

Nature Conservation Agency of the Czech Republic Contributes to Armenian Biological Diversity Conservation

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In 2021–2023, the Nature Conservation Agency of the Czech Republic (NCA CR) together with the Finnish Environment Institute SYKE, implemented a two-year project entitled as *Strengthened protection and sustainable use of biodiversity*

in Armenia in line with the European standards funded from the European Union's Twinning programme. The main project partner and beneficiary of the project outputs was the Ministry of the Environment of Armenia.



TWINNING PROJECT

The project to support the protection and conservation of biodiversity in Armenia had been formally launched on 25 December, 2020, its actual implementation began with the arrival of the Czech coordinator to Armenia on 4 March, 2021, and it finished on 31 March, 2023. The project was financed by the EU Twinning programme to support the cooperation of state/governmental institutions with the countries of the so-called Eastern Partnership and other “neighbouring and candidate countries” of the EU. The proposed budget was EUR 994,220. The actual drawing was EUR 902,384. In two years, 83 trips to Armenia were made, a total of 512.5 expert working days were reported; however, in reality, the fulfilment of the goals was much more time-consuming. On the Finnish side, 6 experts were involved in the project's direct implementation and 17 on the Czech side.

Covering an area of 23,213 ha, the Khosrov Forest State Reserve is one of the most important protected areas in Armenia. Four species of vultures nest there (including the Bearded vulture *Gypaetus barbatus*), there is a stable population of wild goats (*Capra aegagrus*), and the Persian leopard (*Panthera pardus saxicolor*) is regularly recorded there. © Vasil Ananian

Project activities were divided into three components: the approximation of the national legislation with the EU acquis, optimizing institutional development and governance including increasing expert and technical background and at raising awareness on proposed legislation and institutional changes strengthening biodiversity and nature conservation. In September 2022 a new task was added, namely developing National Biodiversity Strategy and Action Plan.

Nature conservation in Armenia

Situated on the border of the Caucasus and Iran-Anatolia biogeographic provinces, sometimes considered to be the joint Caucaso-Iranian Highlands (Caucasus and Kurdistan-Iran Highlands), the natural diversity of Armenia is extraordinary, given the location of this relatively small country. Approx. 3,800 vascular plant species (of which 142 are endemic) on an area of less than 30,000 km² is a clear indicator of this diversity. The National Academy of Sciences of the Republic of Armenia registers 470 habitats according to the EUNIS (European Nature Information System run by the European Environment Agency Copenhagen) classification, and 675 vascular plant taxa and 308 animal species are listed in the national Red Book. Another significant fact is that there are 316 endemic invertebrate species.

Of course, nature conservation is concentrated in state-protected areas defined strictly in accordance with the IUCN categorization, which occupy more than 13% of the country's area. In addition, the so-called community protected areas are established by non-governmental organizations (NGOs), which on land owned by municipalities (especially along the eco-corridor connecting Iran and Georgia) ensure conditions for the survival and migration of target animal species – the Persian leopard (*Panthera pardus saxicolor*, up to ten individuals), Wild goat (*Capra aegagrus*, a few thousand individuals), and the Armenian mouflon (*Ovis gmelini gmelini*, hundreds of individuals). Interestingly, the Syrian brown bear (*Ursus arctos syriacus*), as a strictly protected species, occurs across the whole country, and it often conflicts with beekeeping or horticulture in some provinces, while some other carnivores, such as the Grey wolf (*Canis lupus*) or the Golden jackal (*Canis aureus*), can be hunted year-round without any restrictions.

Threats to natural ecosystems are particularly evident outside protected areas. Locally, the major difficulties are mineral extraction, the impassability of watercourses or their excessive use for irrigation in agriculture, and intensive



The forests in the Dilijan National Park are among the best-preserved forests in Armenia, with mixed beech-hornbeam stands, significant stands of the Caucasian oak (*Quercus macranthera*), and old specimens of the rare European yew (*Taxus baccata*). © Jindřich Chlápek

grazing. Protected areas face pressure from poachers and illegal logging.

Proposal for legislative changes

The main task of the project was the elaboration of specific proposals for amending Armenian legislation so that it approaches the European Union's Birds and Habitats Directives in the matter of territorial and species protection, through the Council of Europe's Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention).

Compared to practice in the Czech Republic, it can be said that laws are written with an emphasis on general principles, which often leads to a stricter interpretation; however, the practical enforceability of such provisions is significantly limited due to State Nature Conservancy capacities.

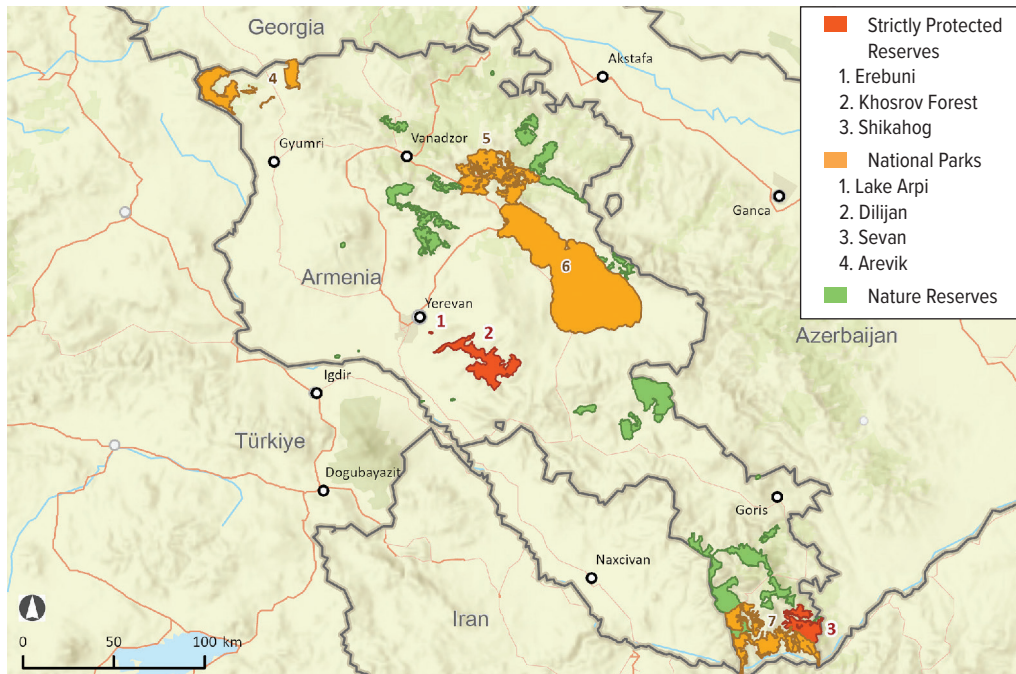
And how does such preparation of laws for another country take place? After detailed acquaintance with the legislation and its practical application, an analysis of the compliance of individual provisions of Armenian legislation with EU Directives was carried out using a comparison table (the so-called Table of Concordance)

and a plan of legislative changes was proposed. Specific changes to the laws were supplemented by extensive justifications, a proposal for the content of the Regulatory Impact Assessment (RIA), and methodological documents.

Proposals for changes, which have been agreed by the Armenian Ministry of the Environment, include the declaration and protection of the Bern Convention's Emerald Network of Areas of Special Conservation Interest (ASCIs), the extension of strict protection to the selected species, and the strategic development of Action Plans/Recovery Programmes. There was an effort to make maximum use of the existing nature conservation tools in Armenia in order to ensure greater clarity of the proposals and their easier acceptance by the Armenian Ministry of the Environment.

Territorial protection

The Protected Areas Act defines categories of protected areas that correspond to the IUCN categorization. Until now, these areas have only been declared on land owned by the State; with the upcoming amendment and the introduction of the category of Protected Landscape Area, the possibility of protection opens up also for the land that is not owned by the State. This is essential, because the



The map of protected areas in Armenia © Jan Vrba

Emerald Network ASCIs, similarly to EU Natura 2000 sites, should only be declared on the basis of expert information in order to ensure the representativeness of the network for the target species and habitats.

According to the request of the Armenian Ministry of the Environment, the Emerald Network was not included into the law by name, but the more general term “valuable natural area” was used, under which it will be possible to cover other significant areas identified according to international criteria. It will thus be possible to declare e.g. Important Plant Areas (IPAs), or Wetlands of International Importance (Ramsar Sites) defined under the Ramsar Convention without further amendments to the law.

In total, three levels of protection will be applied to the sites: general – given by law (as well as the basic protection of Sites of European Importance, SEI, pursuant to Act No. 114/1992 Gazette on Nature Conservation and Landscape Protection, as amended later, the term for Site of Community Importance, SCI, later Special Areas of Conservation, SAC, under the European Union’s Habitats Directive in the Czech Republic), specific – defined in the declaration regulations of the given site, and contractual – using contracts and agreements with landowners.

Furthermore, a method of discussing proposals for announcement with the affected public was proposed. Armenia already has a proposal of the Emerald Network that has

been developed for a long time, which was officially handed over to the Bern Convention Secretariat at the council of Europe in Strasbourg; however, this draft is now undergoing revision initiated by Armenia authorities. Insufficient discussion of the proposal with the stakeholders concerned is a main reason of the above state of affairs.

Species protection and conservation

One of the other Armenian commitments is to ensure the strict protection of the species listed in the respective annexes of the Bern Convention. Species protection and conservation in Armenia is based on the Red Book, last updated in 2010. Its advantage is a completely scientific basis without political influences; on the other hand, it lacks flexibility, which can lead to it becoming out-of-date (e.g. missing species or occurrence records). At present, any activity that could result in a decrease in the abundance or deterioration of the habitat of a Red Book species is prohibited. Exceptions to the protection regime can only be allowed for environmental, research and educational reasons, or in the interest of the species (e.g. reproduction).

Due to the long history of Red Books in Armenia, established by the Act on Fauna and the Act on Flora, it was proposed to only supplement them with a new list of “internationally important objects of flora and fauna”, to which the same strict protection regime will be applied. This

list can include the Bern Convention species for which strict protection is to be ensured, or other important species that have not been included in the Red Books. The Ministry was also recommended to differentiate the protection regime (protection of individuals, protection of populations) so that it corresponds to the ecology and specific protection needs of individual groups of species.

Another area of convergence with EU Directives is the general protection of birds. As a supporting measure, a general ban on hunting in “valuable natural areas” has been proposed, given that the Emerald sites will also include Important Bird Areas.

Species and territorial protection are both based primarily on restrictions; therefore, it was proposed to legislate the development of Action Plans/Recovery Programmes for the selected species. These have so far been elaborated in an uncoordinated manner, mainly by NGOs. The authors therefore proposed the structure of Action Plans/Recovery Programmes, the method of their preparation, and application in practice based on to Czech experience. Experts also recommended the implementation of management programmes for conflict species, such as the Brown bear.

Monitoring and data management were also essential topics as basic prerequisites for effective nature conservation. The need to monitor the status, changes and trends of wildlife and natural habitats also follows directly from the Bern Convention and EU Directives. However, a central species database has still been missing in Armenia, causing difficulties in decision-making processes, *inter alia*, in Environmental Impact Assessment, EIA. In this regard, the NCA CR submitted a proposal for establishing and running a database and systematic monitoring, and organized two training events for Armenian colleagues.

Design of a new organizational structure

The second key part of the project was support for increasing the State Nature Conservancy’s expert/technical capacities. The initial analysis of the state showed that a fundamental shortcoming (in addition to really low salaries) is the absence of a expert/technical professional organization coordinating the activities of protected area administrations and providing expert/technical support to the Ministry of the Environment. The two-level arrangement with the relevant department at the Ministry and the protected area regional administrations cannot even partially fulfil the necessary tasks

and respond to changes and emerging new challenges.

The Finnish partners focused precisely on the question of building such a small expert/technical professional body as efficiently as possible. The least demanding solution turned out to be the option of transforming the current Forestry Committee (commission) into an agency for forests and protected areas. The new arrangement should ensure the fulfilment of the basic functions of the protected area management and the biological diversity protection and conservation, e.g. the provision of management plans, monitoring, and evaluation of the status of protected areas.

An interesting element of the State Nature Conservancy institutional system in Armenia is the Inspection of Environmental Protection and Mining, which falls directly under the Office of the Prime Minister and, in addition to prosecuting offences, independently supervises the activities of organizations within the environmental protection sector.

Communication, education and public awareness

The main source of information on nature conservation in Armenia is the Ministry of the Environment. It uses its Facebook and website (<http://www.mnp.am/en>) very actively; it publishes daily news about the activities of the Ministry and organizations within the sector. Facebook is a very widespread form of communication in the country. The protected area administrations are motivated by the Ministry to inform about events in the area and to organize various educational programmes, especially for local schools.

As part of the project, the NCA CR and SYKE prepared an information manual on both the EU nature directives for Ministry officials and the interested professional public. Together with the Armenian Ministry, a communication strategy was developed, in which several practical tips are presented on how to improve communication between sectoral organizations and to enhance presentation of the issue to the general public.

To present nature conservation in the Czech Republic and the EU, the project team prepared six study trips to the Czech Republic and Finland for totally of 23 employees of the Ministry and sectoral organizations, representatives of academia and NGOs. Part of the activities aimed at raising awareness of the need to protect nature was also all-day seminar in the National Assembly of the Republic of Armenia, where Members of Parliament

(MPs) were introduced to the Czech experience of implementing EU Directives.

Equally important were meetings organized in all ten Armenian regions, where the project

team discussed proposed legislative changes with representatives of municipalities and regions.¹

1 A video available at <https://youtube/Amj4RXFogU4>



One of the six study trips to the Czech Republic also included a visit to Specially Protected areas for Armenian experts from state/governmental institutions, non-governmental organizations, and the scientific community. © Tomáš Růžička



The Persian leopard (*Panthera pardus saxicolor*) is the flagship species of Armenian nature conservation. Currently, there are several projects from non-governmental organizations aimed at monitoring it, providing suitable migration/dispersal corridors, and protecting its natural prey – wild goats (*Capra aegagrus*). © Vladimír Čech Jr. & WWF Armenia



The rediscovery of the orchid species Creeping lady's-tresses (*Goodyera repens*) in 2022, considered extinct in Armenia from the 1950s, proves the need for biodiversity monitoring in Armenia. © Jindřich Chlapek

The final conference took place in March 2023, with 90 participants in the presence of Minister of the Environment Hakob Simidyan, the ambassador of the Czech Republic, and the Finnish ambassador. It focused on summarizing all the recommendations from the two-year mission in Armenia and their discussion.

Current news about the project, as well as all the important documents, including the final publication and the recording of the final conference are available on the project's Facebook page and www.biodiversity.am.

National Biodiversity Strategy and Action Plan

In the second half of the project, after agreement with the Armenian partners, it was decided to prepare the missing National

Biodiversity Strategy and Action Plan (NBSAP) for 2024–2033, which also includes an action plan for the next 5 years. In cooperation with the National Academy of Sciences of the Republic of Armenia, the main risk factors threatening biological diversity were identified and a series of measures were formulated to eliminate these risks according to individual branches, e.g. species protection and conservation, protected areas, legislation, institutional security, ecosystem services, and landscape permeability for movements of organisms. One of the Ministry's requirements for the document was to respond to the conclusions of the United Nations Conference on Biodiversity, held in Montreal from 7 to 19 December 2022, particularly 15th Meeting of the Conference of Parties to the Convention on Biological Diversity (CBD COP15)., and to take into account the Kunming-Montreal Global Biodiversity Framework (GBF).

In less than half a year, it was possible to prepare a comprehensive conceptual document and subject it to a broad critical discussion with the participation of all relevant State Nature Conservancy partners from state/governmental institutions, the scientific community including academia, and the non-profit sector. The key challenge was to proceed with the preparation of the document in such a way that it reflected the real needs of nature conservation and, above all, was feasible under Armenian conditions.

Cooperation with non-governmental organizations

The important players in nature conservation, with whom the authors discussed the project's outputs, were NGOs, which act as an informal but essential driving force that gives direction and impetus to Georgian nature conservation. Apart from being involved in the preparation of draft laws and concepts in nature conservation, they also take part in e.g. species monitoring, development of management plans, and education of State Nature Conservancy staff.

Apart from the Caucasus Nature Fund, which mainly supports technological equipment and even staff's salaries of protected area regional administrations, there are other organizations active in wild animal protection and conservation – the Georgian branch of the World Wildlife Fund Caucasus (WWF) and the Foundation for Preservation of Wildlife and Cultural Assets (FPWC). In addition to these essential, highly professional organizations, well supported by Western sources, there are also some other organizations based on erudite experts (BirdLinks,

Association of Biologists, Georgian branch of German NABU, Armenian Society for Protection of Birds).

Experience gained and further cooperation

Finding your way around in a culturally and scientifically different environment, assembling a functional team, starting cooperation with partners, and producing meaningful and usable outputs during the COVID-19 pandemic was an interesting challenge for everyone involved.

In this project, the Armenian Ministry obtained, *inter alia*, tools for the application of modern nature conservation built on an appropriate legal framework, professional documents, and good communication with partners and the public. The NCA CR gained valuable experience and opened the way for cooperation within international projects or continuation of activities in Armenia.

In view of the ten-year species monitoring plan currently underway, initiated and compiled by the Caucasus Nature Fund, a suitable field for further cooperation appears to be support in the introduction of a species database, or the use of good environmental knowledge in the implementation of the German Development Bank KfW programme aimed at supporting sustainable forestry and nature conservation. ■

THE STORY OF WETLANDS IN ARMASH

A model case of non-governmental and private sector cooperation is the protection of bird populations in the fishpond system near Armash in the southern edge of the Ararat Valley. Privately managed, originally intensively farmed fishponds with systematic bird hunting were exempted from hunting on part of their area, and management was adapted to the needs of a large number of bird species. There, they find very suitable conditions for nesting, resting, refueling and seeking shelter at the stopover, or overwintering. The most interesting are e.g. the White-headed duck (*Oxyura leucocephala*), Marbled duck (*Marmaronetta angustirostris*), Blue-cheeked bee-eater (*Merops persicus*), and the White-tailed lapwing (*Vanellus leucurus*). Behind this fundamental transformation is the interest of an increasing number of usually foreign birdwatchers who are willing to pay for them a symbolic amount to support the protection of the area for a remarkable experience.