

A number of shortcomings have been identified with regard to the current protected area system in Azerbaijan. These include:

- Some protected areas do not have strictly protected zones, and continue to be affected by anthropogenic activity;
- Due to the fact that forest management was done more than 20 years ago, the information available is very old, which has made it difficult to achieve an increase in protected areas;
- Management of the reserves is constrained by the lack of land legislation and poorly defined borders;
- During the development of some of the reserves, their relationship within the wider landscape was not adequately considered;

- Despite recent increases in investment, the level of active protected area management is insufficient;
- Some important reserves lie within the occupied by Armenian forces, and lack any management regime. The protected areas in this territory cover 44,300 ha (10% of the total protected area system), and include 150 ancient trees and 13,197 ha of forest.

In Nakhichevan Autonomous Republic a number of villages are located along the borders of the protected areas, and summer pastures near Ordubad National Park and Shahbuz (Batabat) Strict Nature Reserve are significantly overgrazed, being used by up to 250,000 head of livestock each year.

6.3 Conservation outside Protected Areas

6.3.1 *In situ* conservation measures in the wider landscape

One of the main activities benefiting biodiversity conservation in the wider landscape is the proposed extension of the forest area a target of coverage of 20% of the country's territory, as part of measures to combat climate change. Under the National Programme on the Rehabilitation and Extension of Forests (established by Presidential Decree, 26th December 2001), the Ministry of Ecology and Natural Resources is leading activities to restore 20,000 ha of forests and to plant new forests covering some 43,000 ha. Reforestation efforts are also taking place in regions such as Gobustan, which have been negatively impacted by increasing aridification and loss of plant cover, and are at particular risk of desertification. Trial planting in this region has proved successful, although seedlings require intensive support and irrigation until they are established.

In addition, a National Monitoring Service was established in 2001 to co-ordinate the collection of key environmental monitoring data, covering water bodies, soil and the atmosphere, to help to determine and characterize anthropogenic impacts on the environment. Within this framework the Ministry of Ecology and Natural Resources has established a network which will collect information to assist the monitoring of biodiversity, including information on the condition of vegetation cover (including forests) and on animal populations.

6.3.2 *Ex-situ* conservation

In general, there is little *ex-situ* propagation or reintroduction of rare native species in Azerbaijan, despite recent efforts to improve the situation including legislation to support *ex-situ* conservation⁶¹. In particular, there is a real lack of local expertise in *ex-situ* conservation. There is a need to develop a coherent strategy for *ex-situ* conservation, captive breeding and reintroduction in Azerbaijan, in line with

Picture 6.1. Mardakan arboretum, near Baku

⁶¹ Presidential Decree No 675 IQ (1999) and Cabinet of Ministers Decree No 117 (2000)

international (IUCN) guidelines. As a start, laws are currently in force, that protect threatened species from unlicensed collection for unofficial breeding or propagation programmes.

Plant propagation and botanic gardens

The main collection and site for plant propagation in Azerbaijan is the Mardakan Tree Nursery, which was established in 1926 on a 12 ha site on the Absheron Peninsula, 40km from Baku. This garden hosts a wide collection of specimens, both of exotic and native species.

Captive breeding

The main centre for captive breeding in Azerbaijan is at the Baku City Zoological Park, which has a collection of nearly 150 different species. The zoo is active, and the size of collections has grown over the period 2001 to 2003. The collection includes a number of species that are listed on the Azerbaijan Red Book, including Mediterranean turtle (*Testudo graeca*), greater flamingo (*Phoenicopterus roseus*), Dalmatian pelican (*Pelecanus crispus*), purple gallinule (*Porphyrio porphyrio*), mute swan (*Cygnus olor*), tawny eagle (*Aquila rapax*), Peregrine falcon (*Falco peregrinus*), lammergeier (*Gypaetus barbatus*), and goitred gazelle (*Gazella subgutturosa*).

In addition, the zoo is actively involved in breeding a number of animals, including native species such as European pond turtle (*Emys orbicularis*), Mediterranean turtle (*Testudo graeca*), Caspian gecko (*Cyrtopodion caspius*), Griffon vulture (*Gyps fulvus*), purple gallinule (*Porphyrio porphyrio*), golden jackal (*Canis aureus*), wolf (*Canis lupus*), badger (*Meles meles*), and goitred gazelle (*Gazella subgutturosa*).

6.4. Existing programmes for biodiversity conservation

6.4.1. Biodiversity inventory, monitoring and research

A number of institutions contribute to environmental and biodiversity assessment and monitoring. In 2001, the National Monitoring Service was established within the Ministry of Ecology and Natural Resources, to collect data relating to the measurement and prediction of anthropogenic impacts on the environment, including assessments of water, soil and atmospheric pollution. However, further investment is needed to continue to support environmental monitoring activities. A range of scientific institutions (research institutes and universities) collect data directly relevant to biodiversity and its conservation, including inventories of fauna and flora, description of habitats, assessment of genetic diversity, evaluation of limits for sustainable use, and testing of appropriate methods for ecosystem restoration.

In addition, the private sector also contributes to monitoring and research on biodiversity. For example, British Petroleum (BP) monitors biodiversity both on- and off-shore (including populations of fish, birds and mammals), and were also involved in biodiversity related activities such as the Trans-boundary Diagnostic Analysis, a workshop on *Mnemiopsis*, an investigation into the causes of mortality in Caspian seals and environmental data sharing.

6.4.2 Environmental educational programmes and teaching

Although there are a great number of specialists in Azerbaijan, until recently environmental educational and training in the country was rather unsystematic. Over the last ten years the situation has improved, and courses about environmental issues have been included in school curricula, and some schools even offer advanced courses in ecology. However, the

standard of teaching relating to ecology and the environment is constrained by lack of resources, such as specialist books and other materials. In addition, the improvement of training in this area goes hand in hand in broader education reforms, which allow teachers greater freedom in what and how they teach. The further improvement of efforts in environmental education will be supported by legislation, as a result of a Presidential Decree on public ecological education, which was passed at the start of 2003. Under this decree a special Commission was established to prepare a five-year action plan to be delivered by the Ministry of Education. This will also address access to environmental education materials, as well as the establishment of school reserves, ecological parks, and resource centres around wildlife reserves.

Picture 6.1. Schoolchildren on a field trip

The Ministry of Education has a State Ecological Training and Education Centre, which runs a series of environmental education centres in different regions, for children and young people. This centre draws experts from Institutes of the Azerbaijan National Academy of Sciences, state and non-governmental organizations, and provides courses with the aim of developing environmental responsibility among the next generation. In addition, other ecological teaching programmes and ecological clubs have been developed for schools.

As well as the above activities, a number of non-governmental organizations, and the private sector (notably oil companies) have run biodiversity awareness projects focusing specifically on environmental education of children. Other resources exist for environmental education,

such as a number of zoological museums and collections (including the Baku City Zoological Park).

6.4.3 Public Awareness

The existing public awareness materials relating to biodiversity in Azerbaijan are considered to be poor in design and attractiveness, and thus are not as effective as they could be. There are some materials about the usage of medicine plants and only a few films about the fauna and flora of Azerbaijan. Most wildlife films shown on television are imported and describe foreign biodiversity. Some information about biodiversity research and activities is provided to the newspapers, TV and radio, but this does not always reach the widest possible audience. A number of groups have taken the initiative of working with the mass media to highlight ecological problems, but further work is needed (for example through direct presentation of seminars and talks) to raise awareness of biodiversity issues throughout Azerbaijan.

6.4.4 Planning and intervention for conservation and restoration

The need to ensure environmental sustainability is recognized as being as important as peace, political stability, social-economic development and democracy at a global, regional and national level. Thus environmental policies are developed to ensure ecological security and environmental protection and rehabilitation. Challenges such as loss of the ozone layer, climate change, desertification, biodiversity loss and environmental pollution must all be addressed by national policy development.

The legislative base for environmental protection has been established in Azerbaijan. In response to this activities are already underway to improve environmental conditions, such as redevelopment of water ways and drainage systems, tree planting to provide parks and to prevent erosion (including areas along the Caspian coast), and a number of nature reserves and protected zones were created for flora and fauna.

However, gaps still exist in the actions taken for environmental protection, and many of these are identified and addressed by the National Environmental Programme for the Republic of Azerbaijan (adopted by Presidential Decree (18 February 2003). This plan sets out a vision for environmentally sustainable socio-economic development, along with a programme for the rehabilitation and expansion of forests in the country.

6.4.5. International Projects

A number of internationally-funded projects have been developed to address biodiversity issues in Azerbaijan:

- **Caspian Biodiversity Strategy and Caspian Environment Programme (CEP).** The Caspian Environment Programme is supported by several donor organizations (GEF, UNDP, UNEP, World Bank and TACIS), and aims to address trans-boundary environmental problems, such a pollution and biodiversity loss, through co-ordinated actions. Under the leadership of CEP, a “Biodiversity Strategy and Action Plan for the Caspian Sea” was developed in 2001, with participation from all five Caspian littoral states.
- **National Biodiversity Strategy and Action Plan.** The current project (which includes the development of this document) is supported by UNDP/GEF, and aims to produce the

First National Report and Biodiversity Strategy and Action Plan, to meet Azerbaijan's first obligations to the Convention on Biological Diversity. This process is being led by a team from the National Academy of Sciences.

- **Self-Assessment of National Capacity for Global Environment Management.** This is another project supported by UNDP/GEF and it was started in 2003. The objective of the two-year project is to identify national priorities in capacity building with respect to the global environment and its role for sustainable development. It will focus on the Conventions on biodiversity, climate change and desertification/land degradation, and the synergies between them.
- **Rehabilitation and Completion of Irrigation and Drainage Infrastructure Project.** The World Bank is supporting a five-year programme to improve water supply and drainage, with the aim of enhancing agricultural production. Priority irrigation systems will be rehabilitated under this project which will operate until 2006.
- **Sturgeon Hatchery Development Project.** This project was initiated in 1998, under the World Bank's urgent environmental investment project scheme, and is due for completion in 2003. The project supports the construction of a modern hatchery facility for breeding of sturgeon fingerlings, for release into the Kura River and Caspian Sea. The hatchery will operate as a state owned service, with operations funded from public sources and associated beneficiaries.
- **Conservation of the Caucasus leopard.** This World Wide Fund for Nature (WWF) project has been established to determine the status of, and institute protection for, the Caucasian sub-species of leopard across the region. The project will work to strengthen existing and planned protected areas, increase anti-poaching measures, provide training, and to support environmental education and awareness raising activities.
- **Eco-regional planning for the Caucasus.** The German Ministry for Cooperation and Development (BMZ) launched development of a vision for biodiversity conservation in the Caucasus Ecoregion that also served as a foundation for defining CEPF's proposed investments and will support implementation of selected projects under the Caucasus Initiative of the Government of Germany.
- WWF and the Critical Ecosystems Partnership Fund (CEPF) recently led a process to develop a strategy for conservation and sustainable use of biological resources in the Caucasus. This profile prepared with collaboration with the Kreditanstalt fuer Wiedenerneuerung (KfW), Conservation International and other international NGOs, along with representatives from each of the Caucasus states, to determine biodiversity investment priorities for the region. As a result a CEPF investment strategy paper has been developed, which will guide a five-year programme focusing on a series of landscape corridors across the Caucasus region. The work will involve strengthening and establishing protected areas (with a focus on trans-boundary areas), species protection measures, promotion of sustainable use and increasing awareness among decision makers.

Other species and habitat projects include work by WWF on red deer and promotion of sustainable use of medicinal plants, and a project supported by NABU on the conservation of Ag-gol lake. A GEF/World bank Rural Poverty Reduction Project has also been planned, which would involve work in Shahdag and Ordubad National Parks. In addition a number of smaller initiatives benefiting biodiversity deserve mention, such as a project on the revitalization and management of the orchards of Guba region (conducted by the Chamber of Agriculture of Loiret and the Azerbaijan Ministry of Agriculture) and , a project focusing on the protection of endemic medicinal plants from the Caucasus (involving Aix-Marseille's University of Pharmacology, the Science Academy of Tbilisi and the Pharmacology Faculty of Baku).

6.5. Financial resources for biodiversity protection

At present the main source of investment into environmental protection is from public (governmental) sources, and finances are used for a range of activities (Table 6.5). In addition, specific financial investment into forestry represents over seven million manats, for activities such as protection, planning, replanting, pest control, regional forestry units and forest guards. The financial support to the 17 strict nature reserves represents a total of 914,341,000 manats, while an additional 50,285,000 manats is available to support hunting establishments. The Environmental Protection Fund contains around 797 million manats.

At present no tax breaks exist for environmental protection work, but policies are being developed for this.

Table 6.5 Government investment in environmental protection over the last decade

Year	Funding (million manats)			
	Atmospheric protection	Protection of water supplies	Protection of lands	Total
1990	0.4	2	0.6	3
1995	3,411	4,133	18,976	26,773
1997	1,464	2,225	7,458	11,147
1998	3,250	12,525	3,378	19,153
1999	3,269	1,020	2,095	6,384
2000	4,129	3,018	1,466	8,613
2001	885	3,826	1,644	6,355

6.6. Organizations involved in biodiversity conservation and management

6.6.1. Government structures and agencies

The underlying legislative base pertaining to conservation of biological resources is developed by the Milli Mejlis (Parliament). Under this framework, a number of government institutions exist which contribute to the delivery of environmental policy.

- **The Ministry of Ecology and Natural Resources.** Established by Presidential Decree in 2001, the Ministry manages forestry and hunting activities (including oversight of hunting quotas and permits), oversees protection and rehabilitation of fish stocks (and other aquatic bioresources) in marine and freshwater habitats, and is also responsible for biodiversity conservation. It develops strategies for long-term and short-term approaches to sustainable development and sustainable use of biological resources. The activity of the Ministry of Ecology and Natural Resources is divided into six areas: (i) ecological policy development; (ii) ecological protection; (iii) water monitoring and management; (iv) protection of marine (Caspian) bioresources; (v) forest management; and (vi) protected areas. Further information about the work of the Ministry can be found on their website (www.eco.gov.az).

- **The Ministry of Agriculture.** As a major land user and the biggest user of water resources in the country (using 75% of supplies) agriculture has a significant impact on biodiversity. The Ministry of Agriculture carries out work on plant protection and on the rural environment. It runs a number of research institutes, focusing on crop and vegetable cultivation, horticulture, cultivation of cotton, grapes and fodder and livestock breeding,

In addition, the Ministry of Health, the Ministry of Youth, Sport and Tourism, and the State Committee of Land and Cartography conduct some activities which are relevant to biodiversity conservation. Other relevant state organizations include:

- **State Commission of Genetic Resources on Biodiversity.** This was established by Presidential Decree in December 2002, to implement measures in line with Azerbaijan's commitments under the Convention on Biological Diversity in order to prevent the loss of genetic resources of plants, animals and microorganisms.
- **National Academy of Sciences.** This is key national scientific research organization, and operates a series of research institutes, many of which conduct work relevant to biodiversity conservation (including, among others, the Institutes of Geography, Botany, Zoology, Genetic Resources, Microbiology, Oil-Chemistry Processes and Soil Research). Further information about the work of the ANAS can be found on their website (www.science.az).

6.6.2 Non-governmental organisations

At present there are over 60 ecological NGOs and associations, of which 27 focus on biodiversity (See Appendix 3). Among these are scientific groups undertaking basic biodiversity research (such as the Society of Botanists, the Society of Zoologists, the Society of Geographers, the Society of Mammologists and the Azerbaijan Centre for the Protection of Birds). A number of other NGOs are active in environmental education relating to biodiversity, and have an important role in raising public awareness.

6.6.3 Business and the private sector

In addition to local private entrepreneurs a number of international corporations operate in the Republic of Azerbaijan. Representatives of local private businesses have not yet taken an active role in solving environmental problems, mainly due to the relatively early stage of business development in Azerbaijan. In general, foreign investors have been more involved in ecological protection than the local business sector. In particular, the oil sector (including companies such as BP, Exxon Mobil) has been directly involved in biodiversity protection activities, as a result of their recognition of both potential corporate impacts and social responsibility.

Of particular note is the work undertaken to date by BP, whose local operation (BP Azerbaijan) has developed the Biodiversity Strategy, in full consultation with local stakeholders. Under this strategy BP will support both short-term local projects (to be delivered by local NGOs under a small grants scheme) and longer-term regional initiatives (such as work to rehabilitate Tugai forest along the Kura river), and will also support activities to increase public awareness about biodiversity.

6.7. Summary of existing measures, capacity and experience for biodiversity management

Environmental protection is strongly engrained in State policy, and ongoing economic reforms, socio-economic development and infrastructure rehabilitation can be managed so as to ensure that development is sustainable and does not compromise ecological protection, in line with international standards. Through the development of institutions responsible for biodiversity conservation (such as the State Commission of Genetic Resources on Biodiversity and the Ministry for Ecology and Natural Resources) the government has already taken important steps to ensure effective environmental protection. In particular, the Ministry for Ecology and Natural Resources is tasked to implement State policy on the study, use, protection and restoration of natural resources, on the provision of ecological security, and on ensuring the conservation of biodiversity.

Other recent achievements within the Republic of Azerbaijan include the approval of a National Environment Programme (dealing with issues of both sustainable development and forest rehabilitation), and the expansion of the protected areas system in 2003, including the creation of the Ordubad National Park.

The Republic of Azerbaijan also has a number of successful international projects relating to protection of biological resources and protected areas, in co-operation with UNDP, UNEP, World Bank, WWF, and the European Environmental Fund. In addition, a number of local NGOs operate in the field of biodiversity protection.

Chapter 7. Problem Analysis

Chapter 7 Problem Analysis

7.1. Current status of biodiversity

The biodiversity of Azerbaijan has been affected in a wide number of ways by humankind and our activities. At present, some of the most vulnerable ecosystems in Azerbaijan are located in the Kura-Araz plains, where overuse of the land has resulted in erosion. In

Picture 7.1. Resilient vegetation flourishing on the polluted Absheron Peninsula

In addition, anthropogenic pressure on the semi-desert habitats of the Absheron Peninsula has been intensive. Elsewhere, mountain ecosystems have been significantly affected. Timber and fuelwood extraction has resulted in the reduction of forest areas, and coupled with unregulated grazing of mountain pastures, this is contributing to ongoing erosion, resulting in increased flooding and landslides. In general, Azerbaijan has limited forest resources, and their ongoing exploitation and loss of forest area is a cause for concern (for example, with regard to disappearance of the Tugai forest).

In addition, Azerbaijan's wetlands are significantly affected by anthropogenic impacts. Some natural lakes in Azerbaijan (such as Mehman, Garasu and Marso) have almost completely dried out as a result of over-extraction, and others have been severely impacted as a result of the construction of irrigation and drainage systems (such as Bozgobu and Sarisu lakes). Many of these lakes were once important breeding grounds for fish. Lowland lakes are generally fed from drainage channels (as the main rivers are regulated) and this increases their salinity, and dramatically impacts aquatic life, including fish. A number of these lakes are also polluted with outflows from industrial and domestic sources, and may be

contaminated with oil from unsealed wells, the ecological situation of these wetlands is becoming acute.

The situation in the Caspian Sea is a matter of both national and international concern. As a closed system, this sea is particularly vulnerable to human impacts, and its biodiversity is at risk from a number of factors, including the recent accidental introduction of *Mnemiopsis leidyi*, pollution loads and over-fishing (particularly of valuable fish, such as sturgeon).

The decline in the extent and quality of ecosystems has in turn affected the associated species of plants and animals. The populations and distribution of a number of economically important tree species have been reduced⁶². In addition, 416 plant species are recommended for listing in an updated Red Data Book for Azerbaijan. A number of invertebrate species are also at risk in Azerbaijan, mainly as a result of habitat loss⁶³, and the anthropogenic impacts on the environment have significantly affected a number of vertebrates (particularly species with specialized niches, such as the striped hyena, *Hyaena hyaena*). Plant and animal species have also been affected by hunting and over-collection, and by the impacts of parasites and diseases.

⁶² Including Caucasian oak (*Quercus macranthera*), maple (*Acer trautvetterii*), birch (*Betula pendula*), wych elm (*Ulmus scabra*) and bird cherry (*Prunus padus*).

⁶³ Including bumblebees (various *Bombus* species) and arthropods endemic to Talysh region (including *Purpuricenus tlyshensis*, *Dorcadion talyschense*, and *Carabus clypeatus*)

7.2. Direct causes of biodiversity loss

Human activity underlies most of the causes of biodiversity losses in Azerbaijan, and humankind has significantly affected much of the land, through activities such as:

- **Land conversion**, predominantly for agriculture, but also for construction and industry, has reduced the area of natural habitat in Azerbaijan and results in fragmentation of the remaining landscape.
- **Land degradation**, resulting from overuse, erosion and fertilizer burdens reduces productivity and affects the likelihood of natural habitats reestablishing. It is estimated that 70% of pastures have undergone erosion, particularly the more fragile summer pastures.
- **Pesticide use**, particularly the legacy of high levels of application of toxic chemicals during the Soviet era, has resulted in long term pollution of some soils, and leaching into waterways. Pesticide use is currently under improved State control, however some illegal application of imported and unregistered pesticides is thought to occur.
- **Irrigation** has impacted much of the lowlands, and canals have fragmented much of the wider natural habitat, preventing free migration of animal species (especially as they lack appropriate bridges or escape paths for wildlife). Over recent years the collapse of these systems due to lack of repair has resulted in changes in the chemical composition of soil, increase in the ground-water level and gradual increases in salinity in some areas.
- **Water regulation**, including the construction of dams and management of water flows and extraction levels, has affected aquatic habitats significantly, particularly in the absence of adequate measures for protection of fisheries and other aquatic species
- **Pollution**, including the legacy from Soviet industry and agriculture, and ongoing pollution of waterways from domestic and industrial sources. In some cases older infrastructure relating to the oil industry is a source of pollution. The outflow of rivers into the Caspian Sea contributed to the pollution loads detected in the marine habitat.
- **Transport infrastructure** (including over 2,000 km of railway, 25,000 km of roads and 4,000 km of oil and gas pipelines) has caused habitat fragmentation, and represent barriers to the movement of wildlife, resulting in genetic isolation of sub-populations.
- **Over-use of biological resources** has been ongoing, with difficult economic conditions resulting in overexploitation of forests, medicinal plants and animals (including fish). Of particular note has been the decline in fisheries from both the Caspian Sea and inland waterways as a result of over-catch along with other factors such as water extraction and pollution. The sturgeon issue is one that requires international collaboration in order to prevent further over-fishing.
- **Alien species** are a particular issue in the Caspian Sea, where the comb jelly *Mnemiopsis leidyi* has been introduced, and has the potential to decimate planktonic fry and ultimately fish stock.

7.3. Underlying causes of biodiversity loss

A range of issues drive the ongoing decline of biodiversity in Azerbaijan, as in the rest of the world:

- **Economic development.** Over the last decade the Republic of Azerbaijan has seen major social and economic change, resulting from independence, economic downturn, and subsequent market reforms and recovery. The legacy of Soviet overuse of natural resources persists with regard to high pollution and pesticide burdens. In addition, the economic downturn affected the maintenance of infrastructure, including irrigation systems, leading to its deterioration and subsequent environmental impacts. The problems associated with market reforms, coupled with the costs of the Nagorno Karabakh conflict, resulted in reduced living standards for much of the population, and greater reliance on natural resource use.
- **Land use.** In order to feed the population and to support economic growth, significant areas of land have been converted from natural ecosystems to agricultural use. In addition, to this loss of natural habitat, other ecosystems are also affected by ongoing use – particularly with regard to grazing in lowland plains and mountain meadows. The lack of regulation of some grazing activities, and inappropriate use of meadow habitats, is contributing to soil erosion and changes in plant community compositions, which ultimately affect biodiversity.
- **Conflict.** The ongoing conflict with Armenia over Nagorno Karabakh has contributed significantly to biodiversity declines. All terrestrial ecosystems have been affected – either directly or indirectly – by the conflict over Nagorno Karabakh, which has resulted in destruction of extensive areas of woodland (mainly through fire) and ecological impacts to fauna and flora within the occupied territories. The occupation of territories by Armenian forces has resulted in a significant increase in refugees and internally displaced people (together representing around 1 million people or 12% of the population). The long-standing conflict has affected the country's economy and living conditions, resulting in greater exploitation of natural resources. Refugees and internally displaced people often live in temporary settlements, and rely on intensive grazing and use of fuel wood, resulting in local land degradation around these settlements. In addition, a number of the Strict Nature Reserves and significant forest reserves are located within the occupied territories.

7.4 Key sectors affecting biodiversity

A number of economic sectors directly impact biodiversity in Azerbaijan.

- **Agriculture.** Reform of the agricultural sector over the last few years has reduced its impact on biodiversity. Previously under the Soviet system productivity was maintained by extensive use of pesticides and mineral fertilizers, and through the establishment of extensive monocultures. However, a significant portion of Azerbaijan's land remains under cultivation, and the associated biodiversity is still directly affected (for example, the regulations in place to protect wildlife during harvesting are not always observed, fields are burnt after harvest, unregistered pesticides and inappropriate fertilizers are used; pastures are intensively grazed, and irrigation systems affect soil and water bodies).
- **Forestry.** In general, the area of forest continues to decrease in Azerbaijan, and species composition and structure of woodland is changing. Lack of sources of fuel (such as gas) result in a reliance on wood for fuel, which is probably the greatest impact on forest

resources. In addition, timber is cut illegally for construction, which results in the removal of older trees from the forests.

- **Industry.** Although pollution from industrial sources has decreased over the last decade as the economic status of the country changed, the legacy of pollution from previous years remains a problem, with poor decommissioning procedures leaving behind untreated industrial waste and obsolete equipment.
- **Transport.** The density of roads and growth in the transport infrastructure (including canal construction) has resulted in greater fragmentation of the habitat. In addition, there is now a growth in pollution from vehicle emission sources.
- **Construction.** In many cases new buildings are constructed without appropriate planning or impact assessment, based on local regulations, without effective State oversight. As a result some houses have been built in inappropriate areas (for example in pipeline buffer zones, and on the protected shores of lakes and the Caspian Sea).
- **Oil Industry.** Oil extraction and refining industries have had significant effects on biodiversity and on the general environment. For decades ground (soil) tanks and open canals have been used to collect oil flowing from onshore wells and to ensure flow of oil to processing centres. The lack of the necessary technologies, inappropriate drilling regimes, poor maintenance and disregard of environmental protection measures have contributed to impacts in both onshore and offshore ecosystems. On the Absheron Peninsula 7,400 ha has been badly contaminated, and the legacy of earlier oil extraction remains in polluted lakes, soil and ground water. The extent of oil extraction and processing has now decreased and new technological processes have been introduced. However the State oil company is still considered to be a major contributor to atmospheric pollution, and the issue of waste water discharge into the Caspian Sea remains a cause for concern
- **Mining.** The mining industry affects biodiversity in a number of ways, including direct destruction of natural habitats (such as destruction of pastures for quarrying), widespread erosion and pollution, increases in the transport network, extensive slag heaps covering surrounding areas, coupled with lack of appropriate restoration of the lands. Mining activities affect significant areas of mountain habitats in particular, and these have been related to increasing erosion in these areas. Many of the by-products of mining contain heavy metals contaminate surrounding soils and water courses.
- **Tourism.** If unregulated, tourism can significantly affect natural habitats and species. Unplanned and inappropriate construction in natural areas (for example in coastal, forest or green zones), coupled with increased transport and development of new paths in ecologically sensitive areas, increased collection of rare plants and increased litter are all problems.

7.5 Constraints to biodiversity conservation

The key factors that limit the effectiveness of biodiversity conservation in Azerbaijan include:

- **Limited finance** for conservation means that some essential activities cannot be undertaken. For example the limited investment into nature protection facilities and activities (around 0.2% of total investments in 2001) restricts the work that can be achieved for environmental protection. Financial constraints have limited almost all activities, including the support for artificial breeding and release of fish fry into the rivers and water bodies.
- **Lack of information** on appropriate management techniques.
- **Incomplete legislation**, particularly with regard the normative acts which explain the application of the laws, undermines environmental protection. There is a need to harmonise the existing laws, and to establish new legislation to fill gaps in existing laws on the protection of biodiversity and genetic resources.
- **Limited enforcement of legislation** is partly related to the above problems in the legal base, but also reflects deficiencies in the judicial system.
- **Poor environmental education and awareness** prevents widescale public involvement or responsibility in biodiversity protection issues.

7.6 Opportunities for biodiversity conservation

A number of developments will support further efforts to improve biodiversity conservation in Azerbaijan.

The Constitution of the Republic of Azerbaijan outlines the core principles of environmental protection, and the legislative basis for this has been put in place, along with an improved environmental management structure has been developed. The Constitution, which was adopted after a national referendum in 1995, sets out the principles of environmental protection, ownership of natural resources and the regulation of this sector. Since then the Milli Mejlis (Parliament) has further developed the legislative basis for regulating environmental protection, and around 20 laws have been adopted to bring the country in line with international standards on environmental protection. In addition, in 2001 the Ministry of Ecology and Natural Resources was established to help manage and implement priorities for environmental protection.

The government of the Republic of Azerbaijan is committed to solving the country's environmental problems (including biodiversity conservation) and has taken a number of important actions in this regard. For instance, a State Committee has been established to help meet the obligations of the country under the Convention on Biological Diversity, and the national Environment Programme (approved in 2003) identifies a number of opportunities for biodiversity conservation.

In addition, the growth of the NGO sector also supports increased biodiversity conservation measures, and 60 of the 400 registered NGOs in the Republic are environmental organizations.

7.7. Key issues

A cross-sectoral workshop was held in the summer of 2003 to identify the key issues or major problems to be tackled in order to protect the country's biodiversity. The following key issues for biodiversity were identified:

- The natural resources are not evaluated
- Biodiversity conservation is not at an appropriate level for adequate protection of threatened species and habitats
- The protected areas system has weaknesses and deficiencies
- The legislation system has weaknesses and needs improvement
- Existing legislation is not implemented to an appropriate level
- There are insufficient financial resources for biodiversity protection activities
- Insufficient efforts are made for ex-situ protection of plants and animals
- Natural resources are not being used in a sustainable manner
- The cross-sectoral linkages between appropriate organizations (including NGOs) is limited and could be strengthened
- There is limited protection of traditions and cultural heritage linked to nature and natural resources
- There are few incentive mechanisms to promote social responsibility in respect to biodiversity conservation
- There are not enough experts in the field of biodiversity, and the knowledge of those existing experts could be enhanced
- Limited public awareness and education relating to biodiversity

In the Nakhichevan Autonomous Republic there are a range of wild habitats and associated rare and endemic species that are at risk of destruction and extinction as a result of anthropogenic factors. The effects of land degradation (erosion and salinisation) require substantial intervention to restore natural areas. In addition, collection and trade in a number of plant species, and hunting of animals, is threatening their survival. Current efforts are insufficient to ensure the conservation and sustainable use of the biodiversity of the Autonomous Republic.

It is clear that a range of ecosystems, sites and species require prompt intervention if they are to survive in Nakhichevan, and a number of areas should be afforded protected status. For example Qaraqush mountain and surrounding areas, which support a range of rare and endemic plant species⁶⁴ is currently unprotected, as are areas such as “Gerek dash” in the Sederek region, sites around the villages of Hemzeli, Axura, Zizifus and Cuchawhich support important animal populations, and the areas of Ilanlidag and Yevgeni oldurgeni⁶⁵. In addition, in order to maintain important populations of, the areas around require protection, as hunting continues unregulated in some of these sites. A number of ecosystems and habitats in Nakhichevan are threatened, including a range of rare forest types, such as the forests in the Ereidag-Demirlidag mountains.

7.8 Next steps

The current document, which represents the first National Report to the Convention on Biological Diversity, represents a status review of the current situation facing biodiversity and its conservation in Azerbaijan, taking on board input from a range of national specialists and feedback from wide consultations. This document provides information sources for the planning of the national Biodiversity Strategy and Action plan, a process which is now underway for completion in 2004.

⁶⁴ Including *Triticum monococcum*, *T. araraticum*, *Daphne transcaucasia*, *Aster alpinus*, *Campaluna radura*, *C. karakuschensis*, *Diphelypaea coccinea*, *Gundelia tournefortii*, *Globularia trichosantha*, *Hypericum atropatanum*, *H. formosissimum* and *Scilla atropatana*.

⁶⁵ These areas support a range of plant species, as well as Caucasian leopard, mouflon, porcupine and partridge

Appendices

Appendix 1. Threatened Species recorded from Azerbaijan⁶⁶

Scientific name	English and/or Azeri Common name(s)	Status (IUCN and CITES)	National Status
PLANTS			
<i>Sporophyta</i> - Ferns and horsetails			
<i>Dryopteris raddeana</i> (Fomin) (1911)	<i>Radde ayıdöşəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Gymnospermae</i> - Gymnosperms			
<i>Pinus eldarica</i> Medw. (1902)	<i>Eldar şamı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pinus kochiana</i> Klotzsch ex C. Koch, (1849) (<i>Pinus hamata</i> (Stev.) Sosn.)	<i>Kox şamı (qarmaqvari şam)</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Juniperus foetidissima</i> Willd.	<i>Ağriyli ardıc</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Angiospermae</i> - Angiosperms			
<i>Monocotyledonus</i> - Monocotyledons			
<i>Nectaroscordum dioscoridis</i> (Sibth. et Smith.) Stank (1966)	<i>Rəngli nektaroskordum</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Nectaroscordum tripedale</i> (Trautv.) Grossh. (1940)	<i>Üçfütlu nektoroskodum</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Galanthus caucasicus</i> (Baker) Grossh. (1924)	<i>Qafqaz xədicəgülü</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Sternbergia colchiciflora</i> Waldt. et Kit. (= <i>S. alexandre</i> Sosn.) (1936)	<i>Qışda çiçəkləyən şternbergiya, Fişer şternbergiyası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Sternbergia fisheriana</i> (Herb.) M. Roem.	<i>Fişer şternbergiyası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Sternbergia lutea</i> (L.) Spreng. (1847)	Winter daffodil (<i>Sarı şternbergiya</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Danae racemosa</i> (L.) Moench (1974)	<i>Budaqlı danaya</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ruscus hyrcanus</i> Woronow (1907)	<i>Hirkan bikəvəri</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Crocus caspius</i> Fisch. et Mey. (1838)	<i>Xəzər zəfəranı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Gladiolus halophilis</i> Boiss. et Heldr. (1853)	<i>Şoran qarğasoğanı</i>	-	Included in the Red Data Book

⁶⁶ In total 303 species are considered to be nationally or internationally threatened, and these are listed here.

			of Azerbaijan.
<i>Iridodictyum reticulatum</i> (Bieb.) Rodionenko= <i>Iris reticulata</i> Bieb. (1808)	<i>Torlu iridodiktium</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris acutiloba</i> C. A. Mey. (1831)	<i>İtikənarlı süsən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris camillae</i> Grossh.	<i>Kamilla süsəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris elegantissima</i> Sosn. (1915)	<i>Qəşəng süsən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris grossheimii</i> Woronow ex Grossh. (1928)	<i>Grossheym süsəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris iberica</i> Hoffm. (1806-08)	<i>Gürcü süsəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris lycotis</i> Woronow (1915)	<i>Qurdqulağı süsən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris paradoxa</i> Stev. (1820)	<i>Paradoksal süsən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Iris prilipkoana</i> Kem.-Neth.	<i>Prilipko süsəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Fritillaria grandiflora</i> Grossh. (1919)	<i>İriçiçək lələvər</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Lilium ledebourii</i> (Baker) Boiss. (1884)	<i>Ledebun zambağı</i>		Included in the Red Data Book of Azerbaijan.
<i>Merendera candissima</i> Micz. et Grossh. (1928)	<i>Ağaran danaqıran</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Muscari elegantissimum</i> Schchian (1947)	<i>Qəşəng ilansoğanı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ornithogalum hyrcanum</i> Grossh. (1929)	<i>Hirkan xıncalausı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Scilla atropatana</i> Grossh. (1935)	<i>Atropaten zümrüdçiçəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tulipa biebersteiniana</i> Schult.et Schull. Fil. (1829)	<i>Biberşteyn dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tulipa florenskyi</i> Woronow (1924)	<i>Florenski dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tulipa julia</i> C.Koch (1948)	<i>Yuliya dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tulipa karabachensis</i> Grossh. (1936)	<i>Qarabağ dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.

<i>Tulipa schimidtii</i> Fomin (1909)	<i>Şmit dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tulipa eichleri</i> Regel.	<i>eyxler dağlaləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Cephalanthera longifolia</i> (L.) Fritsch. (1888)	<i>Uzunyarpaq tozbaş səhləb</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Himantoglossum formosum</i> (Stcv.) C.Koch = <i>Loroglossum formosum</i> Stev. (1908)	<i>Qəşəng qayıqləçək</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Limodorum abortivum</i> (L.) SW (1799)	<i>Natamam limodorum</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Orchis purpurea</i> Huds.(1762)	<i>Fırfır səhləb</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ophrys caucasica</i> Woronow ex Grossh.	<i>Qaqaz qaş səhləbi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Stevaniella satyrioides</i> (Stev.) Schlechter (1918)	<i>Satiriodvari stevaniella</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Paeonia mlokoscwilschii</i> Lomak (1897)	<i>Mlokosevic pionu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ammochloa palaestina</i> Boiss. (1853)	<i>Fələstin qumotu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Avena ventricosa</i> Bal. (1854)	<i>Şişkin vələmir, Şişkin hacaquyruq</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Stipa pellita</i> (Trin, el Rupr.) Tzvel. (1966)	<i>Tukcükli şiyav</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Triticum monococcum</i> L. (1753)	<i>Təkdənli büğda</i>	-	Included in the Red Data Book of Azerbaijan.
Dicotyledonae - Dicotyledons			
<i>Dorema glabrum</i> Fisch. et Mey. (1835)	<i>Dorema (Çılpaq dorema)</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Caropodium platycarpum</i> (Boiss et Hanskn.) Schishk.	<i>Oraqmeyvə kapopodium</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ferula caspica</i> Bieb. = <i>F. caucasica</i> Korov. (1808)	<i>Qafqaz ilankölgəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ferula oopoda</i> (Boiss. et Buhse) Boiss. (1872)	<i>Yumurtavari ilankölcəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ferula persica</i> Willd.(1797)	<i>İran ilankölgəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ferula szowitsiana</i> D. C.	<i>Şovits ilankölgəsi</i>	-	Included in the Red Data Book of Azerbaijan.

<i>Smyrniopsis oneberi</i> Boiss. (1936)	<i>Oşe lələklivəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Stenotaenia macrocarpa</i> Freyn et Sinl. ex Freyn. = <i>S. daralaghezica</i> (Takhl.) Schischk. (1949)	<i>İrimeyvə stenoteniya</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ilex hyrcana</i> Pojark. (1947)	<i>Hirkan şümşəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Hedera pastuchowii</i> Woronow (1932)	<i>Pastuxov daşsarmaşığı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Aristolochia bottae</i> Jaub. et Spach (1842-43)	<i>Botta zərvəndi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Cladochaeta candissima</i> (Bieb.) DC. (1837)	<i>Parlaq kladoxeta</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Gundelia tournefortii</i> L. (1753)	<i>Turnefor qundeliyası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Lactuca takhtadzhianii</i> Sosn.	<i>Taxtacan südləməsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyrethrum komarovii</i> Sosn. (1945)	<i>Kamarov birəotu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyrethrum kotschyi</i> Boiss. (1855)	<i>Koçi birəotu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Scorzonera grossheimii</i> Lipsch. et Vass.	<i>Qrossheym təkəsaqqalı, keçi yemliyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Scorzonera pulchra</i> Lomak. (1897)	<i>Gözəl təkəsaqqalı, keçi yemliyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Scorzonera pusilla</i> Pall. (1804)	<i>Kiçik təkəsaqqalı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Telekia speciosa</i> Schred.) Baumg.(1816-46)	<i>Gözəl telekiya</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Alnus subcordata</i> C. M. Mey. (1831)	<i>Ürək yarpaq qızılağac</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Betula raddeana</i> Trautv.(1887)	<i>Radde tozağacı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Physoptychis caspica</i> (Habl.) V. Boczan.= <i>P. gnaphalodes</i> (DC) Boiss. (1867)	<i>Xəzər bozqovac</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pseudovesicaria digitata</i> (C. A. Mey.) Rupr.(1869)	<i>Barmaqvari qovaq</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Buxus sempervirens</i> L. = <i>B. colchica</i> Pojark.+ <i>B. hyrcana</i> Pojark.(1907)	Common box (<i>Həmişəyaşıl şumşad</i>)	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Gleditsia caspia</i> Desf.(1809)	<i>Kaspi, Xəzər şeytanağacı</i>	-	Included in the Red Data Book of Azerbaijan.

			Red Data Book of Azerbaijan.
<i>Campanula radula</i> Fisch. ex Tchih. (1860)	<i>Şüahi zəngçiçəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Euonymus velutina</i> Fisch. et Mey (1838)	<i>Məxməri gərməşov</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Anabasis brachiata</i> Fisch. et Mey. ex Kar. et Kir. (1842)	<i>Şamdanvari öldürgən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Anabasis eugeniae</i> Iljin (1937)	<i>Yevgeni öldürgəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Corylus colurna</i> L.=C. <i>cervorum</i> V.Petrov.(1936)	Turkish hazelnut (<i>Maral findığı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Diospyros lotus</i> L.(1753)	Date plum (<i>Qafqaz xurması</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Rhododendron caucasicum</i> Pall. (1784)	<i>Qafqaz xaniməli</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rhododendron luteum</i> Sweet (1830)	<i>Sarı xaniməli</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Euphorbia grossheimii</i> Prokh.(1930)	<i>Qrossheym süddüyəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Astragalus bakuensis</i> Bunge (1868)	<i>Bakı gəvəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Astragalus nachitschevianicus</i> Rza-zade (1954)	<i>Naxçıvan gəvəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Astragalus kubensis</i> Grossh. (1933)	<i>Quba gəvəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Astragalus paradoxus</i> Bunge (1859)	<i>Qəribə gəvəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Astragalus prilipkoanus</i> Grossh. (1936)	<i>Prilipko gəvəni</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Castanea sativa</i> Mill.	European chestnut (<i>Adi şabalıd</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Quercus boissieri</i> Reult.= <i>Q. araxina</i> (Traulv.) Grossh. (1930)	<i>Boasiye palıdı, Araz palıdı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Quercus castaneifolia</i> C.A.Mey.(1831)	<i>Şabalıdyarpaq palıdı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Platanus orientalis</i> L.	Oriental planetree (<i>şərq çinarı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Gentiana lagodochiana</i> (Kusn.)Grossh. (1932)	<i>Laqodex acıçiçəyi</i>	-	Included in the Red Data Book

			of Azerbaijan.
<i>Globularia trichosantha</i> Fisch.et Mey.(1879)	<i>Darləçək qlobulariya</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Parrotia persica</i> (DC.) C.A.Mey. (1831)	<i>Dəmirəğacı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Anogramma leptophylla</i> (L.) Link	<i>Nazikyarpaq anoqramma</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Hypericum formosimum</i> Takht.	<i>Gözəl dazi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pterocarya pterocarpa</i> (Michx.) Kunth ex I.Iljinsk.(1824)	<i>Qanadmeyvə yalanqoz</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Acantholimon schemachense</i> Grossh. (1931)	<i>Şamaxı tıs-tısı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Acantholimon tenuiflorum</i> Boiss. (1846)	<i>Nazikçiçək tıs-tıs</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Alcea kusariensis</i> (Iljin) Iljin ((1949)	<i>Qusar gülxətmi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Alcea lenkoranica</i> Iljin (1949)	<i>Lənkəran gülxətmi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Alcea sachsachanica</i> Iljin (1940)	<i>Sağsağan gülxətmi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Marsilea strigosa</i> Willd.	<i>Sərttükli marsiliya</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Ficus hyrcana</i> Grossh.	<i>Hirkan ənciri</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Albizia julibrissin</i> Durazz. (1772)	<i>Lənkəran güləbrişini, İpək akasiyası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Nelumbo caspica</i> (DC) Fisch. (<i>Nelumbium caspica</i> (DC.) Fisch.) (1823)	<i>Şanagüllə</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Nymphaea alba</i> L. (1753)	European white waterlily (<i>Ağ suzanbağı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Nymphaea candida</i> J. et C. Persl	<i>Гар сузанбабы</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Calligonum bakuense</i> Litv. (1922)	<i>Bakı cuzqunu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Calligonum polygonoides</i> L. (1753)	<i>Qırxbuğum cuzqun</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rheum ribes</i> L. (1973)	<i>Qarağat rəvəndi</i>	-	Included in the Red Data Book of Azerbaijan.

<i>Primula juliae</i> Kusn.(1899)	<i>Yuliya novruzçiçəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Cyclamen elegans</i> Boiss. et Buhse	<i>Zərif meşənovruzgülü</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Punica granatum</i> L.	Pomegranate (<i>Adi nar</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Anemone kuznetzowii</i> Woronow et Grossh.(1930)	<i>Kuznetsov əsməsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Frangula grandiflora</i> (Fisch. et Mey.) Grub.(1949)	<i>İriyarpaq kövrək mürdəşir</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Cotoneaster saxatilis</i> Pojark. (1938)	<i>Qaya dovşanalması</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Laurocerasus officinalis</i> M. Roem.(1847)	<i>Dərman dəfnəgilənarı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Padus avium</i> Miel.= <i>P. racemosa</i> (Lam.) Gilib.(1785)	<i>Quş meşəgiləsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyrus boissierana</i> Buhse(1860)	<i>Buasiye armudu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyrus eldarica</i> Grossh.(1944)	<i>Eldar armudu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyrus hyrcana</i> Fed.(1952)	<i>Hirkan armudu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rosa pulverulenta</i> Bieb. (<i>Rosa azerbaijdzhantica</i> Novopokr.et Rza-zade(1947))	<i>Azərbaycan itburnusu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pyracantha coccinea</i> (L.) M. Roem. (1847)	Scarlet firethorn (<i>Qırmızı tubulğa</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Rosa karjaginii</i> Sosn.(1944)	<i>Qaryagin itburnu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rosa nisami</i> Sosn.(1944)	<i>Nizami itburnu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rosa canina</i> L. (<i>Rosa sosnovskiyi</i> Chrishan.(1951))	Dog rose (<i>İtburnu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Salix kuznetzowii</i> Laksch ex Goerz.	Kuznetsov's willow (<i>Kuznetsov söyüdü</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Atropa caucasica</i> Kreyer (1925)	Caucasian belladonna (<i>Qafqaz xanmotu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Staphylea colchica</i> Stev.	<i>Kolxida Stafulası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Taxus baccata</i> L.	English yew (<i>giləli qaracöhrə</i>)	-	Included in the

			Red Data Book of Azerbaijan.
<i>Daphne transcaucasica</i> Pobed.	Transcaucasian daphne (<i>zaqafqaziya canavargiləsi</i>).	-	Included in the Red Data Book of Azerbaijan.
<i>Stelleropsis magakjanii</i> (Sosn.) Pobed. . (1940)	<i>Maqakyan cincilimcəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Trapa hyrcana</i> Woronow(1917)	<i>Hirkan sufındığı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Zelkova carpinifolia</i> (Pall.) C.Koch (1892)	<i>Vələsyapaq azat</i>	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Valeriana alliarifolia</i> Adams (1805)	<i>Sarımsaqyarpaq pişikotu</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Vitis sylvestris</i> C.C.Gmel. (1905)	<i>Məşə üzümü</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Woodsia alpina</i> R. Br. (1823)	Alpine woodsia, Northern woodsia, Woodsie alpine (<i>Alp vudyası</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Lactuca takhtadzhjanii</i> Sosn. (1941)	<i>Taxtacan südləməsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Salsola tamamsahjanae</i> Iljin (1936)	<i>Tamamşyan şorangəsi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Zeravschania pauciradiata</i> (Tamamsch.) M. Pimen. (<i>Peucedanum paucirodiatum</i> Tam. (1936))	<i>Azşüahlı dağçətiri</i>	-	Included in the Red Data Book of Azerbaijan.
ANIMALS			
Phylum: Annelida			
Class: Hirudinoidea			
Order: Arhynchobdellae			
Family: Hirudinidae			
<i>Hirudo medicinalis</i> Linnacus, 1758	Tibbi zəli (<i>Medicinal leech</i>)	LR/nt ver 2.3 (1994)	-
Phylum: Molluska			
Class: Gastropoda			
Order: Stylommatophora			
Family: Vertiginidae			
<i>Vertigo angustior</i> Jeffreys, 1830	<i>Narrow-mouthed Whorl Snail</i>	LR/cd ver 2.3 (1994)	-
<i>Vertigo moulinsiana</i> Dupuy, 1849	<i>Des Moulin's Snail</i>	LR/cd ver 2.3 (1994)	-
Phylum Arthropoda			
Class Insecta			
Order Hymenoptera			
Family Apoidea			
<i>Bombus</i> (Mg.) <i>portchinsky</i> Radoszkowski, 1883	Portchinskii's Bumblebee (<i>Porçinski zolaqlı arısı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Bombus</i> (Th.) <i>mlokosievitzii</i> Radoszkowski, 1877	Mlokosievitz's Bumblebee (<i>Mlokoseviç zolaqlı arısı</i>)	-	Included in the Red Data Book

			of Azerbaijan.
<i>Bombus (Ev.) persicus</i> Radoszkowski, 1883	Persian Bumblebee (<i>Fars zolaqlı arısı</i>)	d-	Included in the Red Data Book of Azerbaijan.
Order: Odonata			
Family: Cordulegastridae			
<i>Cordulegaster mzymtae</i> Bartenev, 1929	-	VU B1+2c ver 2.3 (1994)	-
Family: Gomphidae			
<i>Onychogomphus assimilis</i> (Schneider, 1845)	-	VU B1+2c ver 2.3 (1994)	-
Order Coleoptera			
Family Cerambycidae (Longhorned Beetles)			
<i>Rosalia alpina</i> Linné, 1758	<i>Rosalia longicorn (Alp rozaliyası)</i>	VU A1c ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Mallosia scovitzii</i> Fald., 1837	Scovitz's longhorned beetle (<i>Skovitz uzunbığı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Purpuricenus talyschensis</i> Reitt., 1891	Purple talysh longhorned beetle (<i>Tündqırmızı talış uzunbığı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Dorcadion talyschense</i> Gang., 1883	Talysh root-eating longhorned beetle (<i>Talış kökyeyanı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Parandra caspia</i> Men., 1832	Caspian parandra (<i>Xəzər parandrası</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Carabidae (Ground Beetles)			
<i>Carabus clypeatus talyschensis</i> Men., 1832	Talysh three-bladed runner (<i>Üçpərli talış qaçağanı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Carabus scabrosus caucasicus</i> Adams, 1817	Caucasian splashing snail-eater (<i>Qafqaz ilbizyeyən fısqırdanı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Calosoma sycophanta</i> L., 1758	Pretty ground beetle (<i>Qəşəng böcək</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Megacephalus euphraticus</i> Latr., 1885	Euphrates runner (<i>Fərət çapağanı</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Buprestidae (Jewel Beetles)			
<i>Ancyloderma salomoni</i> Thomson, 1878	Solomon's jewel beetle (<i>Solomon qızıl böcəyi</i>)	-	Included in the Red Data Book of Azerbaijan.
Order: Orthoptera			
Family: Tettigoniidae			
<i>Saga pedo</i> (Pallas, 1771)	Predatory bush cricket	VU B1+2bd ver 2.3 (1994)	-
Order Lepidoptera – Butterflies and moths			
Family Papilionidae			
<i>Parnassius apollo</i> L., 1758	Apollo butterfly (<i>Apollon</i>)	VU A1cde ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Parnassius nordmanni</i> Men., 1849	Nordman apollonu	-	Included in the Red Data Book of Azerbaijan.
<i>Zerynthia cericyi caucasica</i> Led.,	<i>Qafqaz zerintiyası</i>	-	Included in the

1850			Red Data Book of Azerbaijan.
<i>Papilio alexanor orientalis</i> Rom., 1884	<i>Şərqi aleksanor yelkəncili</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Anthocharis gruneri</i> Chr., 1870	<i>Şəfəqsəçən</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Zegris menestho</i> Men., 1832	<i>Eyfema</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Colias thisoa</i> Men., 1832	<i>Alp sarıcası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Colias caucasica</i> Strgr., 1871	<i>Qafqaz sarıcası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Colias aurorina</i> H.-S., 1850	<i>Avrorina sarıcası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Colias chlorocoma</i> Chr., 1888	<i>Kürd sarıcası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Danaüs chrysippus</i> L., 1758	<i>Xrizip</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Pararge adrastoides</i> Bien., 1870	<i>Talış məxməri kəpənəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Melanargia hylata</i> Men., 1882	<i>Hilata</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Satyrus alpina</i> Stgr., 1879	<i>Alp satiri</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Thaleropsis jonia</i> Fisch., 1851	<i>İoniya bərqvuranı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Argynnis alexandra</i> Men., 1832	<i>Aleksandra sədəflisi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Heodes ochimus</i> H.-S., 1851	<i>Oxim qızılı kəpənəyi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Tomares romanovi</i> Ch., 1882	<i>Romanov tomaresi</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Manduca atropos</i> L., 1758	<i>"Kəllə şəkilli" haf</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Daphnis nerii</i> L., 1758	<i>Oleandr hafı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Rethera komarovi</i> Chr., 1885	<i>Komarov hafı</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Hippotion celerio</i> L., 1758	<i>İri tənək hafı</i>	-	Included in the Red Data Book

			of Azerbaijan.
<i>Brahmaea christophi</i> Strg., 1885	<i>Talış brameyası</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Axiopoena maura</i> Eichw., 1832	<i>Tutqun ayıca</i>	-	Included in the Red Data Book of Azerbaijan.
<i>Zygaena Tamara</i> Chr., 1889	<i>Tamara alacası</i>	-	Included in the Red Data Book of Azerbaijan.
Family: Lycaenidae			
<i>Lycaena dispar</i> (Haworth, 1802)	<i>Large Copper</i>	LR/nt ver 2.3 (1994)	-
<i>Maculinea arion</i> (Linnaeus, 1758)	<i>Large Blue</i>	LR/nt ver 2.3 (1994)	-
<i>Maculinea nausithous</i> (Bergstrasser, 1779)	<i>Dusky Large Blue</i>	LR/nt ver 2.3 (1994)	-
Order: Sphingidae			
<i>Hyles hippophaes</i> (Esper, 1793)	-	DD ver 2.3 (1994)	-
<i>Proserpinus proserpina</i> (Pallas, 1772)	<i>Willowherb Hawkmoth</i>	DD ver 2.3 (1994)	-
Phylum Chordata			
Pisces - fish			
Class Cephalaspidomorphi			
Order Petromyzontiformes			
Family Petromyzontidae			
<i>Caspiomyzon wagneri</i> Kessler, 1870	<i>Caspian Lamprey (İlanbalığı)</i>	-	Included in the Red Data Book of Azerbaijan.
Class Actinopterygii - ray-finned fishes			
Order Acipenseriformes			
Family Acipenseridae - Sturgeons			
<i>Acipenser gueldenstaedtii</i> Brandt, 1833	<i>Russian Sturgeon (Rus nərası)</i>	EN A2d ver 2.3 (1994), CITES (appendix II)	-
<i>Acipenser nudivetntris</i>	<i>Fringebarbel sturgeon (Kələmo, Qayabalığı)</i>	EN A1acde+2d ver 2.3 (1994) CITES (appendix II)	Included in the Red Data Book of Azerbaijan.
<i>Acipenser persicus</i> Borodin, 1897	<i>Persian sturgeon</i>	EN A2d ver 2.3 (1994), CITES (appendix II)	-
<i>Acipenser stellatus</i> Pallas, 1771	<i>Starry sturgeon (Uzunburun)</i>	EN A2d ver 2.3 (1994), CITES (appendix II)	-
<i>Acipenser ruthenus</i> Linnaeus, 1758	<i>Sterlet (Çökə)</i>	VU A1c+2d ver 2.3 (1994), CITES (appendix II)	-
<i>Huso huso</i> Linnaeus, 1758	<i>Beluga, European Sturgeon, Giant Sturgeon, Great Sturgeon (Bölgə)</i>	EN A2d ver 2.3 (1994), CITES (appendix II)	-
Order Salmoniformes			

Family Salmonidae - Salmonids			
<i>Salmo trutta fario</i> Linnaeus, 1758	Brown trout (<i>Qızılخالı</i>)	-	Included in the Red Data Book of Azerbaijan.
Order Clupeiformes			
Family Clupeidae (Herrings, shads, sardines)			
<i>Clupeonella cultriventris</i> Nordmann, 1840	Black Sea sprat (<i>adi killə</i>)	DD ver 2.3 (1994), Not included in the Red book of Azerbaijan	-
<i>A. pontica</i> (<i>A. pontica kessleri</i> , <i>A. p. volgensis</i>)	Volqa siyənəyi və Qrabel siyənək (<i>Pontic shad</i>)	DD ver 2.3 (1994)	-
Order Cypriniformes			
Family Cyprinidae (Minnows and carp)			
<i>Abramis sapa</i> Pallas, 1814	White-eye bream (<i>Poru</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Pelecus cultratus</i> Linnaeus, 1758	Ziege (<i>Qılncbalıq</i>)	DD ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Rutilus frisii</i> (Nordmann, 1840)	Kütüm, ziyad (<i>Black Sea Roach</i>)	DD ver 2.3 (1994)	-
Fəsilə: Cobitidae			
<i>Sabanejewia aurata</i> (De Filippi, 1863)	Qızılı ilişən (<i>Goldside Loach</i>)	DD ver 2.3 (1994)	-
Order Perciformes			
Family Percidae (Perches)			
<i>Lucioperca marine</i> Cuvier, 1928	Marine Zander (<i>Dəniz sifi</i>)	-	Included in the Red Data Book of Azerbaijan.
Class Amphibia - Amphibians			
Order Caudata			
Family Salamandridae - Salamanders			
<i>Triturus vulgaris</i> Linnaeus.,1758 (In Azerbaijan <i>Triturus vulgaris lantzi</i> threatened)	Smooth Newt (<i>Adi triton</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Triturus cristatus</i> Laur., 1786 (In Azerbaijan <i>Triturus cristatus karelini</i> threatened)	Great Crested Newt (<i>Daraqıl triton</i>)	LR/cd ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Order Anura			
Family Pelobatidae			
<i>Pelobates syriacus</i> Boettger., 1889	Eastern Spadefoot (<i>Suriya sarımsaqiyli qurbağası</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Hylidae			
<i>Hyla arborea</i>	Common Tree Frog (<i>Adi ağac qurbağası</i>)	LR/nt ver 2.3 (1994) Not in Azerbaijan Red data book	Included in the Red Data Book of Azerbaijan.
Family Pelodytidae			
<i>Pelodytes caucasicus</i> Boul., 1896	Caucasian Parsley Frog (<i>Qafqaz xaçlıcası</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Bufonidae - Toads			

<i>Bufo verucosissima</i> (Pallas,1813)	Qafqaz quru qurbağası (<i>Caucasian Toad</i>)	-	Included in the Red Data Book of Azerbaijan.
Class Reptilia - Reptiles			
Order Testudines			
Family Testudinidae			
<i>Testudo graeca</i> Linnaeus, 1758	Common Tortoise, Greek Tortoise, Moorish Tortoise, Spur-thighed Tortoise (<i>Aralıq Dənizi Tısbağası</i>)	VU A1cd ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Order Squamata			
Suborder Sauria (Lacertidae)- Lizards			
Family Agamidae - Agamas			
<i>Trapelus ruderatus</i> Rastegar-Pouyani, 2000	Horn-scaled Agama (<i>Xarabalıq kələzi</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Phrynocephalus helioscopus</i> Engelmann et al, 1993	Sunwatcher Toadhead Agama (<i>Girdabaş yovşanlıq kərtəngələsi</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Scincidae - Skinks			
<i>Mabuya aurata</i> Greer & Nussbaum, 2000	Golden Grass Mabuya (<i>Qızıltı mabuya</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Ablepharus bivittatus</i> Engelmann et al, 1993	Twin-striped Skink (<i>Zolaqlı çıpaqgöz kərtəngələ</i>)	-	Included in the Red Data Book of Azerbaijan.
Suborder Ophidia (Serpentes) - Snakes			
Family Colubridae - Colubrids			
<i>Coluber longissimus</i> Laurenti, 1768	Aesculapean Snake (<i>Eskulap ilanı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Elaphe situla</i> (Linnaeus, 1758)	Leopard snake	DD ver 2.3 (1994)	-
<i>Rhynchocalamus melanocephalus</i> Engelmann et al, 1993	Palestine Kukri Snake (<i>Qarabaş rinxokalamus</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Natrix megalcephala</i> Engelmann et al, 1993	Bighead-European Grass Snake, Large-headed Water Snake	VU A1d, C1 ver 2.3 (1994)	-
<i>Vipera raddei raddei</i> Boettger, 1890	Caucasus Viper (<i>Kiçik asiya gürzəsi</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Vipera dinniki</i> McDiarmid, Campbell & Toure	Dinnik's Viper	VU C1+2a ver 2.3 (1994) Not included in Azerbaijan red data book	-
Class Aves - Birds			
Order Pelecaniformes			
Family Pelecanidae - Pelicans			
<i>Pelecanus onocrotalus</i> Linn.1758	White pelican (<i>Çəhrayı qutan</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Pelecanus crispus</i> Bruch, 1832	Dalmatian pelican (<i>Qıvrımlək qutan</i>)	LR/cd ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Family Phalacrocoracidae			

<i>Phalacrocorax pygmaeus</i> Pall.,1773	Pygmy cormorant (Kiçik qarabatdaq)	LR/nt ver 2.3 (1994) Not included in red data book	-
Order Ciconiiformes			
Family Threskiornithidae			
<i>Platalea leucorodia</i> Linn.,1758	Spoonbill (<i>Ərsindimdik</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Ciconidae			
<i>Ciconia nigra</i> Linn.,1758	Black stork (<i>Qara leylək</i>)	-	Included in the Red Data Book of Azerbaijan.
Order Ciconiformes			
Family Phoenicopteridae			
<i>Phoenicopus ruber</i> Pall., Linn.,1758	Greater flamingo (<i>Qızılqaz</i>)	-	Included in the Red Data Book of Azerbaijan.
Order Anseriformes			
Family Anatidae			
<i>Branta ruficollis</i> Pallas., 1769	Brent goose (<i>Qırmızıdös qaz</i>)	VU B1+2c ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Anser erythropus</i> Linnaeus, 1758	Lesser white-fronted goose (<i>Ağqaz qaz</i>)	VU A1acd+2bcd ver 2.3 (1994) Not included in red data book	-
<i>Cygnus olor</i> Gm., 1789	Mute swan (<i>Fısıldayan qu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Cygnus columbianus bewickii</i> Varrell, 1830	Bewick's swan (<i>Kiçik qu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Marmaronetta angustirostris</i> Menetr.,1832	Marbled teal (<i>Mərmər cürə</i>)	VU A1cd+2cd, C1 ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Aythya nyroca</i> Guld., 1770	Ferruginous duck (<i>Ağgöz dalğıc</i>)	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Oxyura leucocephala</i> Scop., 1769	White-headed duck (<i>Göydimdik</i>)	EN A1acde ver 2.3 (1994) Not included in Azerbaijan red data book	-
Order Falconiformes			
Family Accipitridae			
<i>Pandion haliaetus</i> Linn.,1758	Osprey (<i>Çay qaraquşu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Haliaeetus albicilla</i> Linn.,1758	White-tailed (sea) eagle (<i>Ağquyruq dəniz qartalı</i>)	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Accipiter gentilis</i> Linn., 1758	Goshawk (<i>Tetraçalan</i>)	-	Included in the Red Data Book of Azerbaijan.

<i>Accipiter badius</i> Gmelin, 1788	Shikra (<i>Türküstan tüvüyü</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Aquila nipalensis</i> Temm., 1828	Steppe eagle (<i>Çöl qartalı</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Aquila clanga</i> Pall., 1811	Greater spotted eagle (<i>Kiçik qartalça</i>)	VU C1 ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Aquila heliaca</i> Savigny, 1809	Imperial eagle (<i>Məzar qartalı</i>)	VU C1 ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Aquila chrysaetus</i> Linn., 1758	Golden eagle (<i>Bərqud</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Gypaetus barbatus</i> Linn., 1758	Lammergeier or Bearded vulture (<i>Toğlugötürən</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Aegypius monachus</i> Linn., 1758	Black vulture (<i>Qara kərəkəs</i>)	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Circaetus gallicus</i> Gmelin, 1788	Short-toed eagle (<i>İlaneyən</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Circus macrourus</i> Gm., 1771	Pallid harrier (<i>Çöl belibağlısı</i>)	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Falconidae			
<i>Falco cherrug</i> Gray., 1834	Saker falcon (<i>Ütəlgü</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Falco peregrinus</i> Tunstall, 1771	Peregrine (<i>Şahin, laçın</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Falco naumanni</i> Fleischer, 1818	Lesser kestrel (<i>Çöl muymulu</i>)	VU A1bce+2bce ver 2.3 (1994) Not included in Azerbaijan red data book	-
Order Galliformes			
Family Tetraonidae			
<i>Tetrao mlokosiewiczzi</i> Taczan., 1875	Caucasian black grouse (<i>Qafqaz tetrası</i>)	DD ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Tetraogallus caspicus</i> Gm., 1784	Caspian snowcock (<i>Xəzər uları</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Tetraogallus caucasicus</i> Pall., 1811	Caucasian snowcock (<i>Qafqaz uları</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Phasianidae			

<i>Francolinus francolinus</i> Linn.,1758	Black francolin, black partridge (<i>Turac</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Phasianus colchicus talischensis</i> Lor.,1888	Pheasant (<i>Qırqovulun talış yarımövü</i>)	-	Included in the Red Data Book of Azerbaijan.
Order Gruiformes			
Family Gruidae			
<i>Grus leucogeranus</i> Pall., 1773	Siberian crane (<i>Ağ durna</i>)	CR A2cde ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Crex crex</i> Linn.,1758	Corn crane (<i>Cıvımdık</i>)	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Rallidae			
<i>Porphyrio porphyrio</i> Linn.,1758	Purple gallinule (<i>Sultan toyuğu</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Otididae			
<i>Otis tarda</i> Linn.,1758	Great bustard (<i>Dovdaq</i>)	VU A2c ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Otis tetrax</i> Linn.,1758	Little bustard (<i>Bəzəg</i>)	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Chlamydotis undulata</i> Jacuin, 1784	Houbara bustard (<i>Gəşəng dovdaq, Cek</i>)	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Order Charadriiformes			
Family Charadriidae			
<i>Vanellus gregarius</i> Pall., 1771	Sociable plover (<i>Çökükburun cüllüt</i>)	VU A1ac+2bc, C1 ver 2.3 (1994)	-
<i>Vanellus</i> (= <i>Chettusia</i>) <i>leucura</i> Licht., 1823	White-tailed lapwing (<i>Ağquyruq çökükburun</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Scolopaciidae			
<i>Numenius tenuirostris</i> Vieillot, 1718	Slender-billed curlew (<i>Kiçik kronşnep</i>)	CR C2b, D ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Gallinago media</i> Latham, 1787	Great snipe (<i>Təmbəl bekas</i>)	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Glareolidae			
<i>Glareola nordmanni</i> Nordm., 1842	Black-winged pratincole (<i>Çöl haçaquyruq cüllütü</i>)	DD ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Order Columbiformes			

<i>Pterocles orientalis</i> Linn., 1758	Black-belled Sandgrouse (<i>Qaraqarın bağrıqara</i>)	-	Included in the Red Data Book of Azerbaijan.
Order Passeriformes			
Family Turdidae			
<i>Irania gutturalis</i> Guerin, 1843	White-throated Robin (<i>Ağboğaz bülbül</i>)	-	Included in the Red Data Book of Azerbaijan.
Family Parinae			
<i>Parus hyrcanus</i> Loscot, 1977	Hircan tit (<i>Hirkan arıquşu</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Rhodopechys githaginea</i> (= <i>Bucanetes githagineus</i>) Licht., 1823	Trumpeter finch (<i>Səhra qarquşu</i>)	-	Included in the Red Data Book of Azerbaijan.
Class Mammalia - Mammals			
Order Chiroptera - Bats			
<i>Rhinolophus euryale</i> Blasius, 1835	Mediterranean horseshoe bat (<i>cənub nalburunu</i>)	VU A2c ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Rhinolophus mehelyi</i> Matschie, 1901	Mehely's horseshoe bat (<i>Meheli nalburunu</i>)	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Rhinolophus blasii</i> Peters, 1866	Blasius's horseshoe bat	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Rhinolophus ferrumequinum</i> Schreber, 1774	Greater horseshoe bat	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Rhinolophus hipposideros</i> Bechstein, 1800	Lesser horseshoe bat	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Miniopterus schreibersi</i> Kuhl, 1817	Common bentwing bat, Schreiber's long fingered bat	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Nyctalus lasiopterus</i> Schreber, 1780	Giant noctule	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Nyctalus leisleri</i> Kuhl, 1817	Lesser noctule	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Tadarida teniotis</i> Rafinesque, 1814	European fretailed bat (<i>Böyükdodaq enliyarpaq</i>)	-	Included in the Red Data Book of Azerbaijan.

<i>Barbastella barbastellus</i> Schreber, 1774	Western barbastelle	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Myotis bechsteini</i> Kuhl, 1817	Bechstein's bat (<i>Berşteyn şəbpərəsi</i>)	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Myotis emarginatus</i> É. Geoffroy, 1806teniotis	Geoffroy's bat (<i>Üçrəng şəbpərə</i>)	VU A2c ver 2.3 (1994) Not included in Azerbaijan red data book	-
Order Carnivora			
Suborder Feliformia			
Family Felidae - Cats			
<i>Panthera tigris virgata</i> Illiger, 1815 ⁶⁷	Tiger, turan tiger (<i>Pələng</i>)	EN C2a(i) ver 3.1 (2001)	Included in the Red Data Book of Azerbaijan.
<i>Lynx lynx</i> Linnaeus, 1758	Eurasian lynx (<i>Vaşaq</i>)	LT ver 3.1 (2001)	Included in the Red Data Book of Azerbaijan.
<i>Panthera pardus</i> Linnaeus, 1758	Leopard (<i>Bəbip (xallı pələng)</i>)		Included in the Red Data Book of Azerbaijan.
<i>Felis silvestris</i> Schreber, 1775 ⁶⁸	Wild cat (<i>çöl pişiyi</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Otocolobus manul</i> Pallas, 1776	Pallas' cat (<i>Manul pişiyi</i>)	NT ver 3.1 (2001)	Included in the Red Data Book of Azerbaijan.
Sub-order Pinnepedia			
Family Phocidae			
<i>Phoca caspica</i> Gmelin, 1788	Caspian Seal (<i>Xəzər suiti</i>)	VU B1+2e ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Hyaenidae - Hyaenas			
<i>Hyaena hyaena</i> Linnaeus, 1758	Striped hyaena (<i>Zolaqlı kaftar</i>)	LR/nt ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
Family Mustelidae - Mustelids			
<i>Vormela peregusna</i> G黚ldenst鋎t, 1770	Marbled Polecat (<i>Safsar (sarıqlı)</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Lutra lutra</i> L., 1758	Common Otter (<i>Çay samuru</i>)	VU A2cde ver 2.3 (1994)	-

⁶⁷ The last recorded Turan tiger was killed in the Talysh region (Prishib village) in 1932. Reports of tigers in the Lenkoran region persisted since 1950, however there was thought to be some confusion with observation of leopards, and the tiger was listed in the Red Book subsequent to its extinction in Azerbaijan.

⁶⁸ The steppe form of wild cat, which is distributed across Africa and Asia, is protected in Azerbaijan

Order Rodentia - Rodents			
Family Hystricidae - Scirtidae			
<i>Sciurus anomalus</i> Gldenstdt, 1785	Caucasian Squirrel, Persian Squirrel (<i>Zaqafqaziya sincabi</i>)	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Didodidae			
<i>Sicista betulina</i> Pallas, 1779	Northern Birch Mouse	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Myxodae			
<i>Glis glis</i> Linnaeus, 1766	Fat dormouse	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Family Muridae			
<i>Apodemus hyrcanicus</i> Vorontsov, Boyeskorov & Mezhzherin, 1992	Caucasus field mouse	DD ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Calomyscus urartensis</i> Vorontsev & Kartavseva, 1979	Urartsk mouse-like hamster	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
<i>Chionomys nivalis</i> Martins, 1842	European snow vole, snow vole	LR/nt ver 2.3 (1994) Not included in Azerbaijan red data book	-
Order Artiodactyla			
Family Bovidae			
<i>Gazella subgutturosa</i> Gldenstdt, 1780	Goitred Gazelle, Sand Gazelle (<i>Ceyran</i>)	NT ver 3.1 (2001)	Included in the Red Data Book of Azerbaijan.
<i>Capra cylindricornis</i> Blyth, 1841)	Eastern Caucasian Tur (<i>Dağistan turu, Dağ kli</i>)	VU A1d+2de, C1 ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Capra aegagrus</i> Erxleben, 1777	Wild goat (<i>Bezoar keçisi, Qaya keçisi</i>)	VU A2cde ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.
<i>Rupicapra rupicapra</i> L., 1758	Alpine chamois (<i>Kgr (Qarapaça)</i>)	-	Included in the Red Data Book of Azerbaijan.
<i>Ovis orientalis</i> Gmelin, 1774	Mouflon (<i>Kiçik Asiya Muflomu, Vşsi qoyun</i>)	VU A2cde ver 2.3 (1994)	Included in the Red Data Book of Azerbaijan.

Appendix 2. Land use in Azerbaijan

Region	Human population	Area (ha)							
		Total area	Total agricultural land	Annual plants	Perennial plants	Ploughed land	Gardens	Arable	Meadow and pasture
Absheron	30,200	525,500	187,800	20,1000	3,800	6,000	5,800	35,700	152,100
Guba-Khachmaz	312,900	801,000	446,500	126,700	28,200	200	15,300	170,500	276,000
Zakatala-Balakan	401,400	987,700	462,300	178,200	41,900	2,300	18,900	241,200	221,100
Shirvan	523,600	1196,400	752,400	298,600	15,400	11,200	37,200	362,300	390,100
Ganja-Gazakh	602,700	1,249,400	792,200	188,100	4,100	7,200	42,500	242,000	550,200
Gasabag-Mil	545,800	886,800	570,500	262,300	18,200	4,100	29,800	314,300	256,200
Mugan-Salyan	484,300	776,800	579,300	282,200	400	5,700	39,500	327,800	251,500
Lenkoran-Astara	455,300	493,700	197,800	65,800	9,300	3,400	14,000	92,400	105,400
Nakhichevan	267,400	536,300	170,800	28,400	700	12,600	12,900	54,600	116,200
Total	3,623,600	7,453,500	4,159,700	1,450,400	122,000	52,700	215,700	1,840,900	2,318,800
Occupied territories	387,700	1,188,000	581,300	171,400	38,000	7,100	8,300	224,900	356,400
Total	4,011,300	8,641,500	4,741,000	1,621,900	160,000	59,900	224,000	2,65,700	2,675,200

Source: State Committee of Land and Cartography. Figures shown from "Azerbaijan agriculture 2001", from State Statistic Committee, p.61-70.

Appendix 3. Environmental NGO's in Azerbaijan

English Name	Contact person	Phone /Fax	E-mail	Address
Alive Nature Azerbaijan Flora and Fauna Founders Club	Aynur Surkhayeva	69504, 722771		Sumgayit, 23, 17th District, apt. 34
Ana Kur International Ecological Society	Israil Aliyev	567901		Ganja, 273, Ataturk Avenue
Association for Control of the Human and Animal's Protozoons	Hamida Gayibova, Mehdi Aliyev	935773	gamida_gaib@hotmail.com	Baki, 27, Azerbaijan av., apt.22
Azerbaijan Center for Protection of Birds	Elchin Sultanov	927052, 3161651	sultanov@azeurotel.com	Baki, 370073, passage 1128, mehelle 504
Azerbaijan Demographers Association (ADA)	Niyazi Mursagulov	711909	mursakulovnn@aznet.org, mursakulov@hotmail.com	Baki, 63 a , M.Hadi, apt. 97
Azerbaijan Ecological Union	Manaf Suleymanov	396123		Baki, 28a, Inshaatchilar av., apt. 43
Azerbaijan Green Movement	Farida Huseynova, Khalid Aliyev	3299391, 958939	Guseynovafk@aznet.org	Baki, 370001, 47/17, Istiglaliyyet str. Branches in Mingechevir and Sumgayit.
Azerbaijan National Committee on International Hydrologist Program	Magbet Mamedov, Farda Imanov	474068, 390501, 673156	farda@azerin.com	Baki, 370148, 23 Khalilov academician str., Baki State University
Azerbaijan Society of Study of Local Lore	Aydin Eyvazov, Seyran Veliyev	920882, 987903, 987903		Baki, 27 U.Hajibeyov str.
Azerbaijan Society of Zoologists	Musa Musayev, Barat Akhmedov, Tahir Kerimov	397371, 397359, 917783	zoology@deacs.ab.az	Baki, 370073, 1128 block, pass 504
Azerbaijan Society for Protection of Animals	Azer Garayev, Gunduz Rahimov	940304, (850) 125089	aspa@azintex.com	Baki, 370014, 53, Fizuly str., apt. 96; Branch in Kazahstan
Caucasus Int'l Center of Study of Local Lore & Ecotourism	Elchin Orujev	712468, 3271273	cavcin@azdata.net	Baki, 370123, 26, R.Mamedov, apt.154
Cultural Ecological Center Goy Gurshagy	Ismayil Sadikhly	42294		Sheki 20, 5 Sary Torpag str., pereulok 4
Dalga Charitable Society	Seyidzadeh M., Ahmedov I.	766365		Baki, 95, Babek av., apt. 54. Branch in Mingechevir
Eco-TES	Chingiz Nazarov	61598	ekotes@mail.ru	Mingechevir, 1, Y. Mansurov str., apt. 16
Ecolex - Azerbaijan Environmental Law Center	Samir Isayev, Sevil Isayeva	683359, 3121439, 683359	Ecolex@azdata.net	Baki, 4th district, 29a, Javadkhan str., apt. 99
Ecological Biophysics	Ralfrid Hasanov	398608		Baki, 40, Patamdar road (2, Metbuat av.), Botany Institute
International Youth Ecological Center	Valida Khanbabayeva, Ali Azimov	776184, 204537	azimovar@aznet.org	Baki, 370001, 47, Istiglaliyat str., apt. 17
Ecological Fund	Elshad Mamedov	(22) 573578,	azti@ganca.net	Ganja, 103, 28 May str.

		575660		
Ecological Problems Research Center	Kamran Mahmudov	760042	ngo@isar-az.org	Baki, 36, Ganja av., apt. 35
Ecology and Health	Gulnara Agarahimova	33827, 34461		Khachmaz, 74, Narimanov str.
Ecology Teachers Charitable Society	Suveyrat Hasanova, Elmira Gabulova	710609		Baki, 22b, Zikh road, apt. 129
Ecopark Organization	Hikmet Salahov, Arif Islamzade		sum@sec.sumgait.az	Sumgayit, 373200, 16, Nizamy str.
Ecores Information Analytic Environmental Agency	Rafiq Verdiyev	958368, 951223, 983181, 929961	ecores@iatp.baku.az	Baki 370002, 157 Sh. Azizbekov str., apt. 23
ECOS - Ecological Stability	Ayten Poladova	951247, 316589	fidan8@azintex.com	Baki, 370014, 54, Bul-Bul Avenue
Ecosaf	Rasim Aliyev	237778, 552783, (855) 7781923	rasim-aliev@yahoo.com	Baki, 14, A.Manafov str., apt.36
Ecosphere Social Ecological Center	Firuz Sultanzade, Zuleykha Aliyeva	924348, 3320034	ecosphera@azeurotel.com	Baki, 3, Lermontov str., apt. 61
Ekoil - Scientific Ecological Society	Muslim Gurbanov	941214	mgurbanov@hotmail.com	Baki, 370014, 31a, H. Javid av.
Elsevenler Society	Chingiz Verdiyev	32145		Ganja, 80, Ozan str.
Fevgal Association of Specialists on Emergency Situations and Security of Human Life Activity	Habib Ojagov, Gayibeli Hajimetov	390775, 395452	Fovgal@azeronline.com	Baki, 370073, 5, Ayna Sultanova
For Clean Caspian Sea	Yegana Mehdi	758946	Yeganam@yahoo.com	Baki, 21, Hojaly str., apt.6
Public Ecological Foundation named after Gasan Aliyev	Garib Mamedov	392261		Baki 370073, 31 G. Javid av.
Golden Beehive Beekeepers Society	Yevdokiya Khanbeyova, Kh. Aliyev, G. Huseynzade	924686, 3468917	goldenhive@hotmail.com	Baki, 370004, 15, 1st Yasr povorot, apt. 2
Gyulum	Irada Guliyeva	975291, 902292	21century@azdata.net	Baki, 2 bulvar, 5b Mamedyarov str., apt.18
Healthy Society Group	Aydin Samedov	614540		Baki, 3a S.Akhundov str., apt. 7
Human and Environment	Ismayil Ismayilov	973867	ismayilov@baku.net.az	Baki, 370001, 29/3, Mukhtarov str.
Independent Ecology & Economics Organization	Tural Jamalov, Asif Makhmudov	267057, 268578	max-asif@usa.net	Baki, Bakikhanov settlement., bloc # 4083, 2, apt.27
Intellect Regional Humanitarian Ecological Education Center	Tahir Novruzov, Zahid Abbasov	25773, 25165		Shamkir, 8 M. Sabir str.
Kur-Khazar Charity Society	T. Mehdiyeva, B. Mikayilov	663156, 981179, 907227		Baki, 38, Gadirbeyova str. Branches in Neftchala, Ganja, Salyan
Lapirchy	Alkhan Garayev	973103		Shamakhy region, Galaybugurd village school
Mother nature Natural Hygiene Center	Arshad Azimov	52137, 3168197		Guba, 2a, Fatalykhan str., apt 39

National Center of Environmental Forecasting	Telman Zeynalov	945342			Baki, 13, Mirza Aga Aliyev str., apt. 14
Nature and Society	Sammadin Hajialiye	52232			Guba, 21, Fataly khan str.
Our House Caucasus International Children Ecological Union	Firuz Amirova, Rufat Alekperov	406330, 955994, (855) 7826165, 922327	ourhome@azdata.net; www.azer.web.com/ourhome/		Baki 370025, 45/57, Nobel av. Branches in Ali-Bayramli and Nakhichevan.
Pilgrim	Yuriy Valuyev	405819, (850) 3434589	pilgrim@azdata.net; website: http://www.azerweb.com/directories/director.cfm		Baki, 370007, 56 Sarabskogo str., apt. 36
Protection of the Natural Resources Society	Reyhan Aslanova	660			Khachmaz, Yalama village
Rostok (Sprout)	Garib Akhmedov	315575			Baki, 4 microrayon, 13, Jabiyev str., apt. 6
Ruzgar Ecological Social Union	Islam Mustafayev	769801, 394113	IMustafaev@iatp.baku.az		Baki, 370119, 124/128, G.Garayev str.
Azerbaijan Society for Protection of Nature	Sabir Israfilov, Chingiz Mageramov, Samir Isayev	697357, (850) 3396998	isabir@azdata.net		Baki, 7 M/district, 5, S.Sani Akhundov str., 5. Branches in 36 regions of Azerbaijan.
Society for Protection of Farmers Rights	Solmaz Asadova, Eyvaz Javadov, Hadija Eldarova	(172) 71292, 33025			Khachmaz, Resource Center, Gimil Gimlag village
Chinar Society for Protection of Flora and Fauna	Vugar Mehdiyev	714022			Baki, 36 Abilov str., apt.1
Sorge Children Care Charity Society	Tamara Dadasheva, Aygun Shahbazova, Valida Aliyeva	312201, 943810, 300034, (850) 3137299	azsorge@bakinter.net		Baki, 79, Zardabi str.
South Eco-SOS Society for Nature Protection	Elvin Sadigov	(171) 47907, (850) 3642899	el_len_eco@yahoo.com		Lenkoran, 90, Nizami str.
TETA Hazri Public Association for Development and Research	Lydiya Gulizadeh	680351, 3362648	azgeog@geo.abaz		Baki, 3 microrayon, 28, Javadkhan str., apt. 37
World is our home Peace and Travelling Center	Haji Hajiyev, Orkhan Eyyubov	931438	far@monitor.baku.az		Baki, 3, R.Behbutov str.
Yashil Dalga Youth Ecological Center	Salman Suleymanov	235121			Baki, B. Chobanzadeh, 41-2
Yashil Dunya (Green World)	Elmar Babayev, Ilgar Zeynalov	319128, 2131652, 3208683	L-bey@excite.com		Baki, 68 A. Maharramov Str., apt. 102
Young Agrobusiness Association	Azer Humbetov	67652, 57838			Ganja, 15, Ganja str.
International Youth Environmental Center	Vafa Jafarova, Rasim Ashumov	776184, 204537, 677791			370001, Baki, 31 Istiglaliyyet str., 5-th floor
Human and Peace	Irada Mikayilova	51450, (850) 3281381			Guba city, 68, Sulh Avenue
Ozone Social Ecological Public Union	Azad Allahverdiyev	(850) 3350174			Guba region, Hajigayib village
Damiragach Public Ecological Union	Sabir Suleymanov, Novruz Guliyev	42445			Lenkoran, 63, Koroglu Street
Mammalogists of Azerbaijan	I. Rakhmatulina, E. Askerov	953312	zoology@dcacs.ab.az		Baki, 127, S. Askerova Street

Development of Mountain Regions of Azerbaijan	Jahangir Najafov, Dilara Veliyeva	948654, 978775, 3219880, 958662	adria@yahoo.com	Baki, 56, J. Mamedguluzade Street, apt. 9
Public Union For the Sake of Health Environment	Rahim Kalantarov, Vugar Aliyev, Enver Rustamov	54264		Lenkoran, 31, Mir Mustafa-han Street, apt. 6
Scientific Research Institute on Prognosis and Studying of Earthquakes	Elchin Khalilov, Abbas Guvalov	981415, 938400	enitech@yahoo.com	Baki, Nasimi district, 18, Mardanov gardashlary Street
Public Union of Information and Technical Support to the Development of Entrepreneurship	Anar Garibov, Fahraddin Ibrahimov	931153	sitiyar@hotmail.com	Baki, 16/7, U. Hajibeyov Street
Public Union of Creative Intelligentsia Seyyah RITM	Gurban Dostalizade, Rafail Hasanov	399838		Baki, N. Narimanov Street, house 2, tupic 1
Public Union of Assistance to the Development of Entrepreneurship Eko-Ay	Ilgar Namazov	(22) 562346, 564259, 561677, (22) 532346	ilgarn@mail.ru	Ganja, 90/81, S.I.Khatai Avenue
Public Union for Protection of Nature Dalga	Natig Hatamov	(154) 55537, (850) 3455842		Imishli region, 25, Fizuli Street
Public Union Health Environment	Zemfira Sadikhova	624880		Baki, 33/40 Ataturk Avenue
Sheki branch of the Union of Afghanistan Veterans of The Republic of Azerbaijan	Nazim Yusifov, Vugar Ilyasov	43894, 48891		Sheki city, 175, M.E.Rasulzade Street
Nature and Person	Kamil Ilyasov	54105, (850) 3146358		Guba, 2a, Vagif Street
Shafag Ecotourism Union	Ali Dovlatov	40731		Lenkoran, 48, Sattarhan Street
Objective Public Organization of Artists	Heydar Gasimov, Nazim Gubadov	(850) 3284457	obyektiv@yahoo.com	Lenkoran, 3, Tofik Ismayilov Street, Floor 4
Dirchelish	Eynulla Kheyrollayev	51450		Guba, 68 Sulh Avenue
Caspian Children Ecological Club	Elnara Asadullayeva	766306, 388580		Baki, 6, Ahmed Javad Street, apt. 58
Union of Women-Journalist Ecologists	Gulnaz Bagvanova	396072		Baki, 87a, Javid Avenue, apt. 740
Hayajan Nature Protection and Rehabilitation Organization	Tahir Aydinov	924591	zootair@baku-az.net	Baki, 39, Bakihanov Str.
Organization of Protection of Environment "Soil"	Hikmat Mamedov	(171) 53104	hikmat-bodybuilder@hotmail.com	Lenkoran city, 18, M.E. Rasulzade Street
Social Ecological Association Green Way	Vadim Garayev, N. Mustafayev, R. Ahmedov	936111, (850) 3126905		Baki, 130, M. Alizade Str.
Ganja Agrobusiness Association	Amin Babayev, Vugar Babayev, Vugar Agayev	569400	gaba@ganca.net	Ganja, 24, Ganja Street

Appendix 4

Species found in captivity or in *ex situ* conditions in Azerbaijan⁶⁹

Scientific name	Common name(s)	IUCN listing	CITES status	National Threat Status
Mammals				
<i>Panthera leo</i> (Linnaeus, 1758)	Lion (<i>Afrika Aslanı</i>)	VU C2a(i)	II	-
<i>Panthera tigris longipilis</i> (Fitzinger, 1868)	Siberian tiger, Siberian tiger (<i>Amur pələngi</i>)	EN C2a(i)	I	-
<i>Puma concolor</i> (Linnaeus, 1771)	Mountain lion, Puma (<i>Puma</i>)	NT	II	-
<i>Felis chaus</i> (Schreber, 1777)	Jungle cat (<i>Qamış pişiyi</i>)	-	II	-
<i>Ursus arctos</i> (Linnaeus, 1758)	Brown bear (<i>Qonur ayı</i>)	-	II	-
<i>Ursus americanus</i> (Pallas, 1780)	American black bear, black bear (<i>Qara ayı</i>)	-	II	-
<i>Canis lupus</i> (Linnaeus, 1758)	Gray Wolf (<i>Boz canavar</i>)	-	II	-
<i>Papio hamadryas</i> (Linnaeus, 1758)	Hamadryas baboon, Sacred baboon (<i>Pavian-qamadril</i>)	LR/nt	II	-
<i>Chlorocebus aethiops</i> (Linnaeus, 1758)	Green monkey, Vervet monkey (<i>Yaşıl meymun</i>)	-	II	-
<i>Macaca mulatta</i> (Zimmermann, 1780)	Rhesus macaque, Rhesus monkey (<i>Makaka rezus</i>)	LR/nt	II	-
<i>Cercopithecus cephus</i> (Linnaeus, 1758)	Moustached monkey (<i>Mavisifət meymun</i>)	-	II	-
<i>Capra cylindricornis</i> (Blyth, 1841)	East Caucasian tur (<i>Dağistan turu</i>)	VU A1d+2de, C1	-	-
<i>Gazella subgutturosa</i> (Güldenstädt, 1780)	Goitred gazelle, Sand gazelle (<i>Ceyran</i>)	NT	-	Endangered
<i>Lama guanacoe</i>	Llama (<i>Lama quanako</i>)	-	II	-
<i>Sciurus anomalus</i> (Güldenstädt, 1785)	Caucasian squirrel, Persian squirrel (<i>Qafqaz (fars) sincabi</i>)	LR/nt	-	-
<i>Sciurus vulgaris</i> (Linnaeus, 1758)	Eurasian red squirrel, Red squirrel (<i>Adi sincab</i>)	NT	-	-
Birds				
<i>Struthio camelus</i> (Linnaeus, 1758)	Ostrich (<i>Afrika dəvəquşu</i>)	-	I	-
<i>Pelecanus crispus</i> (Linnaeus, 1758)	Dalmatian pelican (<i>Qıvrımlək qutan</i>)	LR/cd	I	Rare, declining
<i>Platalea leucorodia leucorodia</i>	Spoonbill (<i>Ərsindimdik</i>)	-	II	Rare, declining.
<i>Phoenicopterus roseus</i> (Pall., 1758)	Flamingo (<i>Qızıl qaz</i>)	-	II	Rare, declining
<i>Alopochen aegyptiacus</i> (Linnaeus, 1766)	<i>Nil qazı</i>	-	-	-
<i>Aix galericulata</i> (Linnaeus, 1758)	<i>Mandarin ördək</i>	-	-	-
<i>Branta canadensis</i> (Linnaeus, 1758)	Canada goose (<i>Kanada kazarkası</i>)	-	I	-
<i>Porphyrio porphyrio</i> (Linnaeus, 1758)	Purple swamphen, purple gallinule (<i>Sultan toyuğu</i>)	-	-	Rare species.
<i>Circus cyaneus</i> (Linnaeus, 1766)	Hen harrier (<i>Çəmənlik belibağlısı</i>)	-	II	-
<i>Circus aeruginosus</i>	Marsh harrier (<i>Bataqlıq belibağlısı</i>)	-	II	-
<i>Aythya nyroca</i> (Guldenstadt, 1770)	Ferruginous duck, Ferruginous pochard, White-eyed pochard (<i>Ağgöz dalğic</i>)	LR/nt	III	-

⁶⁹ Includes a number of foreign species which are of conservation importance, with nationally threatened species are identified in the final column.

<i>Aegypius monachus</i> (Linnaeus, 1766)	Black vulture, Cinereous Vulture (<i>Qara qrif</i>)	LR/nt	II	-
<i>Aquila chrysaetus</i> (Linnaeus, 1758)	Aigle royal, golden eagle (<i>Berkut</i>)	-	II	Rare, declining
<i>Aquila heliaca</i> (Savigny, 1809)	Spanish imperial eagle (<i>Məzar qartalı</i>)	VU C1	I	Rare, declining
<i>Aquila nipalensis</i> (Hodgson, 1833)	<i>Çöl qartalı</i>	-	II	-
<i>Gyps fulvus</i> (Hablizl, 1783)	Griffon vulture (<i>Ağbaş kərəkəs</i>)	-	II	-
<i>Gypaetus barbatus</i> (Linnaeus, 1758)	Lammergeier, bearded vulture (<i>Toğlugötürən</i>)	-	II	Endangered
<i>Falco peregrinus</i> (Tunstall, 1771)	Peregrine falcon (<i>Adi şahin (sapsan)</i>)	-	I	Rare, declining
<i>Buteo buteo</i> (Linnaeus, 1758)	Buzzard (<i>Adi sar</i>)	-	II	-
<i>Neophron percnopterus</i> (Linnaeus, 1758)	Egyptian vulture (<i>Leşyldən qartal</i>)	-	II	-
<i>Ara ararauna</i> (Linnaeus, 1758)	Ara (<i>Ara tutuquşu</i>)	-	II	-
<i>Amazona albifrons</i> (Sparrman, 1788)	<i>Ağbaş amazon</i>	-	-	-
<i>Psittacula eupatria</i> (Linnaeus, 1766)	<i>Böyükxaltalı tutuquşu</i>	-	II	-
<i>Psittacula krameri</i> (Scopoli, 1769)	Rose-ringed parakeet (<i>Kiçik xaltalı tutuquşu</i>)	-	III	-
<i>Poicephalus senegalus</i> (Linnaeus, 1766)	<i>Senegal tutuquşu</i>	-	II	-
<i>Eos histrio</i> (Muller, 1776)	Red and blue lory (<i>Göy-qırmızı lori tutuquşu</i>)	EN A2cd, B1+2abcde	II	-
<i>Psittacus erithagus</i> Linnaeus, 1758	<i>Jako tutuquşusu</i>	-	II	-
<i>Psephotus haematonotus</i> (Gould, 1838)	<i>Oxuyan tutuquşu</i>	-	II	-
<i>Chrysolophus pictus</i> (Linnaeus, 1758)	<i>Qızıl qırğovul</i>	-	-	-
<i>Chrysolophus amherstiae</i> (Leadbeater, 1829)	<i>Almas qırğovulu</i>	-	-	-
<i>Lophura swinhoii</i> (Gould, 1863)	Swinhoe's Pheasant (<i>Tayvan qırğoiulu (Svayno)</i>)	LR/nt	I	-
<i>Lophura leucomelana</i> (Latham, 1790)	<i>Nepal qırğovulu</i>	-	-	-
<i>Bubo bubo</i> (Linnaeus, 1758)	Eagle owl (<i>İri yapalağ</i>)	-	II	-
Reptiles and amphibians				
<i>Python molurus bivittatus</i> (Kuhl 1820)	Asian rock python, Burmese python (<i>Tündpələngi piton</i>)	LR/nt	I	-
<i>Eunectes notaeus</i> (Cope 1862)	Yellow anaconda (<i>Paraqvay anakondası</i>)	-	II	-
<i>Boa constrictor</i> (Linnaeus, 1758)	Boa constrictor (<i>İmperator udavı</i>)	-	II	-
<i>Varanus niloticus</i> (Fitzinger, 1826)	Nile monitor (<i>Nil varanı</i>)	-	II	-
<i>Testudo graeca ibera</i> (Pallas, 1814)	Common tortoise, Greek Tortoise (<i>Aralıq dənizi tsbağası</i>)	VU A1cd	I	Declining range and population
<i>Emys orbicularis</i> (Blanford, 1876)	European pond turtle (<i>Bataqlıq tsbağası</i>)	-	-	-
<i>Caiman crocodilus</i> (Conant & Collins, 1991)	Common caiman (<i>Timsahvari kayman</i>)	-	II	-

Appendix 5. Rare plant species listed in the Red Book of Nakhichevan Autonomous Republic⁷⁰

Latin name	Status	Localities
<i>Nektarokordum tripedale</i> (Trautv) Grossh.	Population declining, endemic	Demirlidag, Soyugdag
<i>Carapodium platicarpum</i> (Boiss. et Hausskn.) Schischk.	Rare, at risk of extinction	Kuku, Arafsa, Nasirvaz, Nusnus
<i>Dorema glabrum</i> Fisch. et Mey.	Rare, at risk of extinction	Duzdag, Daridag, Nehramdag
<i>Ferula oopoda</i> (Boiss. et Buhse) Boiss	Rare, in danger of disappearing	Duzdag
<i>Ferula persica</i> Willd.	Rare, habitat declining	Sederek, Validag
<i>Ferula szowitsiana</i> DC.	Rare, habitat declining	Duzdag, Validag, Nehramdag
<i>Peucedanum pauciradiatum</i> Tamamsch.	Rare, endemic	Ordubad, Genze, Saridag
<i>Smyrniopsis oneberi</i> Boiss.	Rare, limited habitat	Kechli, Bijenek, Kuku, Nurs
<i>Stenotaenia daralaghezica</i> Takht.	Rare, Caucasus habitat	Arinch, Kuku, Upper Remeshen
<i>Aristolochia bottae</i> Jaub. et Spach	Rare, reducing	Within Garababa village
<i>Gundelia tournefortii</i> L.	Rare, Eurasian species	Bashkend, Gazanchi, Hanaga, Aza
<i>Lactuca takhtadzhianii</i> Sosn.	Rare, population declining	Novruz village, Garababa
<i>Pyrethrum komarowii</i> Sosn.	Rare, endemic	Ordubad, Paraga, Nasirvaz
<i>Scorzonera pusilla</i> Pall.	Rare, habitat declining	Duzdag, Sahtaxti
<i>Physoptychis gnaphaloides</i> (DC.) Boiss.	Rare, small population	Demirlidag, Gemigaya
<i>Sampanula radula</i> Fisch. et Tchih	Rare, restricted habitat	Aznaburd, (now Chalhangala)
<i>Anabasis eugeniae</i> Iljin	Rare, restricted habitat	Kirna, Diza, Daridag
<i>Salsola tamamschjanae</i> Iljin	Rare, restricted habitat	Velidag
<i>Juniperus foetidissima</i> Willd.	Rare, small population	Batabat, Bijanak, Ilanlidag
<i>Eurhorbia grosshejmii</i> Pokh.	Rare, endemic	Julfa, Ordubad, Kotam, Kilit
<i>Astragalus nachitsceanicus</i>	Rare, endemic, restricted habitat	Garababa, Kotam, Kechili
<i>Astragalus paradoxus</i> Bunge	Rare, restricted habitat	Nehrem, Jannab, Alinchachay
<i>Astragalus prilipkoana</i> Grossh.	Endemic, restricted habitat	Bilev, Paraga
<i>Globularia trichosantha</i> Fisch. et Mey	Rare, low-numbered	Garagurd, Garagush mountains
<i>Hypericum formosissimum</i> takht.	Rare, endemic, restricted habitat	Aznaburd (Chalhangala)
<i>Iris grosshejmii</i> Woronow ex	Rare, restricted habitat	Shixyurdu, Soyugdag

⁷⁰ 53 species are listed in the Red Book

Grossh.		
<i>Iris elegantissima</i> Sosn.	Rare, endemic	Around Sederek
<i>Iris lycotis</i> Woronow	Rare, endemic	Aznaburd , Daridag, Aza, Arafsa
<i>Iris paradoxa</i> Stev.	Rare, endemic	Around Nahchivan
<i>Iris prilipkoana</i> Kem.-Nat.	Rare, endemic	Bijanak, Batabat, Kuku
<i>Iridodictium reticulate</i> Bieb.	Rare, small population	Arafsa (Hazina)
<i>Scilla atropatana</i> Qrossh.	Rare, small population	Dirnis, Nusnus
<i>Tulipa eichlnri</i> Regel.	Rare, endemic, restricted habitat	Nusnus (Sari mountains)
<i>Tulipa karabachensis</i> Qrossh.	Rare, endemic, restricted habitat	Kotam, Kilit, Horhatdag
<i>Tulipa florenskyi</i> Woronow	Rare, habitat declining	Nusnus, Galaguney,Dirnis
<i>Tulipa julija</i> C. Koch.	Rare, restricted habitat	Bijenek, Arachidag, Goydag
<i>Tulipa schmidtii</i> Fomin	Endemic species	Nusnus (Diah, Fahladarasi)
<i>Platanus orientalis</i> L.	Population declining, relict specie	Nahchivan, Ordubad, Nusnus
<i>Avena ventricosa</i> Bal. ex Coss.	Rare, small population	Payiz, Chalhangala
<i>Triticum monococcum</i> L.	Rare, at risk of extinction	Chalhangala, Garagush, Payiz
<i>Calligonum polygonoides</i> L.	Rare, declining and at risk of extinction	Velideg, Kotam-Kilit
<i>Rheum ribes</i> L.	Rare, at risk of extinction	Duzdag, Daridag, Kolani ,Kuku
<i>Punica qranatum</i> L.	Reducing in numbers	Around Kotam, Kilit, Nehrem
<i>Coteneaster saxatilis</i> Pojark	Rare, endemic	Around Ahura, Hemzeli, Havus
<i>Padus avium</i> Mill.	Declining and at risk of extinction, rare	Ahura-Havus, Bijenek, Batabat
<i>P. racemosa</i> (Lamp.) Gilib.	Declining and at risk of extinction, rare	Ahura-Havus, Bijenek, Batabat
<i>Rosa azerbajdzhanica</i> Novopokr et Rzazade	Rare, endemic	Around Kuku
<i>Rosa karjagini</i> Sosn.	Rare, small population	Around Urmis
<i>Rosa nizami</i> Sosn.	Rare, endemic	Kuku, Bijenek
<i>Rosa sosnowskyi</i> Chrshan.	Rare, endemic	Batabat, Bicenek
<i>Daphne transcaucasica</i> Pobed.	Rare, declining habitat	Payiz, Chalhangala, Bijenek
<i>Stelleropsis magakjanii</i> (Sosn.) Pobed.	Rare, endemic	Around Kuku
<i>Valeriana alliarifolia</i> Adam.	Rare, habitat specific	Hurs, Nurgut, Kuku, Bayahmed

Appendix 6. Endemic plant species recorded in Nakhichevan Autonomous Republic ⁷¹

Latin plant names	Endemism			Also in neighbouring regions
	Caucasus	Azerbaijan	Nakhichevan AR	
<i>Allium dictyoprasum</i> C.A.Mey.ex Kunth.	+			
<i>A. affine</i> Ledeb.(<i>A.transcaucasicum</i> Grossh.)	+			
<i>A. pseudoampeloprasum</i> Misch. ex Grossh.	+			
<i>A. leucanthum</i> C. Koch	+			
<i>A. mariae</i> Bordz.		+	+	
<i>A. woronowii</i> Misch.ex Grossh.		+	+	
<i>A. leonidii</i> Grossh.		+	+	
<i>A. kunthianum</i> Vved.	+			+
<i>A. syntamanthum</i> C.Koch	+			+
<i>A. materculae</i> Bordz.		+		+
<i>A. viride</i> Grossh.	+			+
<i>Alchimilla sedelmeyeriana</i> Juz.	+			+
<i>A. amicta</i> Juz.		+	+	
<i>A. grossheimii</i> Juz.	+			
<i>A. ortotricha</i> Juz.	+			
<i>A. epipsila</i> Juz.	+			
<i>A. smirnovii</i> Juz.	+			
<i>A. venosa</i> Juz.	+			
<i>Aethionema diastropis</i> Bunge	+			
<i>Anabasis eugeniae</i> Iljin		+	+	
<i>Asparagus persicus</i> Baker (<i>A.leptophyllus</i> Schischk.)	+			
<i>Aconitum nasutum</i> Fisch.ex Reichenb.	+			
<i>Atropatenia rostrata</i> (N. Busch.) F. K. Mey.		+	+	
<i>Arabis carduchorum</i> Boiss.(<i>A. armena</i> N. Busch)	+			
<i>Amygdalus natrix</i> Fed. et Takht.	+			
<i>Androsace kozo-poljanskii</i> Ovez.- (<i>A. barbulata</i> Ovez.)	+			
<i>A. raddeana</i> Somm.et Levier	+			
<i>A. lehmanniana</i> Spranq.	+			
<i>Arctium transcaucasicum</i> Sosn.	+			
<i>Astragalus cancellatus</i> Bunge (<i>A. perrarus</i> Boiss.)	+			+
<i>Astragalus szoviitsii</i> Fisch.		+		+
<i>A. shelkovnikovii</i> Grossh.		+		+
<i>A. conspicuus</i> Boriss.	+			+
<i>A. aznabjurticus</i> Grossh.		+	+	
<i>A. schachbuzensis</i> Rzazade		+	+	
<i>A. nachitschevanicus</i> Rzazade		+	+	
<i>A. euoplus</i> Trautv.	+			
<i>A. insidiosus</i> Boriss.		+	+	
<i>A. badamlensis</i> Chalilov		+	+	
<i>Astragalus karakuschensis</i> Gontsch.		+	+	
<i>A. regelii</i> Trautv.		+	+	
<i>A. gezeldarensis</i> Grossh.	+			
<i>A. kochianus</i> Sosn.	+			
<i>A. hajastanus</i> Grossh.	+			
<i>A. goktschaicus</i> Grossh.	+			
<i>A. chalilovii</i> Grossh. et Fed.		+	+	
<i>A. ordubadensis</i> Grossh.	+		+	

⁷¹ 331 species are listed as endemic

<i>A. prilipkoanus</i> Grossh.	+		+	
<i>A. achundovii</i> Grossh. ex Fed.		+	+	
<i>A. erivanensis</i> Bornm. et Woronow	+			
<i>A. montis-aquilis</i> Grossh.		+	+	
<i>A. johannis</i> Rzazade		+		+
<i>Astracantha barba-carpinus</i> (Al. Theod., Fed. et Rzazade) Podlech		+	+	
<i>A. vedicus</i> (Takht.) Czer. (<i>Astragalus vedicus</i> Takht.) Podlech	+			
<i>A. jucundus</i> (Al. Theod., Fed. et Rzazade) Podlech		+	+	
<i>A. gudrathi</i> (Al. Theod., Fed. et Rzazade) Podlech	+		+	
<i>A. flavirubens</i> (Al. Theod., Fed. et Rzazade) Podlech	+			
<i>Alyssum stapffii</i> Vierh. (<i>A. buschianum</i> Grossh.)		+	+	
<i>Aphanopleura trachysperma</i> Boiss.	+			
<i>Bellevalia longistila</i> (Miscz.) Grossh.		+	+	
<i>B. pycantha</i> (C. Koch) Losinsk	+			
<i>B. zygomorpha</i> Woronow.		+		
<i>Bromus tzvelevii</i> Musayev et Sadichov		+	+	
<i>Camelina sativa</i> (L.) Grantz.	+			
<i>Carlina acaulis</i> L.	+			
<i>Cymatocarrus grossheimii</i> N Busch.		+	+	
<i>Cirsium tricholoma</i> Fisch. ex C. A. Mey.		+		+
<i>C. sinuatum</i> (Trautv.) Boiss.	+			+
<i>C. megricum</i> Charadze	+			
<i>C. schelkownikowii</i> Petrak.	+			
<i>Carum caucasicum</i> (Bieb.) Boiss.	+			+
<i>Crataegus caucasica</i> C. Koch.	+			+
<i>C. armena</i> Pojark.	+			
<i>C. cynovskisii</i> Kassumova		+	+	
<i>Cohutea komarovii</i> Takht.		+	+	
<i>Cephalaria nachiczewanica</i> Grossh.		+	+	
<i>C. armeniaca</i> Bordz.	+			
<i>Cephalorhynchus kirpicznikovii</i> Grossh.		+	+	
<i>Campanula karakuschensis</i> Grossh. (<i>C. minsteriana</i> Grossh.)		+	+	
<i>C. bayerniana</i> Rupr. (<i>C. elegantissima</i> Grossh.)	+			
<i>C. daralaghezica</i> (Grossh.) Kolak. et Serdjukova (<i>Symphyandra daralaghezica</i> Grossh.)	+			+
<i>C. zangezura</i> (Lipskyi) Kolak et Serdjukova (<i>Symphyandra zangezura</i> Lipsky)	+			+
<i>C. trautvetteri</i> Grossh. ex Fed.	+			
<i>Chamerion transcaucasicum</i> Manden	+			
<i>Ch. caucasicum</i> (Willd.) Boiss.	+			
<i>Chamaemelum nobile</i> (L.) All.	+			
<i>Colchicum szovitsii</i> Fisch. et C. A. Mey.	+			
<i>C. zangezorum</i> Grossh.	+			
<i>Celtis caucasica</i>	+			+
<i>Carduus seminudus</i> Bieb.	+			
<i>Cousinia lomkinii</i> C. Winkl.	+			
<i>Centaurea fischeri</i> Schlecht		+	+	
<i>Coteneaster saxatilis</i> Pojark		+	+	
<i>Crepis karakuschensis</i> Czer.		+	+	
<i>Draba bruniifolia</i> Stev.	+			
<i>D. bryoides</i> DC.	+			
<i>D. siligiosa</i> Bieb.	+			+
<i>Dianthus raddeanus</i> Vierh.	+			+
<i>D. subulosus</i> Freyn et Conrath	+			
<i>Delphinium foetidum</i> Lomak.	+			

<i>D. flexuosum</i> Bieb.	+			
<i>D. buschianum</i> Grossh.	+			
<i>D. caucasicum</i> C. A. Mey.	+			
<i>D. lomakinii</i> Kem.-Nath.		+	+	
<i>Doronicum macrophyllum</i> Fisch.ex Hornem.	+			
<i>D. oblongifolium</i> DC.	+			
<i>Dorema glabrum</i> Fisch. et C.A.Mey.		+	+	
<i>Dracocephalum botryoides</i> Stev.	+			+
<i>D. multicaule</i> Montbr.	+			+
<i>Echinops orientalis</i> Trautv.(<i>E.arachinus</i> Mulk.)	+			+
<i>E. polygamus</i> Bunge (<i>E. grossheimii</i> Iljin)	+			
<i>Elytrigia heydemaniae</i> Tzvel.		+	+	
<i>Eurhrasia georgica</i> Kem.-Nath.	+			
<i>E. caucasica</i> Juz.-Qafqaz g.	+			
<i>Euphorbia leucographus</i> Bunge	+			
<i>E. marschalliana</i> Boiss.	+			+
<i>E. nutans</i> Lag.				
<i>E. grossheimii</i> Prokh		+	+	
<i>Eryngium wanaturi</i> Woronow	+			
<i>Erysimum chazarjurti</i> N. Busch.	+			
<i>E. lilacinum</i> Steinb.	+			
<i>E. leptophyllum</i> (Bleb.) Andrz. (<i>E. feodorovii</i> M. Kassumov)		+	+	
<i>E. buschii</i> M. Kassumov		+	+	
<i>E. subulatum</i> J. Gay (<i>E. Iljinii</i> M. Kassumov)		+	+	
<i>E. crassipes</i> Fisch.et C. A. Mey.(<i>E. transcaspium</i> M. Kassumov)	+		+	
<i>E. wagifii</i> M. Kassumov		+	+	
<i>E. nachiczevanicum</i> M. Kassumov		+	+	
<i>Fritillaria caucasica</i> Adams	+			+
<i>Fuernrohria setifolia</i> C, Koch.	+			
<i>Ferula oopoda</i> (Boiss.et Buhse) Boiss.		+	+	
<i>Gagea alexeenkoana</i> Mischz.	+			+
<i>G. caroli-kochii</i> Grossh.	+			+
<i>G. improvisa</i> Grossh.		+	+	
<i>Galium czerepanovii</i> Pobed.		+	+	
<i>G. consanguineum</i> Boiss.(<i>G. majmechense</i> Bordz.)	+			
<i>G. achurense</i> Grossh.		+	+	
<i>G. atropatanum</i> Grossh.		+	+	
<i>G. bulbatum</i> Lipsky		+	+	
<i>G.hyrcanum</i> C.A.Mey (<i>G.grossheimii</i> Pobed.)		+	+	
<i>Gypsophila szovitsii</i> Fisch.etC.A.Mey.ex Fenz	+			+
<i>G. stevenii</i> Fisch.ex Schrank	+			
<i>G. lipsky</i> Schischk.	+			
<i>Dianthus caucasicus</i> Smith.(<i>G.discolor</i> Smith.)	+			
<i>D. raddeanus</i> Vierh.	+			
<i>D. subulosus</i> Freun et Conrath.	+			
<i>Hylotelephium caucasicum</i> H. Ohba.(<i>Sedum caucasicum</i> Grossh.)	+			
<i>Hypericum formosissimum</i> Takht.		+	+	
<i>H. atropatanum</i> Rzazade		+	+	
<i>H. helianthomoides</i> (Spach)Boiss.	+		+	
<i>Haplophyllum villosum</i> (Bieb.)G.Don fil.	+			+
<i>H.schelkovnikovii</i> Grossh.		+	+	+
<i>Hedysarum ibericum</i> Bieb.	+			+
<i>H. cericeum</i> Bieb.	+			+
<i>H. caucasicum</i> Bieb.	+			
<i>Helichrisum araxinum</i> Takht.et Kirp.		+	+	+
<i>Hieracium cincinnatum</i> Fries.	+			
<i>H. perileucum</i> (Schischk. et Zahn.)Juxip	+			
<i>H. akinfiwii</i> Woronow et Zahn.	+			

<i>Heracleum pastinacifolium</i> C.Koch.	+			+
<i>H. schelkownikovii</i> Woronow	+			
<i>Iris spuria</i> subsp. <i>I.musulmanica</i> Fomin	+			+
<i>I. paradoxa</i> Stev.	+			+
<i>I. iberica</i> Hoffm.	+			+
<i>I. prilipkoana</i> Kem.- Nat.	+			
<i>I. grossheimii</i> Woronow ex Grossh.		+	+	
<i>I. limbata</i> Lindl.(<i>I.sulphurea</i> C.Koch.)	+			
<i>I. lycotis</i> Woronow		+	+	
<i>Irydodictyum hyrcanum</i> (Woronow ex Grossh.) Rodionenko		+		
<i>Juno schischkini</i> (Grossh.)Czer.		+	+	
<i>I. caucasica</i> (Hoffm) Klatt.	+			
<i>I. pseudocaucasica</i> (Grossh.)	+			+
<i>Inula mariae</i> Bordz.	+			
<i>Jurinea spectabilis</i> Fisch.etC.A.Mey.	+			
<i>Lathyrus rotundifolius</i> Willd.	+			+
<i>L. atropatanus</i> (Grossh./)Sirj.(<i>Orobus atropatanus</i> Grossh.)		+	+	
<i>Lactuca georgica</i> Grossh.	+			
<i>Lotus caucasicus</i> Kuprian.ex Juz	+			
<i>Limonium fischeri</i> (Trautv.) Lincz.		+	+	
<i>Linum subbiflorum</i> Juz.		+	+	
<i>L. hypericifolium</i> Salisb.		+	+	
<i>Linaria zangezura</i> Groosh.	+			
<i>L. megrica</i> Tzvel.(<i>L.ordubadica</i> Tzvel.)	+			
<i>L. schelkownikovii</i> Schischk.	+			
<i>Cardaria propingua</i> Fisch.et C.A.Mey.(<i>Lepidium propinguum</i> Fisch.)	+			
<i>Medicago caucasica</i> Vass.	+			+
<i>Melica schischkini</i> Iljinsk.		+	+	
<i>Milium transcaucasium</i> Tzvel.		+	+	
<i>Muscari leicostomum</i> Woronow ex Gzerniak		+		
<i>Malabaila sulcata</i> Boiss.	+			
<i>Marrubium nanum</i> Knorr.		+	+	
<i>Melampurum chlorostachyum</i> Beauverd	+			
<i>M. caucasicum</i> Bunge.	+			
<i>Melilotoides biflora</i> (Griseb.) Czer.(<i>Melissitus biflorus</i> Griseb.)	+			
<i>Nepeta strictifolia</i> Pojark.(<i>N.grossheimii</i> Poyark.)		+	+	
<i>N. zangezura</i> Groosh.	+			+
<i>N. mussinii</i> Spreng.(<i>N.transcaucasica</i> Grossh.)	+			
<i>N. noraschenica</i> Grossh .		+	+	
<i>N. trautvetteri</i> Boiss.et Buhse (<i>N.velutina</i> Pojark)	+			
<i>N. schischkini</i> Pojark.		+		+
<i>N. betonicifolia</i> C.A.Mey.		+		+
<i>N. erivanensis</i> Pojark.	+			
<i>Neurotopis armena</i> (N.Busch) Czer.(<i>Thlaspi armena</i> N.Busch)		+	+	
<i>N. szovitsiana</i> (Boiss.)C.A.Mey.(<i>Thlaspi szovitsianum</i> Boiss)		+	+	
<i>Noccaea tatianae</i> (Bordz.) F.K.Mey.(<i>Thlaspi tatianae</i> Bordz.)	+		+	
<i>Nonnea rosea</i> (Bieb.) Link.	+			+
<i>Onobrychis transcaucasica</i> Grossh.	+			+
<i>O. hajastana</i> Groosh.	+			+
<i>O. heteropylla</i> C.A.Mey.	+			+
<i>O. radiata</i> (Desf.)Bieb.	+			
<i>O. cyri</i> Grossh	+			
<i>Orobanche raddeana</i> G.Besk	+			+
<i>Ornithogalum brachystachys</i> C.Koch.	+			+
<i>O. schelcovnikovii</i> Groossh	+			
<i>O. balansae</i> Boiss.(Schmalhauseni Albov)	+			+
<i>O. trancaucasicum</i> Misch.ex Grossh.	+			
<i>Oxytropis karjagini</i> Grossh.	+			+
<i>O. lupinoides</i> Groosh.exFed.		+	+	

<i>Onosma gracilis</i> Trautv	+			
<i>Pimpinella aromatica</i> Bieb.		+		
<i>Populus canescens</i> (Ait.)Smith (<i>P.hibrida</i> Bieb.)	+			
<i>P. sosnovskyi</i> Grossh.	+			
<i>P. gracilis</i> Grossh.	+			
<i>Pyrus zangezura</i> Maleev	+			
<i>P. voronovii</i> Rubtz.	+			
<i>P. nutans</i> Rubtz.	+			
<i>P. medvedevii</i> Rubtz.	+			
<i>P. raddeana</i> Woronow	+			
<i>Potentilla lomakinii</i> Lomakini	+			
<i>P. conferta</i> Bunge (<i>P.agrimonioides</i> Bieb.)	+			+
<i>P. szovitsii</i> Th. Wolf	+			+
<i>Pyrethrum ordubadense</i> Manden		+	+	
<i>P. komarovii</i> Sosn.		+	+	
<i>P. punctatum</i> (Desr.)Bordz.ex Schischk.	+			
<i>Polygala hohenaskeriana</i> Fisch.et C.A.Mey.	+			+
<i>Polygonum bellardii</i> All.(<i>P.tiflisensis</i> Kom.)	+			
<i>Pedicularis crassirostris</i> Bunge.	+			
<i>Peltariopsis grossheimii</i> N.Busch.		+	+	
<i>Ribes biebersteinii</i> Berl.ex DC.		+		
<i>Rubus ibericus</i> Juz.	+			
<i>Rosa tuschetica</i> Boiss.	+			
<i>R. nizami</i> Sosn.		+	+	
<i>R. sachokiana</i> P.Jarosch.	+			
<i>R. karjaginii</i> Sosn.		+	+	
<i>R. marschalliana</i> Sosn.	+			
<i>R. zangezura</i> P.Jarosch	+			
<i>R. sosnovskyana</i> Tamamsch.	+			
<i>R. kazarjanii</i> Sosn.	+			
<i>R. hraciana</i> Tamamsch.	+			
<i>R. sosnovskiana</i> Chrshan.	+			
<i>R. brotherorum</i> Chrshan.	+			
<i>R. pulvurulenta</i> Bieb.(<i>R.azerbajdzhanica</i> Novopokr et Rzazade)		+	+	
<i>R.buschiana</i> Chrshan.	+			
<i>R. orientalis</i> Duront ex Ser (<i>R.vanheurckiana</i> Crep.)	+			
<i>Ranunculus grandiflorus</i> L.(<i>R.elegans</i> C.Koch)	+			
<i>Rhynchosorys orientalis</i> (L)Benth.	+			
<i>Salsola cana</i> C.Koch	+			
<i>S. futilis</i> Iljin		+	+	
<i>S. tomentosa</i> (Mog.) Spach, (<i>S. flavovirens</i> Iljin, <i>S. takhtadzijani</i> Iljin)		+	+	
<i>S. nitraria</i> Pall.(<i>S.macera</i> Litv.)	+			
<i>S. tamamschjanae</i> Iljin	+			+
<i>S. dzulphensis</i> Grossh.		+	+	
<i>S. nodulosa</i> (Mog.)Iljin	+			+
<i>Salvia pachystachya</i> Trautv.	+			+
<i>S. limbata</i> C.A.Mey.(<i>S. prilipkoana</i> Grossh., <i>S. fominii</i> Grossh.)	+			+
<i>S. suffruticosa</i> Montbr.et Auch,ex Benth.(<i>S. alechandrui</i> Pobed)		+	+	
<i>S. reuteriana</i> Boiss.(<i>S. nachiczeanica</i> Pobed.)		+	+	
<i>S. andreji</i> Pobed.		+	+	
<i>Scilla mischtchenkoana</i> Grossh.(<i>S. zangezura</i> Grossh.)		+	+	
<i>S. sibirica</i> Haw.	+			
<i>S. armena</i> Grossh.	+			
<i>Scorzonera czerepanovii</i> R.Ram.(<i>S. lanata</i> (L)Hoffm	+			+
<i>Scrophularia atropatana</i> Groosh.		+	+	+
<i>S. nachitschevanica</i> Grossh.		+	+	

<i>S. cinerascens</i> Boiss.(<i>S. grossheimii</i> Schischk.)	+			
<i>S. thesoides</i> Boiss.et Buhse.		+	+	
<i>S. variegata</i> Bieb.-Ala q.	+			+
<i>Sedum corymbosum</i> Grossh.	+			+
<i>Silene prilipcoana</i> Schischk.		+	+	+
<i>S. depressa</i> Bieb.	+			
<i>S. caucasica</i> (Bunge)Boiss.	+			
<i>S. tatjanae</i> Schischk.	+			
<i>S. longipetala</i> Vent.(<i>S./chloropetala</i> Rupr.)	+			
<i>S. iberica</i> Bierb.	+			
<i>Smyrniopsis aucheri</i> Boiss.	+			+
<i>Swertia iberica</i> Fisch.et C.A.Mey.	+			
<i>Stachys fruticulosa</i> Bieb.(<i>S. grossheimii</i> Kapell.)		+	+	
<i>S. inflata</i> Benth.		+		
<i>S. fomini</i> Sosn.		+	+	
<i>Symphytum asperum</i> Lepech.	+			+
<i>S. caasicum</i> Bieb.	+			
<i>Sameraria glastifolia</i> (Fisch.et C.A, Mey.) Boiss.		+	+	
<i>Senecio lipsky</i> Lomak.	+			
<i>Stenotaenia macrocarpa</i> Freyn et Sinth.		+	+	
<i>Stipa issaevii</i> Musayev et Sadychov		+	+	
<i>S. karjagini</i> Musayev et Sadychov		+	+	
<i>S. gaubae</i> Bor. (<i>S. nachiczevanica</i> Musayev et Sadychov)		+	+	
<i>S. olosericea</i> Trin.et Rupr.	+			
<i>Salix aegyptiaca</i> L.(<i>Phlomodoides</i> Bieb.)	+			
<i>Seseli grandivittatum</i> (Somm.et Levier.) Schischk.	+			
<i>Scutellaria karjagini</i> Grossh.		+	+	
<i>S. rhomboidalis</i> Grossh.		+	+	
<i>S. darriensis</i> Grossh.		+	+	
<i>S. sevanensis</i> Sosn.et Grossh.	+			
<i>Saxifraga pontica</i> Albov	+			
<i>S. juniperifolia</i> Adams	+			
<i>Solidago armena</i> Kem-Nath.ex Grossh.	+			
<i>Serratula haussknechtii</i> Boiss. (<i>S. trancaucasica</i> Bornm.)	+			
<i>S. serratuloides</i> (Fich. et C.A.Mey.) Takht.	+			
<i>Stizolophus balsamita</i> (Lam.) Cass.ex Takht.	+			
<i>Thesium szovitsii</i> A.DC.	+			+
<i>Thymus migricus</i> Klok.et Shost.	+			+
<i>Th. nummularies</i> Bieb.	+			+
<i>Th. collinus</i> Bieb.	+			
<i>Tragopogon marginatus</i> Boiss.	+			+
<i>T. nachitschevanicus</i> (Kunth) N.Pop.		+	+	
<i>T. sosnowskyi</i> Kuth.	+			
<i>Taraxacum desertorum</i> Schischk.		+	+	
<i>T. prilipkoi</i> Czer. (<i>T.praticola</i> Schischk.)	+			
<i>Tomanthea daralaghezica</i> (Fomin) Takht.	+			
<i>Trinia leiogona</i> (C.A.Mey.) B.Fedtsch.	+			+
<i>Tulira eichleri</i> Regel		+		
<i>Trifolium fontanum</i> Bobr.	+			
<i>Vicia anatolica</i> Turrill. (<i>V. hajastana</i> Grossh.)	+			+
<i>V. ciceroidea</i> Boiss.(<i>V. rafgae</i> Tamamsch)	+			+
<i>V. grossheimii</i> Ekvtim	+			
<i>Vavilovia formosa</i> (Stev.)Fed.		+	+	
<i>Verbascum erivanicum</i> E.Wulf		+	+	
<i>V. georgicum</i> Benth.	+			
<i>V. paniculatum</i> E.Wulf		+	+	
<i>Zeravschanica pauciradiata</i> (Tamamsch.) M.Pimen		+	+	
<i>Zizirhora denticulate</i> Juz.	+			

Appendix 7. Rare animal species recorded in Nakhichevan Autonomous Republic

Latin name of species	Status in Nakhchivan	Localation
<i>Aquila nipalensis</i> Temm, 1828	Rare, small population, declining	Nakhichevan suburbs
<i>Aquila heliaca</i> Savigny, 1809	Rare, declining	Serur, Ordubad
<i>Aquila chrysaetos</i> L., 1758	Rare	Shahbuz, Ordubad
<i>Ancylocheria salomoni</i> Thomson, 1878	Declining	Around Shahbuz
<i>Anthocharis gruneri</i> Chr., 1870	Rare, Transcaucasian endemic	Around Serur and Ordubad
<i>Axiopoena maura</i> Eichw., 1832	Disappearing specie	Around Ordubad
<i>Bombus (Mg) portschinsky</i> Rad., 1883	Transcaucasian endemic	Around Ordubad
<i>Bombus daghestanicus</i> Rad., 1877	Caucasus endemic	Shahbuz mountain, Kukudag, Kechaldag
<i>Bombus (Th.) mlkosievitzii</i> Rad., 1877	Transcaucasian endemic	Serur, Julfa, Ordubad mountains
<i>Bombus persicus</i> Rad., 1884	Rare transcaucasian endemic	Serur, Julfa, Ordubad mountains
<i>Colias thisoa</i> Men., 1832	Rare	Serur, Gelingaya
<i>Colias aurorina</i> H.S., 1850	Rare	Serur, Shahbuz, Ordubad mountains
<i>Colias chlorosoma</i> Chr., 1888	Transcaucasian endemic	Serur mountains
<i>Carabus scabrosus caucasicus</i> Adams, 1817	Transcaucasian endemic	Shahbuz mountains
<i>Calosoma sycophanta</i> L., 1758	Rare	Serur mountains
<i>Circaetus gallicus</i> Gmel., 1788	Rare, declining	Serur, Julfa
<i>Capra aegagrus</i> Erxleben, 1777	Rare, declining habitat	Ilanlidag, Nehrendag, Zengezur
<i>Chlamydotis undulata</i> Jacuin, 1784	Rare, rapidly declining	River-bed and plains of Araz
<i>Chettusia gregaria</i> Rall., 1771	Rare, declining	Araz river-bed, Serur, Julfa
<i>Felis silvestris</i> Schreber, 1775	Declining, rare	Araz river-bed
<i>Haliaeetus albicilla</i> L. 1758	Rare,	Nakhichevan suburbs
<i>Hyaena hyaena</i> (Linneus, 1758)	Rare, threatened with extinction	Araz river-bed
<i>Irania gutturalis</i> Guerin., 1843	Restricted ed habitat, rare	Araz river-bed,
<i>Lynx lynx</i> (Linnaeus, 1758)	Small population	Ordubad, Shahbuz, Zengezur
<i>Miniopterus schreibersi</i> (Kühl, 1819)	Restricted habitat, declining	Kilit
<i>Mallosia skovitzi</i> Fald., 1837	Transcaucasian endemic	Around Ordubad
<i>Manduca atropos</i> L., 1758	Declining	Lower and middle mountain ranges
<i>Mabuya aurata</i> Linneus, 1758	Rare	Around Ordubad, Kotam, Kilit
<i>Ovis orientalis</i> Gmelin, 1774	Declining, small population	Zengezur, Daralayaz, Ilanlidag
<i>Parnassius apollo</i> L., 1758	Declining, rare	Around Serur
<i>Papilio alexanor orientalis</i> Rom., 1884	Rare, declining	Araz river-bed – Ordubad
<i>Panthera pardus</i> (Linnaeus, 1758)	Rare, declining	Zengezur, top of Daralayaz mountain
<i>Pterocles orientalis</i> L., 1758	Rare, rapid decling	Up to mid-mountain zone
<i>Phodopechys gitadineus</i> Licht, 1758	Restricted habitat, rare	Julfa region, Daridag
<i>Phrynocephalus helioscopus</i> Engelmann et al, 1993	Declining population, restricted habitat	Uzunoba, around Ordubad
<i>Pelobates syriacus</i> Boettger, 1889	Rare, declining, endemic	Within the Arazsu reservoir
<i>Rethera komarovi</i> Chr., 1885	Rare	Nahchivan regions, mountains
<i>Rosalia alpina</i> L., 1758	Declining, relic species ,	Serur, Shahbuz mountains
<i>Rhinolophus euryale</i> Blasius, 1853	Restricted habitat, rare	Near Ordubad
<i>Rhynchocalamus melanocephalus</i> Engelmann et al, 1993	Restricted habitat, rare	Around Ordubad, Kotam, Kilit
<i>Salmo trutta fario</i> Linneus, 1758	Rare, declining population	Goy Gol, Sakkarsu, Ayrichay*
<i>Thaleropsis jonia</i> Fisch., 1851	Declining	Serur, Ordubad
<i>Tomares romanovi</i> Chr., 1882	Transcaucasian sub-endemic	Serur, Shahbuz, Julfa, Ordubad
<i>Testudo graeca iberica</i> Pallas, 1814	Small population, declining habitat	Mountains ranges
<i>Tetraogallus caspicus</i> Gmel., 1784	Declining	Shahbuz, Ordubad, Culfa mountains
<i>Vormela peregusna</i> (Güldenstaedt, 1770)	Rare	Araz plain
<i>Vipera raddei raddei</i> Boettger, 1890	Restricted habitat, endemic	Ordubad, Kotam, Kilit, Nushnush mountain
<i>Zegrus menestho</i> Men., 1832	Transcaucasian endemic	Around Serur and Ordubad
<i>Zygaena tamara</i> Chr., 1889	Declining, Transcaucasian endemic	Serur, Julfa, Ordubad mountains