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Recommendations for a National Action Plan to Advance the Establishment of the Emerald Network in Armenia (2024–2030)

Action implemented by:



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1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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Acronyms and abbreviations

ADB	Asian Development Bank
ASCI	Area of Special Conservation Interest
CBD	Convention on Biological Diversity
EC	European Commission
EEA	European Environment Agency
EU	European Union
EUNIS	European Nature Information System
EU4Environment	The “European Union for Environment” (EU4Environment) Action
GBF	Global Biodiversity Framework
GIZ	German Development Cooperation (<i>Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH</i>)
IUCN	International Union for Conservation of Nature
MoE	Ministry of Environment of Armenia
NAP	National Action Plan
OECD	Organisation for Economic Co-operation and Development
SI	Sufficiency Index
SDF	Standard Data Form
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
USAID	U.S. Agency for International Development
WCPA	World Commission on Protected Areas
WWF	World Wide Fund

Definitions

- **Proposed sites:** Participating countries identify species and habitats to be protected according to relevant Bern Convention resolutions. They subsequently propose sites, known as Areas of Special Conservation Interest, which are suitable for ensuring the long-term survival of these species and habitats. During Phase I (identifying potential sites), countries send a database containing scientific information on the proposed sites to the Bern Convention's Secretariat.
- **Official candidate sites:** Once Phase I (potential site identification) is complete, Phase II begins in which the adequacy of these sites is scientifically assessed to ensure the long-term survival of threatened species and habitats. Additional sites may be required if some species and habitat designations are deemed insufficient.
- **Adopted sites:** Phase III, the third and final stage, involves submitting candidate sites to the Standing Committee for approval to formally integrate them into the Emerald Network. Countries then designate sites at the national level through legislation or administrative measures and start planning and implementing management measures.
- **Designated sites and areas:** State reserves, national parks, and sanctuaries of Armenia.
- **Other lands:** State, community, and private lands of Armenia.

The term “previous sites” in the text refers to the candidate sites that are being revised under the EU4Environment Program.

Purpose of the National Action Plan

To develop a framework for updating and advancing the establishment of an Emerald Network in Armenia up to 2030, with an extended plan for the period 2030 to 2035. Establishing an Emerald Network in Armenia would support the National Biodiversity Action Plan and align with international agreements such as the Strategic Plan for the Bern Convention for the period to 2030¹ and the post-2020 Work Plan for the Network² (corresponding to the Kunming-Montreal Global Biodiversity Framework for 2030).³

¹ Standing Committee of the Bern Convention. 2022. “Strategic Plan for the Bern Convention for the Period to 2030.” Available at: <https://rm.coe.int/tpvs21e-2022-strategic-plan-8th-draft/1680a8bea8>

² Standing Committee of the Bern Convention. 2020. “Evaluation of the 2011–2020 Emerald Network Workplan Proposal of a Post-2020 Workplan, 2020.” Available at: <https://rm.coe.int/evaluation-of-the-2011-2020-emerald-network-workplan-and-proposal-of-a/1680a040a9>

³ CBD (Convention on Biological Diversity). 2022. “Post-2020 Global Biodiversity Framework.” Available at: <https://www.cbd.int/doc/c/409e/19ae/369752b245f05e88f760aeb3/wg2020-05-l-02-en.pdf>

Executive Summary

The objective of this National Action Plan (NAP) is to provide a viable six-year roadmap (2024–2030) and a comprehensive overview of measures that would support the Government of Armenia in progressing through Phases I, II, and III of its journey towards establishing an Emerald Network.

The NAP outlines the most significant and immediate challenges to Emerald Network advancement in Armenia. A critical challenge is the urgent need to revise the Emerald Network database and update the Emerald Barometer indicator values until a hundred percent sufficiency index is reached. In addition, Armenia needs to revise some of its candidate Emerald sites and assess new areas for better habitat and species protection, in accordance with the requirements of Resolution 4 and Resolution 6 of the Bern Convention. There is also a need to prepare management plans for Emerald site areas that address the conservation needs of targeted species and habitats, and to start implementing specific conservation measures. Finally, governance and legislative modifications will be necessary.

The Bern Convention highlights the need for three broad categories of priority actions: identifying and designating Emerald sites, protecting and managing these sites, and communicating and raising awareness about the importance of biodiversity conservation.

The NAP outlines specific targets per phase and activities to achieve these targets in the run-up to 2030. A key element of this document is the Roadmap Schema, which provides a unified, transparent view of the identified priorities and components of Emerald site evaluation. Specific milestones identified in the roadmap include reviewing the Standard Data Forms (SDFs) of existing and modified sites, and preparing, participating in, and evaluating results from regular biogeographical evaluation seminars and bilateral follow-up meetings. The NAP framework also includes a communication and awareness aspect because this is an anticipated future obligation under international conventions.

In addition to outlining a six-year roadmap, the NAP sets targets for an extended timeline - from 2030 to 2035 - during which the Emerald Network can realistically be fully implemented, that is, all Emerald sites are adopted and have active management plans and a hundred percent sufficiency index is achieved.

The NAP has been reviewed by Armenia's Ministry of Environment, which has committed to sharing it with key stakeholders for open, broad public engagement and opinion-gathering as the next step towards finalizing it and legally adopting its recommendations. The government has also committed to providing the necessary framework and tools to operationalize the roadmap and monitor its implementation.

Introduction

Goals and objectives

The objective of this National Action Plan (NAP) is to provide a viable six-year roadmap for the period 2024 to 2030, with an extended timeline for the period 2030 to 2035. It includes a comprehensive overview of measures that will assist the Government of Armenia to move forward with establishing the Emerald Network (from Phase I through to Phase III).

Significant and immediate challenges identified during the project include:

- **The Armenia database is dated:** The last database update was submitted in 2017. Submitting a revised Emerald Network database for the country (prepared under the EU4Environment Program) would automatically update values of the Emerald Barometer indicator per phase.
- **The boundaries of some Emerald sites need to be updated:** Discussions revealed a need to amend the borders of some of the candidate Emerald sites to improve protections for priority species and habitats, and to assess new areas in line with emerging scientific information. After extensive discussions with the Ministry of Environment (MoE) and the Working Group under the EU4Environment Program, boundaries have been amended and revised sites have been finalized and submitted to the MoE under the deliverable, “Recommendations for Review of the Candidate Emerald sites in Armenia”.
- **The Sufficiency Index (SI) needs to be better applied:** There is a need to analyze and consider which species and habitats were found insufficient (based on the last seminar in 2019), and how the Sufficiency Index value will change after submitting an updated version of the Emerald Network database.
- **There is a need for more regular biogeographical seminars and bilateral evaluation meetings with the Bern Convention:** Regular biogeography seminars would enable better evaluation of the state of species and habitats and facilitate discussion on new potential Emerald sites.
- **There is potential for high levels of overlap between the management plans for designated protected areas/forest enterprises and Emerald sites:** MoE information shows that the number of active management plans for designated protected areas and forest enterprises that overlap with proposed Emerald sites areas will increase in coming years because many of these management plans are slated for approval by the end of 2024.⁴ This points to a need to analyze the topics the existing management plans cover (for instance, setting conservation objectives, management planning, implementing conservation measures, monitoring and review, and the level of participatory approach) to understand the level to which they fulfil Bern Convention requirements, and what next actions are required. For instance, is the management plan sufficient to address the conservation needs of all protected species and habitats in the overlapping Emerald site? If not, the plan may need to be modified.
- **There is a need to prepare management plans for the 11 Emerald sites that occur within “other lands”** (state, community, or private lands). In total, 37 percent of the proposed Emerald sites overlap

⁴ Nine management plans of Armenian forest enterprises are currently approved, four are already finished and under review for approval, and four will be ready by end of 2024. Of the four national park management plans, only one is active, two are finished and undergoing review, and one is outdated. In case of state reserves, one has no management plan, one has an outdated management plan, and one is under development and will be ready by end of 2024.

with other lands.⁵ The guidance tool for preparing Emerald site management plans developed under the EU4Environment Program could contribute to resolving this issue.⁶

- **Current legislation does not contain tools to establish, manage, or monitor Emerald sites:** Emerald sites are intended to be gradually incorporated into local law (EU Twinning).⁷ Armenia's current legislation does not contain tools designed to establish, manage, or monitor Emerald sites, nor does it deal with strict species protection in terms of Bern Convention requirements. The EU Twinning project proposes various governance and legislative modifications that are necessary for Emerald advancement in Armenia.

The NAP proposes a set of activities and measures to advance the Emerald Network in Armenia between 2024 and 2030, with an extended timeline extending to 2035. Targets linked to each activity and phase are specified.

The NAP has been divided into the following three broad categories (strategic/action components) based on the Bern Convention's Three-Dimensional Strategic Roadmap:⁸

- **Strategic component 1:** Actions for identifying and designating sites
- **Strategic component 2:** Actions for protection and management
- **Strategic component 3:** Actions for communication and awareness.

The Roadmap Schema summarizes these action components in a transparent, accessible manner. The NAP aligns with the findings and builds on the outcomes of other completed EU biodiversity projects in Armenia, for example, the EU Twinning project.

The proposed NAP and its roadmap have been reviewed by the MoE, which has committed to sharing it with key stakeholders for open, broad public engagement and opinion-gathering as the next step towards finalizing it and legally adopting its recommendations. The government has also committed to providing the necessary framework and tools to operationalize the roadmap and monitor its implementation., as also agreed in the first capacity building session discussion ("Introduction to Emerald site conservation management and monitoring aspects", February 28, 2024).⁹

Structure of the National Action Plan

The NAP consists of:

- **Background elements** including an analysis of current situation in brief
- **Key NAP principles and targets** on what should be achieved by 2030 and 2035, for example proposed indicator values per phase
- **A Roadmap Schema** to bring together all important details.

⁵ Descriptive statistics may have changed.

⁶ EU4Environment. 2023. "Recommendations for Guidelines for preparing management plans of Emerald sites in Armenia". Available at: https://www.eu4environment.org/app/uploads/2023/12/Armenia_Emerald-Management-Guidelines.pdf

⁷ Twinning project. "Strengthened protection and sustainable use of biodiversity in Armenia in line with the European standards". Available at: <https://www.biodiversity.am/en/>

⁸ Standing Committee of the Bern Convention. 2016. "Three-dimensional road map for achieving a fully operational emerald network in 7 countries of Central and Eastern Europe and the South Caucasus." Available at <https://rm.coe.int/16807464ae>

⁹ EU4Environment. 2024. "Introduction to Emerald Site Conservation: Management and Monitoring Aspects, 1st Event." Summary can be found here: www.eu4environment.org/app/uploads/2024/02/summary-CB-1st-event.pdf

Current Situation

History of the Emerald Network program in Armenia

Below is a historical overview of the Emerald Network program in Armenia.

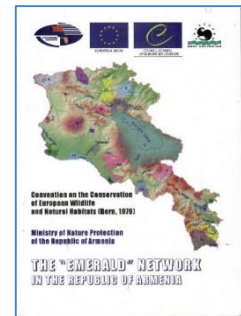
2007–2008: Armenia starts establishing its Emerald Network as an output of a pilot Emerald Network program.¹⁰ According to the Fourth CBD report, “work is under way to identify and register ‘Important Plant Areas’ and ‘Significant Biodiversity Areas’ (the Emerald Network).”¹¹

2009–2011: Nine potential sites are identified and the first list is drawn up, accompanied with information on the occurrence of concerned species and habitats.¹² The proposal covers more than 200,000 hectares (7 percent of the country's territory).¹³ The joint program between the European Union and the Council of Europe continues after 2011.

2013: Phase II of the Emerald Network program starts (“Establishing and description of potential ASCIs in Armenia,” EU/EC joint program, Phase II¹⁴) with the aim being to produce a final list of candidate Emerald sites in Armenia. All natural habitats included in the proposed Emerald Network sites are adjusted and transferred to the EUNIS classification system in accordance with Resolution 4 of the Bern Convention. The same work is conducted for animal and plant species included in Resolution 6.

2016: Twenty-three candidate sites are proposed for inclusion in the Emerald Network. These 23 sites include 65 habitats and 148 species (including eight vascular plants, eight invertebrates, three reptiles, 109 birds, and six mammals) protected under Resolution 4 and Resolution 6 of the Bern Convention.¹⁵ The proposed sites include one state reserve (Khosrov Forest), four national parks, four sanctuaries, and eight Important Bird and Biodiversity Areas. The proposal covers 1,033,719 hectares, covering 34.7 percent of the country. These sites are still present in today's list of officially nominated sites.

2015–2019: Armenia participates in two rounds of Emerald Network sufficiency assessments between 2015 and 2019.¹⁶ The 2019 round of assessments finds a relatively high SI of 68.7. Only 11 out of 206 habitats and species (excluding birds) are insufficient, and only nine out of 112 bird species are insufficient.¹⁷



¹⁰ Fayvush, G., Arakelyan, M., Aghbabyan, K., Aleksanyan, A. 2017. "The 'Emerald Network' in the Republic of Armenia." Publisher: Ministry of Nature Protection of the Republic of Armenia. Available at:

https://www.researchgate.net/publication/313917908_The_Emerald_Network_in_the_Republic_of_Armenia

¹¹ Ministry of Nature Protection, Republic of Armenia. 2009. "Fourth National Report to the Convention on Biological Diversity." Available at: <https://www.cbd.int/doc/world/am/am-nr-04-en.pdf>

¹² European Environmental Agency. Eionet Central Data Repository. Available at:

<https://cdr.eionet.europa.eu/am/bc/emerald/envtoqkq/overview>

¹³ Council of Europe. 2013. "Kick off meeting of the EU/CoE joint programme emerald network, phase II, Kiev, Ukraine." Available at:

<https://pjp-eu.coe.int/emerald-network/images/armenia.pdf>

¹⁴ European Union. 2014. "European Union – Council of Europe Joint Programme for the preparation of the Emerald Network of Nature Protection Sites, phase II." Available at: https://pjp-eu.coe.int/emerald-network/images/jp%20emerald%20phase%20ii_description%20of%20the%20action_v2_042014.pdf

¹⁵ CBD (Convention of Biological Diversity). 2019. "Sixth National Report of the Republic of Armenia." Available at:

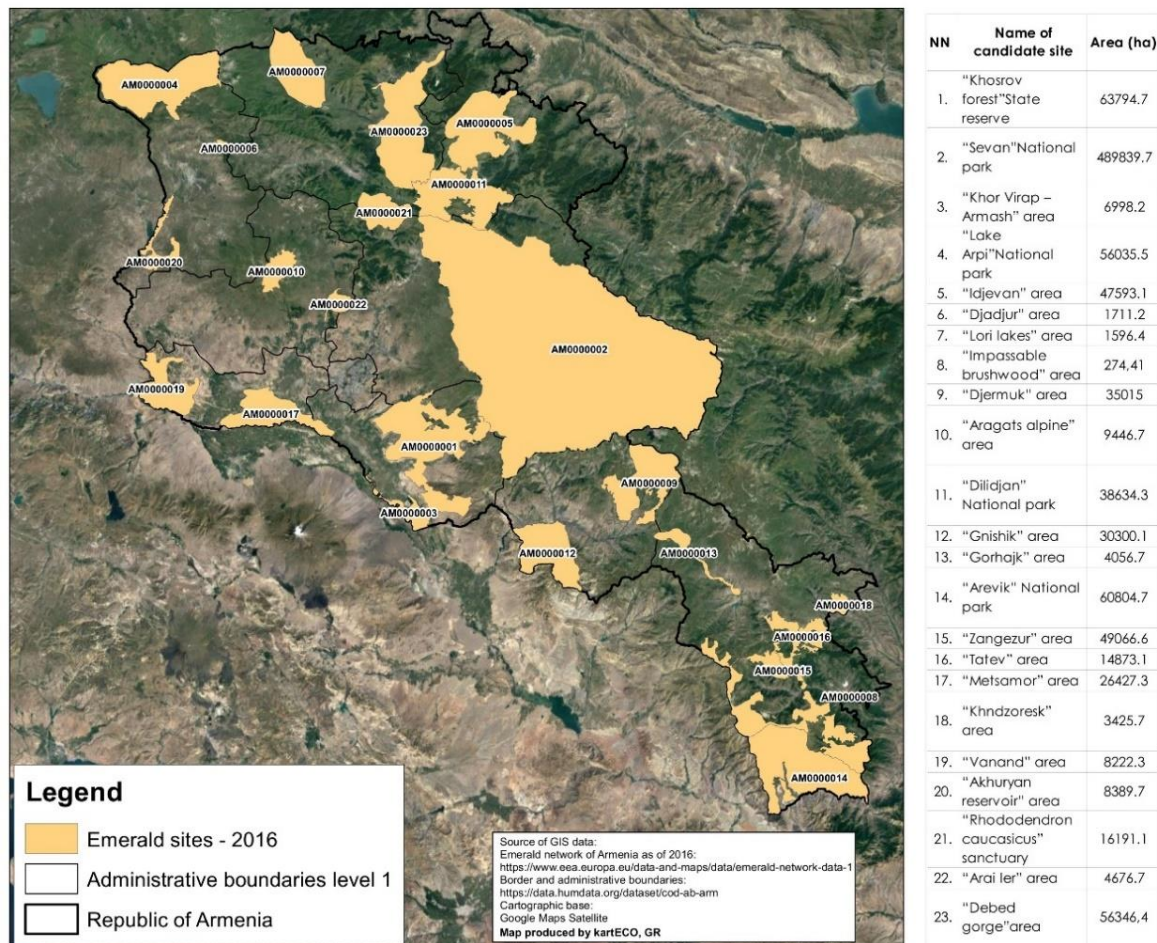
https://ace.aia.am/files/2019/05/2019-6th-National-Report-CBD_eng.pdf

¹⁶ Council of Europe. 2022. "Conclusions of the biogeographical evaluation seminars." Available at: <https://www.coe.int/en/web/bern-convention/conclusions-of-the-biogeographical-seminars>

¹⁷ Counted based on the conclusions of biogeographical seminars. Available at: <https://www.coe.int/en/web/bern-convention/conclusions-of-the-biogeographical-seminars>

2022–2023: The 2022 list of candidate sites¹⁸ lists 23 sites in Armenia, amounting to an area of 10,826 square kilometers, or 1,082,600 hectares (equivalent to 36.4 percent of the country, including coastal and marine coverage).¹⁹ However, according to the List of Officially Adopted sites,²⁰ no sites have yet been adopted even though there was national coverage of all sites since 2017 and Phase II is supposed to end with the Standing Committee of the Bern Convention adopting all Emerald Network sites as Areas of Special Conservation Interest.

Figure 1: Emerald Network site boundaries in Armenia (2016–current)



Source: Map produced for the World Bank by kartECO.

¹⁸ See https://tableau-public.discomap.eea.europa.eu/views/EmeraldBarometerdashboard/Barometertable?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

¹⁹ Standing Committee of the Bern Convention. 2022. "Updated list of officially nominated candidate Emerald Network sites." Available at: <https://rm.coe.int/pa09e-2022-updated-list-officially-nominated-candidate-emerald-sites/1680a93c85>

²⁰ Standing Committee of the Bern Convention. 2022. "Updated list of officially nominated candidate Emerald Network sites." Available at: <https://rm.coe.int/pa09e-2022-updated-list-officially-nominated-candidate-emerald-sites/1680a93c85>

Roadmap Schema 2030

Key principles

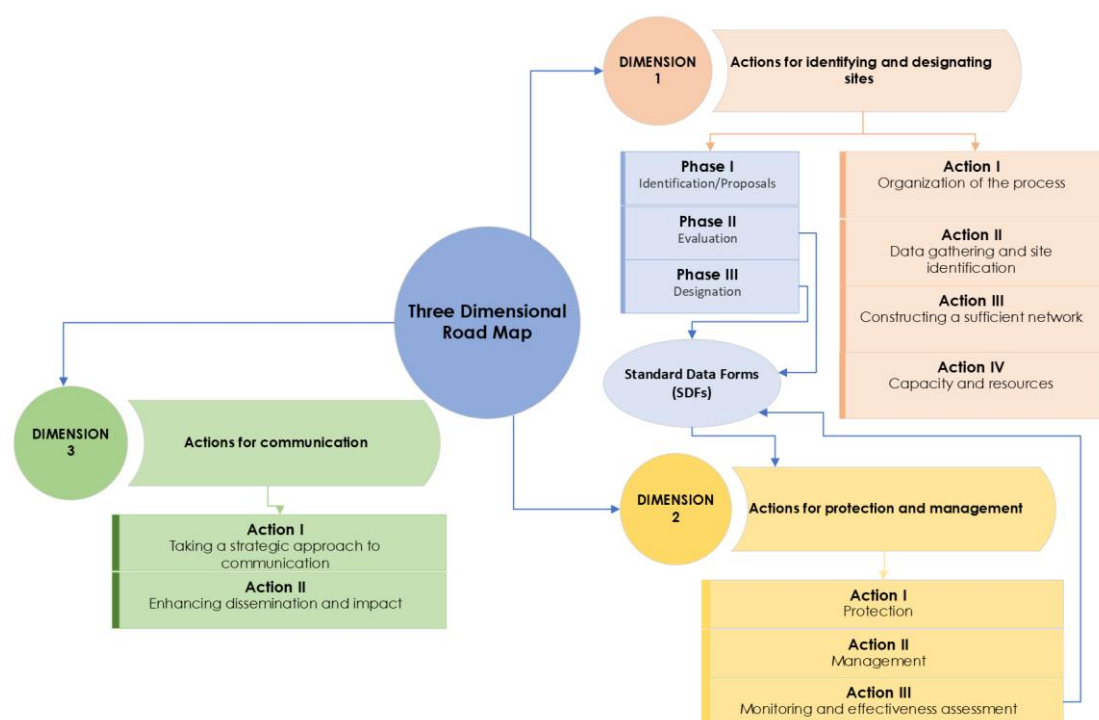
The Roadmap Schema aims to summarize all important details of the NAP (milestones, interim and final progress timeline, key milestones and event consultations, and the monitoring plan) in an accessible format.

Priority components

The NAP is divided into three broad categories (referred to as strategic or action components) that align with the Bern Convention's Three-Dimensional Roadmap.²¹ These components are:

- **Strategic component 1:** Actions for identifying and designating sites (Phase I, II, and III in Table 1)
- **Strategic component 2:** Actions for protection and management (Phase III in Table 1)
- **Strategic component 3:** Actions for communication and awareness (Non-phase-related activities in Table 1). This component is an expected future requirement for Emerald Network and international biodiversity commitments, such as international conventions.

Figure 2: Three-dimensional roadmap for achieving a fully operational Emerald Network in Armenia



Source: Standing Committee of the Bern Convention. 2016. "Three-dimensional road map for achieving a fully operational emerald network in 7 countries of Central and Eastern Europe and the South Caucasus." Available at: <https://rm.coe.int/16807464ae>

²¹ Standing Committee of the Bern Convention. 2016. "Three-dimensional road map for achieving a fully operational emerald network in 7 countries of Central and Eastern Europe and the South Caucasus." Available at: <https://rm.coe.int/16807464ae>

Timeline

In addition to the initial six-year period, the NAP considers targets over a realistic extended time span (from 2030 until 2035) during which the Emerald Network could be completely implemented, that is, all sites are adopted and have active management plans, and a hundred percent SI is achieved.

It is expected that during the period 2024 to 2030 (and extended to year 2035), the present NAP will coincide with other planning and reporting documents, including international conventions in the field of biodiversity. The proposed roadmap can also be easily aligned, and thus better monitored, with the Emerald Network evaluation cycles and processes.

Baseline values presented in the Roadmap Schema date to 2023 and were provided by the European Environment Agency (EEA) Emerald Network Barometer table for Armenia.²² These values will help evaluate progress towards achieving target values, which are set for the end of 2025, the end of 2028, the end of 2030, and the end of 2035.

A tentative schedule for biogeography seminars and bilateral follow-up meetings with the Bern Convention is proposed further (under “Key milestones and event consultations”).

Targets

Table 1 and Table 3 present quantitative targets for each Emerald Barometer indicator. The columns (“Phase I”, “Phase II”, and “Phase III”) represent Emerald Network process actions, such as actions for identifying and designating Emerald sites and actions for the protection and management of the Emerald sites, while the column “Other non-phase related activities” represents public awareness and communication actions.

The most important target to reach is a hundred percent SI. Phase I target actions are also expected to contribute to the Kunming-Montreal Global Biodiversity Framework’s (GBF’s) Target 3 for 2030,²³ namely, to reach a minimum of 30 percent of protected areas (which is also Goal 1²⁴ of the Strategic Plan for the Bern Convention for the period to 2030).²⁵

According to guidance notes for the GBF targets,²⁶ nationally protected areas and other effective area-based conservation measures must meet a minimum set of criteria to count towards the 30 percent target. These include clearly identified long-term conservation objectives, measures, and legal protection. Reaching 30 percent in Armenia will therefore require additional commitments and effort.

The European Commission has adopted a new Biodiversity Strategy that specifies a comprehensive package of actions and commitments towards meeting the 30 percent GBF target.^{27, 28} This strategy continues to place the Natura 2000 Network at the core of protected areas in the EU, but urges member states to take additional steps to enhance the Natura 2000 Network, which in its current state is limited by the fact that it includes areas that are small or disconnected from one another, or are inadequately managed to be effective for nature conservation. The additional steps required are:

- Designate further Natura 2000 sites and complete the network.

²² Emerald Network Barometer Table. Available at: <https://tableau-public.discomap.eea.europa.eu/views/EmeraldBarometerdashboard/Barometertable?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

²³ CBD (Convention on Biological Diversity). 2022. “Post-2020 global biodiversity framework.” Available at: <https://www.cbd.int/doc/c/409e/19ae/369752b245f05e88f760aeb3/wg2020-05-l-02-en.pdf>
<https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>

²⁴ Goal 1: “The area, connectivity, integrity, and resilience of natural and seminatural ecosystems is increased, including through protected areas and other effective area-based conservation measures covering at least 30 percent of the land and of the sea areas.”

²⁵ Standing Committee for the Bern Convention. 2022. “Strategic Plan for the Bern Convention for the period to 2030.” Available at: <https://rm.coe.int/tpvs21e-2022-strategic-plan-8th-draft/1680a8bea8>

²⁶ CBD (Convention on Biological Diversity). 2024. Consolidated guidance notes for the targets of the Kunming Montreal Biodiversity Framework. Available at: https://www.cbd.int/gbf/targets/notes.shtml#_Toc157069082

²⁷ European Commission. 2022. “Protecting 30% of the EU for Nature and People, Natura 2000 nature and biodiversity newsletter February 2022.” Available at: https://www.cde.ual.es/wp-content/uploads/2022/03/KHAA22001ENN.en_.pdf

²⁸ EU Commission. 2022. “Commission staff working document: Criteria and guidance for protected areas designations.” Available at: https://environment.ec.europa.eu/system/files/2022-01/SWD_guidance_protected_areas.pdf

- Integrate ecological corridors and reconnect neighbouring protected areas or Natura 2000 sites.
- Identify further high biodiversity areas that deserve protection at national level with identified conservation objectives and measures.

Commission guidance recommends that Other Effective Area-based Conservation Measures be counted towards the EU target if:

- The area is covered by a national or international legal or administrative act or a contractual arrangement achieving long-term conservation outcomes.
- Conservation objectives and measures are in place.
- The area is effectively managed and monitored for biodiversity.

Similarly, World Wide Fund (WWF) and the International Union for Conservation of Nature (IUCN) recommend that, to achieve the GBF's 30 percent target,²⁹ the starting point should include the following three actions:

- Improve the existing governance system.
- Expand former recognized or conserved areas or with under preexisting conservation initiatives.
- Expand the existing system.

²⁹ WWF and IUCN World Commission on Protected Areas. 2023. "A Guide to Inclusive, Equitable and Effective Implementation of Target 3 of the Kunming-Montreal Global Biodiversity Framework: Version 1, August 2023." Available at: <https://www.iucn.org/sites/default/files/2023-09/30x30-target-framework.pdf>

Table 1. Overall Roadmap Schema (2024–2030)³⁰

Timeline (at the end of)	Targets ³¹			Activities			
	<i>Phase I</i> ³²	<i>Phase II</i>	<i>Phase III</i>	<i>Phase I</i>	<i>Phase II</i>	<i>Phase III</i>	<i>Other non-phase related</i>
	% coverage	% SI	% MPs				
2023 (baseline values)	36.4%	68.7%	13%	Conduct public consultation on final Emerald site modifications (to be completed in early 2024)	Conduct network sufficiency self-assessment (habitat and species listed in Resolution No. 4 [1996] and list of species listed in Resolution No. 6 [1998]) of modified proposal under EU4Environment Program (to be completed in 2024) Prepare and organize biogeographical seminars based on modified propositions under the EU4Environment Project (to be completed in 2024)	Prepare Emerald site management plan guidelines under EU4Environment Program (completed)	N/A
2024				Prepare and apply database for site modifications (with respective justifications) under EU4Environment Program Prepare for the next evaluation seminar (for modified sites)	Conduct network sufficiency self-assessment (habitat and species listed in Resolution No. 4 [1996] and list of species listed in Resolution No. 6 [1998]) of modified proposal under EU4Environment Program Prepare and organize biogeographical seminars based on modified proposition under the EU4Environment Project	Prepare pilot management plans for two sites under EU4Environment Program Start national policy and legal framework reform (to be completed in 2026) Establish institutional arrangements (to be completed in 2026)	Recommended activities until 2030, to be completed in the following order depending on funding availability: 1. Develop a National Monitoring Plan for avifauna by 2030 based on species functionality, namely: <ul style="list-style-type: none"> • Disturbance-sensitive bird species) • Keystone species which play a role in disease control and the nutrient cycle • Waterbird guilds affected by wetland ecosystem health
2025	25%	90%	20%	Conduct field studies or review existing information about species and habitats with scientific reserves (i.e. fill data gaps)	Review habitat and species listed in Resolution No. 4 (1996) and species listed in Resolution No. 6 (1998) (annual update) Prepare and organize biogeographical seminars (2025) ³³	Prepare management plans for 10 sites Define mechanisms to monitor and assess ecological effectiveness of management plans	

³⁰ World Bank/EU4Environment recommended template.

³¹ Targets section abbreviations: % coverage – percent of Emerald network national coverage (all sites); % SI – Sufficiency Index showing percentage of conclusions under the “sufficient” category versus all conclusions; % MPs – percentage of Emerald sites with management plans.

³² “Phases” refer to Emerald constitution phases. (Phase I: site location and designation; Phase II: scientific assessment of the sufficiency of the Emerald network; Phase III: ensuring appropriate management of the Emerald sites.)

³³ To be decided in consultation with the Bern Convention Secretariat.

					Present proposal to the Bern Convention Standing Committee to adopt a number Emerald Network sites	<p>Start implementing appropriate management plan conservation measures for two sites under EU4Environment Program</p> <p>Make necessary arrangements to monitor two sites under EU4Environment Program against conservation objectives</p> <p>Reform national policy and legal framework (to be completed in 2026)</p> <p>Establish institutional arrangements (to be completed in 2026)</p> <p>Develop financial instruments and incentives for farmers (to be completed in 2026)</p>	<ul style="list-style-type: none"> Birds of prey such as <i>Buteo buteo</i>, <i>Buteo rufinus</i>, <i>Falco tinnunculus</i> Other <p>2. Develop a National Monitoring Plan for habitat mapping</p> <p>3. Develop and implement a specific strategic approach for transparency on biodiversity protection by 2030</p> <p>4. Develop and implement a specific communication and awareness strategic approach and campaign on biodiversity protection until 2030</p> <p>5. Develop a financial plan for NAP implementation from public and private financial resources until 2030</p> <p>6. Execute annual protected area management seminars to exchange knowledge</p> <p>7. Develop and update an online library hub per site</p>
2026				<p>Conduct field studies or review existing information about species and habitats with Scientific Reserves</p> <p>Revise the Emerald Database: regularly update and submit the Emerald Network database based on field studies or existing information review³⁴</p>	<p>Review habitat and species listed in Resolution No. 4 (1996) and species listed in Resolution No. 6 (1998) (annual update)</p> <p>Prepare and organize biogeographical seminar for the feature groups with sufficient new information not covered in previous seminar in 2025³⁵</p>	<p>Reform national policy and legal framework</p> <p>Implement institutional arrangements</p> <p>Introduce financial instruments and incentives for farmers</p> <p>Start implementing appropriate management plan conservation measures for five sites</p>	

³⁴ The Bern Convention expects new databases to be delivered before February 28 of each year.

³⁵ To be decided in consultation with the Bern Convention Secretariat.

						Implement necessary arrangements to monitor 10 sites against conservation objectives	
2027				Conduct field studies or review existing information about species and habitats with Scientific Reserves Revise the Emerald database	Review habitat and species listed in Resolution No. 4 (1996) and species listed in Resolution No. 6 (1998) (annual update) Prepare and organize bilateral evaluation meetings with Bern Convention on specific questions related to sufficiency, if recommended ³⁶	Implement conservation measures in areas with active management plans	
2028	27% ³⁷	90%	65%	Conduct field studies or review existing information about species and habitats with Scientific Reserves Revise the Emerald database	Review habitat and species listed in Resolution No. 4 (1996) and species listed in Resolution No. 6 (1998) (annual update) Prepare and organize bilateral evaluation meetings with Bern Convention on specific questions related to sufficiency, if recommended Consider a proposal to the Bern Convention Standing Committee to adopt a number of Emerald Network Sites	Prepare management plans for 10 sites Implement conservation measures in areas with active management plans	
2029				Conduct field studies or review existing information about species and habitats with Scientific Reserves Revise the Emerald database	Review habitat and species listed in Resolution No. 4 (1996) and list of species listed in Resolution No. 6 (1998) (annual update) Prepare and organize bilateral evaluation meetings with Bern Convention on specific questions related to sufficiency if recommended ³⁸ Consider a proposal to the Bern Convention Standing Committee to adopt the remaining number of Emerald Network Sites	Implement conservation measures in areas with active management plans Make necessary arrangements for monitoring 10 sites against conservation objectives	
2030	28% ³⁹	100%	80%	Conduct field studies or review existing information about species and habitats with Scientific Reserves	Review of Habitat and species listed in Resolution No. 4 (1996) and list of species listed in Resolution No. 6 (1998) (annual update)	Implement conservation measures in areas with active management plans	

³⁶ To be decided in consultation with the Bern Convention Secretariat.

³⁷ Including Emerald sites, nationally protected areas, and other effective area-based conservation measures.

³⁸ To be decided in consultation with the Bern Convention Secretariat.

³⁹ Including Emerald sites, nationally protected areas, and other effective area-based conservation measures.

				Revise the Emerald Database	Prepare and organize bilateral evaluation meetings with Bern Convention on specific questions related to sufficiency if recommended ⁴⁰		
2030–2034				<p>Conduct field studies or review existing information about species and habitats with Scientific Reserves</p> <p>Revise the Emerald Database</p>	<p>Review of Habitat and species listed in Resolution No. 4 (1996) and list of species listed in Resolution No. 6 (1998) (annual update)</p> <p>Prepare and organize bilateral evaluation meetings with Bern Convention on specific questions related to sufficiency if recommended⁴¹</p>	<p>Prepare management plans for the remaining sites</p> <p>Revise management plans when they end</p> <p>Start implementing appropriate management plan conservation measures for the remaining sites</p> <p>Necessary arrangements for monitoring the remaining sites against conservation objectives</p>	
2035	30% ⁴²	100%	100%	Revise the Emerald Database	N/A	N/A	

⁴⁰ To be decided in consultation with the Bern Convention Secretariat.

⁴¹ To be decided in consultation with the Bern Convention Secretariat.

⁴² Including Emerald sites, nationally protected areas, and other effective area-based conservation measures.

Milestones

Interim and final timeframe

A six-year evaluation period from 2024 to 2030 is proposed. The following three reporting periods, using 2023 as a baseline for assessing progress, are recommended:

- By the end of 2025 (first progress assessment)
- By the end of 2028 (midterm assessment)
- By the end of 2030 results and conclusions of the six-year period (final assessment).

The workplan should not be regarded as a static document. Rather, it should accommodate new information and evolving situations that may emerge from monitoring and evaluation results.

Key milestones and event consultations

Reviewing the Standard Data Forms of existing sites and modified sites (2024)

It is critical to officially update Armenia's Emerald Network database (last updated in 2017) and revise the Emerald Barometer indicator values for Phases I, II, and III. Updating the Emerald Network Barometer is the starting point for developing the Emerald Network. A revised Emerald site network has been completed under the EU4Environment Program. It is now up to the MoE to proceed with preparing, reviewing, and submitting the SDFs.

Biogeographical evaluation seminars (2025 and 2026, tentative)

Armenia has participated in two rounds of Emerald Network sufficiency assessments, consisting of a total of four seminars that took place between 2015 and 2019.⁴³ However, there is still a relatively large time gap between the completion of Phase I and Emerald Network site adoption for Phase II.

Officially, conclusions about insufficient features can only be produced during a new biogeographical seminar analysis after updating the Emerald database for Armenia, including SDFs. However, countries can perform their own unofficial self-assessment of sufficiency until the official meeting is planned. The MoE is well placed to take the lead with this activity.

Bilateral follow-up meetings (2027, 2028, and 2029, tentative)

Once close to 90 percent sufficiency is reached, the need for full biogeographical seminars is lower and it becomes more efficient to handle issues in bilateral meetings. Armenia already has a high SI (68 percent) and may after 2027 consider bilateral meetings with the Bern Secretariat, rather than broad biogeographical seminars involving other countries. This is because Armenia may have a different agenda to the other countries with which it has been previously evaluated, such as Azerbaijan, which has an SI of 21.7 percent, or Georgia, which has an SI of 31.8 percent.

⁴³ Council of Europe. 2022. "Conclusions of the biogeographical evaluation seminars." Available at: <https://www.coe.int/en/web/bern-convention/conclusions-of-the-biogeographical-seminars>

National Action Plan implementation

Expected results from National Action Plan implementation

An early result of implementing the NAP, expected in 2024, is an update of the Armenian Emerald Network database and a revision of Emerald Barometer indicator values for Phases I, II, and III. The database update will be based on the recommendations made to the MoE under the EU4Environment Project.

Action plan activities will help Armenia to reach an SI of nearly a hundred percent in 2030, from 68.7 percent in 2017.⁴⁴ In addition, Emerald sites are expected to contribute to the GBF's Target 3,⁴⁵ which is to reach a minimum of 30 percent coverage through protected areas and Other Effective Area-based Conservation Measures.

Armenia currently has no adopted Emerald Network sites.⁴⁶ By 2030, all Emerald Network sites in Armenia will have been adopted after biogeographical seminars and bilateral evaluation meetings regarding sufficiency. Moreover, 80 percent of Emerald sites will have a management plan in place, up from 13 percent in 2017,⁴⁷ with every Emerald site having an active management plan by 2035. Table 2 presents the expected results of the NAP.

Table 2. Summary of National Action Plan targets and outcomes

Timeline (by the end of)	Targets		
	<i>Phase I</i> ⁴⁸	<i>Phase II</i>	<i>Phase III</i>
	Percentage of Emerald network national coverage (all sites)	Sufficiency index showing percentage of "sufficient" conclusions	Percentage of Emerald sites with management plans
2023	36.4%	68.7%	13%
2025	25% (modified sites 2024)	90%	20%
2028	27%	90%	65%
2030	28%	100%	80%
2035	30%	100%	100%

Risk analysis of National Action Plan implementation

The NAP is designed to be as robust and resilient as possible, building on Armenia's current strengths. However, unforeseen risks may occur. Table 3 outlines mitigation actions to deliver the required results according to the roadmap timing.

⁴⁴ Emerald Network Barometer Table. Available at: <https://tableau-public.discomap.eea.europa.eu/views/EmeraldBarometerdashboard/Barometertable?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

⁴⁵ CBD (Convention on Biological Diversity). 2022. "Post-2020 global biodiversity framework." Available at: <https://www.cbd.int/doc/c/409e/19ae/369752b245f05e88f760aeb3/wg2020-05-l-02-en.pdf>

⁴⁶ Emerald Network Barometer Table. Available at: <https://tableau-public.discomap.eea.europa.eu/views/EmeraldBarometerdashboard/Barometertable?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

⁴⁷ Emerald Network Barometer Table. Available at: <https://tableau-public.discomap.eea.europa.eu/views/EmeraldBarometerdashboard/Barometertable?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

⁴⁸ "Phases" refer to Emerald constitution phases. (Phase I: site location and designation, Phase II: scientific assessment of Emerald Network sufficiency, Phase III: ensuring appropriate Emerald site management).

Table 3. Analysis of risk and potential mitigation actions in implementing the National Action Plan

Risk	Probability of occurrence	Level of impact	Possible mitigation action
Insufficient Emerald Network protection framework and institutional reform	Low	High	<p>The Armenian government and MoE are in the process of reforming biodiversity protections</p> <p>The country's green agenda is an additional motivator</p> <p>The roadmap may need adjustment</p>
Delays in activities (for example, preparation of Emerald site management plans)	Medium	Medium	<p>The interim and final timeline, with the help of monitoring system, will flag a possible delay</p> <p>May need to analyze the reasons for the delays and develop a tighter NAP monitoring plan</p> <p>The roadmap may need adjustment</p>
Unavailability of qualified staff such as biodiversity experts	Medium	Medium	<p>Skills can be improved in the long term</p> <p>If expert availability is the concern, activities should be adjusted in time</p> <p>Experts should be adequately informed so they are fully prepared</p>
Poor stakeholder interest	Medium	Low	<p>Prepare contingency plans and virtual or remote activities</p> <p>Enhance communication campaigns</p> <p>Make personal contacts</p> <p>Select appropriate times and places to engage stakeholders</p> <p>Consider covering stakeholder expenses</p>
Poor farmer interest	Low	Medium	<p>Prepare contingency plans</p> <p>Enhance incentive programs</p>
Delays in procedures by public authorities (for instance, Emerald site management plan preparation and approval)	Low	Medium	<p>Launch tenders at a very early stage</p> <p>Involve experienced personnel to reduce time requirements</p>

Monitoring and evaluation

Monitoring and evaluation should be an integral part of all stages of the NAP. Table 4 presents recommended monitoring indicators and evaluation mechanisms for each NAP activity. Performance results should be presented in comparison to baseline values in NAP progress reports and corrective actions should be recommended, if needed.

Table 4. National Action Plan monitoring and evaluation indicators and tools (2024–2030)

Phase	Activity	Target area types/species/habitats/sites	Monitoring Indicator	Baseline value (2023)	Target value (up to 2030)	Source of evaluation	Responsible stakeholder
Overall	Overall NAP results	Emerald Network in Armenia	% coverage, % SI, % management plans	36.4%, 68.7%, 13%	30%, 100%, 100%	Emerald Barometer	Focal point, MoE
Phase I	Prepare and apply a database for site modifications (with respective justifications) under EU4Environment Program	Emerald Network in Armenia	Number of outputs	1 (under preparation)	1	Digital database and reports	MoE
	Conduct field studies or review existing information about species and habitats with Scientific Reserves (i.e., fill data gaps)	Target habitats and species in Armenia	Number of outputs	0	>1	Records and reports	MoE and scientific community
	Revise the Emerald Database: regularly update and submit Emerald Network database based on field studies or existing information review ⁴⁹	Emerald Network in Armenia	Number of outputs	0	>1	Digital database and reports	MoE and scientific community
Phase II	Conduct network sufficiency self-assessment (habitat and species listed in Resolution No. 4 [1996] and species listed in Resolution No. 6 [1998]) of modified proposal under EU4Environment Program	Emerald Network in Armenia	Number of outputs	0	>1	Reports	MoE and scientific community
	Convene biogeographical seminars and bilateral evaluation meetings with the Bern Convention	Target habitats and species in Armenia	Number of outputs	0	>1	Seminar records and reports	MoE and scientific community
	Review habitat and species listed in Resolution No. 4 (1996) and species listed in Resolution No. 6 (1998) (annual update)	Habitats and species in Resolution No. 4 (1996) and Resolution No. 6 (1998) in Armenia	Number of outputs	0	>1	Records and reports	Scientific community
	Consider a proposal to the Bern Convention Standing Committee to adopt a number Emerald Network Sites	Emerald sites to be adopted	Number of Emerald sites to be adopted	0	>1	Emerald barometer	Focal point, MoE
Phase III	Prepare Emerald site management plan guidelines under EU4Environment program	Emerald Network in Armenia	Number of outputs	1	1	Report	MoE
	Prepare pilot management plans for two sites under the EU4Environment program	Armash (AM0000025) and Ijevan (AM0000005)	Number of active management plans	2 (under preparation)	2	Management plans	MoE
	Reform national policy and legal framework	Emerald Network in Armenia	Number of biodiversity protection laws, bylaws, regulations	0	N/A	Legal outputs	MoE

⁴⁹ The Bern Convention expects new databases to be delivered before February 28 of each year.

Phase	Activity	Target area types/species/habitats/sites	Monitoring Indicator	Baseline value (2023)	Target value (up to 2030)	Source of evaluation	Responsible stakeholder
	Make institutional arrangements	Emerald Network in Armenia	Number of administrative and institutional framework reform outputs	0	N/A	Legal outputs	MoE
	Prepare management plans for all sites	Emerald Network in Armenia	Number of active management plans	0	Number of Emerald sites	Management plan	MoE
	Define the mechanisms employed to monitor and assess the ecological effectiveness of management plans	Emerald Network in Armenia	Management plan effectiveness framework	0	N/A	Framework report	MoE
	Implement appropriate management plan conservation measures in areas with active plans	Emerald Network in Armenia	Number of conservation measures implemented	0	N/A	Report	MoE
	Develop financial instruments and incentives for farmers	Emerald Network in Armenia	Number of incentive programs	0	N/A	Framework	MoE
	Revise management plans when they end	Emerald Network in Armenia	Number of management plans	0	N/A	Revised management plans	MoE
Other non-Phase related	Develop a NAP for avifauna by 2030 based on species functionality, namely: <ul style="list-style-type: none"> • Disturbance-sensitive bird species • Keystone species which play a role in disease control and the nutrient cycle • Waterbird guilds affected by wetland ecosystem health • Birds of prey, such as <i>Buteo buteo</i>, <i>Buteo rufinus</i>, <i>Falco tinnunculus</i> • Other 	Armenia	Number of outputs	0	1	Report	MoE and scientific community
	Develop a NAP for habitat mapping	Armenia	Number of outputs	0	1	Report	MoE and scientific community
	Develop and implement a specific strategic approach for transparency on biodiversity protection until 2030	Armenia	Number of outputs	0	1	Report	MoE
	Develop and implement a specific communication and awareness strategic approach and campaign on biodiversity protection until 2030	Armenia	Number of outputs	0	1	Report	MoE
	Develop a financial plan for NAP implementation from public and private financial resources until 2030	Armenia	Number of outputs	0	1	Report	MoE
	Execute protected area management seminars to exchange knowledge annually	Armenia	Number of biodiversity management seminars	5 (under preparation)	>10	Seminar record	MoE and scientific community
	Develop and update an online library hub per Emerald site.	Emerald Network in Armenia	Number of experts	0	1	Website	MoE
	Convene a working group of national and international experts for all habitats and species	Armenia	Number of experts	10	>10	Website	Scientific community

Sources of National Action Plan financing

A financial plan for NAP implementation by 2030 should ideally be developed. Table 5 presents potential financing sources for implementing the action plan.

Table 5. Financial sources

International and EU financial instruments	Thematic area on biodiversity (Yes/No)	Potential level of use by Armenia
Governmental annual budget on biodiversity protection	Yes	Moderate use
Donor funding, private investors, economic sectors⁵⁰	Yes	Minor use
EU4Environment⁵¹	Yes	High use
Interreg – Territorial Cooperation	Interreg NEXT Black Sea Basin Programme ⁵² Priority 2	Moderate use
EuropeAid-Twinning and other	Yes	High use
GIZ, USAID, ADB	Yes	High use
LIFE Programme⁵³	Yes	To be determined. The LIFE Programme is the EU's funding instrument for the environment and climate action. Until now, Armenia has not been eligible.
Horizon Europe (2021-2027)⁵⁴	Yes (only for research and innovation)	To be determined. Armenia has an agreement as an Associated country ⁵⁵

⁵⁰ WWF and IUCN WCPA. 2023. "A Guide to Inclusive, Equitable and Effective Implementation of Target 3 of the Kunming-Montreal Global Biodiversity Framework: Version 1, August 2023." Available at: <https://www.iucn.org/sites/default/files/2023-09/30x30-target-framework.pdf>

⁵¹ EU4Environment. 2022. "EU4Environment work plan for 2019-2023: ARMENIA (Final version, February 2022)." Available at: https://www.eu4environment.org/app/uploads/2022/03/EU4Environment-final-work-plan-for-Armenia_Feb-2022.pdf

⁵² European Commission. 2023. Interreg NEXT Black Sea Basin Programme website. Available at: <https://black-sea-maritime-agenda.ec.europa.eu/node/549>

⁵³ European Commission. 2024. LIFE Programme website. Available at: https://cinea.ec.europa.eu/programmes/life_en

⁵⁴ General Secretariat for Research and Innovation. 2021. "Horizon Europe: European Commission proposal for the next Framework Programme for Research and Innovation (2021–2027)." Available at: <http://www.gsrt.gr/central.aspx?slId=12514901140513231516539>

⁵⁵ European Commission. 2024. "List of Participating Countries in Horizon Europe." Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-auratom_en.pdf

Recommendations for a National Action Plan to Advance the Establishment of the Emerald Network in Armenia (2024–2030)

“Recommendations for a National Action Plan to Advance the Establishment of the Emerald Network in Armenia (2024–2030)” aim to help the Armenian authorities in developing a viable six-year roadmap (2024–2030) and provide comprehensive overview of measures to move forward with establishing the Emerald Network.

The National Action Plan briefly presents key challenges to advancing the Emerald Network in Armenia, such as an urgent need to revise the Emerald Network database and update the Emerald Barometer indicator values until they reach a hundred percent sufficiency index. There is also a need to revise some of the candidate Emerald sites, to assess new areas for better habitat and species protection in accordance with the requirements of Resolutions 4 and 6 of the Bern Convention, and to prepare management plans for Emerald site areas to address the conservation needs of target species and habitats. Finally, governance and legislative modifications are needed to advance the Emerald Network advancement in Armenia.

Based on the above challenges, a set of targets and specific activities to achieve these targets by 2030 (with an extended time horizon of 2035) are presented. These targets and activities are summarized in a Roadmap Schema, which contains all important details and evaluation components. Communication and awareness are also part of the NAP framework.

By implementing these recommendations, Armenia can enhance its conservation efforts and protect its valuable species and natural habitats.

Programme website:

www.eu4environment.org

Action implemented by: