UNITED NATIONS
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PEACE AND BIODIVERSITY

RESTORING NATURE, REBUILDING TRUST: ARMENIA AND THE GLOBAL NEXUS BETWEEN CONFLICT, PEACE AND NATURE

Lake Sevan © Hrant Sahakyan

Remote, resource-rich borderlands may be both refuges for rare species and theatres of violence. Conflict affects them through direct military damage and weakened environmental governance (Hsiao et al., 2023; SIPRI, 2023).

Shelling, fires, troop movements and military infrastructure can destroy or fragment habitats, disturb wildlife, alter drainage and release pollutants. Weakened institutions may also enable mining, logging, hunting and settlement, while disrupted monitoring increases wildlife trafficking and unsustainable extraction.

> *"Environmental damage caused by conflicts continues to push people into hunger, into disease and into displacement, thereby increasing insecurity."*
>
> **Inger Andersen, Executive Director, UNEP (2025)**

> *"Making peace with nature is the defining task of the 21st century."*
>
> **António Guterres, UN Secretary-General (2020)**

Direct Destruction of Habitats and Species

Modern warfare can inflict severe and lasting ecosystem damage. In Gaza, conflict caused extensive losses of tree crops, shrubland and annual crops and polluted freshwater and marine ecosystems; in Ukraine, forests, farmland, protected areas and agricultural genetic resources—including working seed collections linked to the national gene bank—were affected; and in Iraq, conflict-related drainage devastated the Mesopotamian Marshlands before sustained re-flooding enabled partial recovery (UNEP, 2001; UNEP, 2022; FAO, 2023; UNEP, 2025; UNESCO, 2016). Together, these cases show that war can degrade habitats, ecosystem services and biological resources underpinning food security, while peace and effective institutions can reopen pathways for restoration.

After Timor-Leste's 1999 independence referendum, retreating Indonesian military forces and pro-integration militias deliberately destroyed homes, infrastructure, irrigation and water systems. The campaign illustrates scorched-earth tactics damage the environmental and productive systems on which civilian recovery depends (OCHA, 1999; Human Rights Watch, 1999).

Landmines and Explosive Remnants of War

The environmental legacy of conflict often persists long after hostilities cease. Landmines and unexploded ordnance can remain active for decades, endangering communities, mine-action personnel, livestock and wildlife while restricting access to farmland, pastures, forests and water sources. They can injure animals directly, fragment movement corridors and interrupt cultivation, seed exchange, on-farm conservation and transmission of traditional knowledge. While survey and clearance are under way, explosive ordnance risk education (EORE), delivered in line with IMAS 12.10, is essential to help prevent injury and death, with priority attention to children and adolescents in border communities and households using fields, pastures and seasonal routes. The current International Mine Action Standard on environmental management and climate change also incorporates environmental and climate safeguards into mine-action operations (IMAS 07.13, 2024; IMAS 12.10, 2020).

Munitions residues, including lead, mercury, cadmium and explosive compounds, can contaminate soil and groundwater, while damage to infrastructure, sanitation and waste-management systems releases hazardous debris and untreated waste. In Armenia's conflict-affected border areas, baseline monitoring of soils, water, agricultural land and food chains would help identify risks to human health, livestock, wildlife and ecosystem functioning. A One Health approach could connect mine action and remediation with water and food safety, biodiversity monitoring and recovery planning.

2. WHEN PEACE RETURNS: OPPORTUNITIES FOR NATURE AND PEOPLE

Part 1 presents selected international evidence to clarify mechanisms - not models for Armenia. It distinguishes direct conflict damage from the more limited opportunities that improved security, governance and cooperation may create for recovery. Peace can unleash economic activity before environmental governance has recovered.

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Tourism, construction, transport, mining and agricultural expansion may enter previously inaccessible landscapes, increasing pressure on habitats, water, waste systems and communities. Armenia should therefore pair the peace dividend with strategic environmental assessment, biodiversity safeguards, land-use and carrying-capacity planning, and transparent benefit-sharing.

Accidental Sanctuaries: Nature Reclaims No-Man's-Lands

The Korean Demilitarized Zone illustrates how restricted access can incidentally allow habitats and wildlife to persist. These ecological outcomes cannot be separated from the human costs of war, displacement and militarization. Any future change in access would require demining, ecological assessment and safeguards for affected communities.

> *"The demilitarized zone is a symbol of hope. It shows everything can be restored."*
>
> **Seung-ho Kim, Director, DMZ Ecology Research Institute**

Scientific Access After Improved Security

Following Colombia's 2016 peace agreement, improved security enabled scientific access to previously inaccessible areas, generating biodiversity knowledge while revealing conservation risks associated with weak governance and land conversion (Minciencias, 2022; Reuters, 2024).

Restoring What War Destroyed

Experience from Mozambique's Gorongosa National Park, India's Manas Wildlife Sanctuary and Côte d'Ivoire's Comoé National Park shows that ecological recovery after conflict is possible when security, capable institutions, sustained financing and community participation reinforce one another. For Armenia, the lesson is to link restoration in conflict-affected landscapes with local livelihoods, equitable governance and long-term monitoring rather than replicate any single model (UNESCO, 2011; UNESCO, 2017).

Peace Parks And Transboundary Cooperation

Waterton-Glacier, established between Canada and the United States in 1932 and inscribed on the World Heritage List in 1995, helped establish the model of transboundary conservation for biodiversity, ecological connectivity and cooperative management (UNESCO, 1995). For Armenia, the more immediate opportunity is not necessarily a formal "peace park" but practical, consent-based cooperation with Georgia, already visible in coordinated monitoring in the Khrami-Debed basin and protected-area collaboration around Lake Arpi and Javakheti; subject to agreement and regional conditions, these incremental approaches could support wider cooperation on river basins, wetlands, wildlife corridors and restoration.

Khrami-Debed(a) basin © UNECE

Restoring Landscapes, Supporting Community Healing

Recovery after war also requires psychosocial support and opportunities to rebuild social cohesion. Nature-based activities may complement, but not replace, evidence-based mental-health services (WHO, 2022).

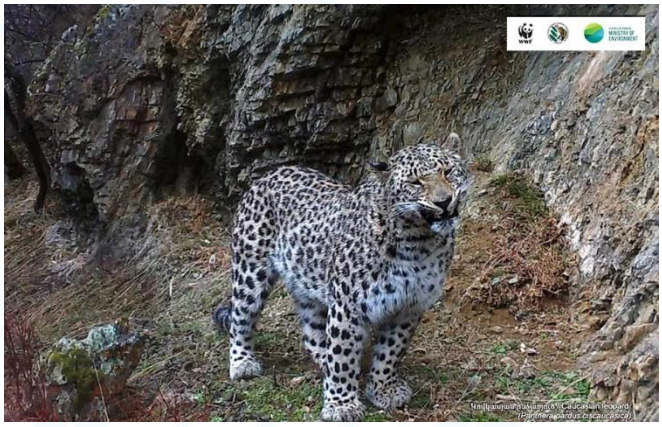
The UN Decade on Ecosystem Restoration (2021-2030), led by UNEP and FAO, provides a practical framework for moving from isolated rehabilitation projects to sustained, landscape-scale recovery benefiting biodiversity, communities and climate resilience.

Reforestation area of My Forest Armenia © Hrant Sahakyan

Community nurseries, culturally significant landscape restoration and habitat stewardship can provide safe, voluntary activities for affected groups. When trauma-informed and locally led, they can support healing while delivering ecological benefits.

3. ARMENIA: FROM CONFLICT-AFFECTED LANDSCAPES TO BIODIVERSITY AND PEACE OPPORTUNITIES

Armenia lies at the meeting point of the Caucasus and Irano-Anatolian biodiversity hotspots and hosts exceptional biological diversity, including the critically endangered Caucasian leopard, whose Armenian population is estimated at only 8-13 individuals (Mittermeier et al., 2004).



Caucasian Leopard

Climate change is sharpening the urgency of cooperation over shared ecosystems and water. Caucasus glaciers have retreated by an average of about 600m over the past century; Armenia's river flow fell by 26% in 2020; and annual flow at the closing section of the Kura River declined by 20% between 2000-2020. These trends increase pressure on freshwater-dependent habitats, agriculture and communities and strengthen the case for coordinated monitoring, ecosystem restoration and climate-resilient water management (UNEP, 2024).

The Cost of Conflict

Prolonged insecurity can place sustained pressure on public institutions and resources. In Armenia, successive biodiversity strategies established policy commitments, while the 2025 national green-transition assessment identified continuing implementation, financing, capacity and cross-sector coordination challenges. Greater

regional stability could provide additional space to advance these commitments (Government of Armenia, 1999; Government of Armenia, 2015; SEI, 2025).

Wild bear © FPWC

The 2020 escalation of the Karabakh conflict affected Armenia's ecosystems through forest fires, shelling in natural habitats and damage to fragile landscapes. Mines, militarized zones and fencing also pose risks to wildlife and can restrict movement and migration routes. At the end of 2024, Armenia reported more than 11.3 km², approximately 1,130 ha, contaminated by anti-personnel and/or anti-vehicle mines; this remains a partial estimate because the national extent has not been fully clarified (Mine Action Review, 2025). The following observation from FPWC reflects practitioner experience of these impacts.

> *"We now see animals like leopards, bezoar goats and bears affected both physically, with injuries from mines, and behaviourally, as their ranges become restricted by military zones and barbed borders."*
>
> **Ruben Khachatryan, Founder, FPWC**

Human Security and Displacement

The 2020 hostilities displaced around 90,000 people to Armenia, while 115,388 people from Karabakh were registered in Armenia following the September 2023 escalation (UNSDG, 2021; UNHCR, 2024). Many lost homes, farmland, livestock and incomes, and recovery remains constrained by access to land, tenure, water, services and markets. At the same time, displaced people bring agricultural and pastoral knowledge that can contribute to local food systems, agrobiodiversity conservation and rural recovery. Biodiversity restoration should therefore link safe land management and productive-resource access with inclusive planning that recognizes displaced people as contributors as well as beneficiaries. FAO initiatives in Tavush and Lori illustrate this approach by matching displaced farmers with unused land and local value chains (FAO, 2024 - 2025).

Conflict can also reshape interactions between wildlife and communities. Stakeholders report increased bear incursions around Sisian, associated with habitat disturbance linked to conflict and militarization, although food availability, climate variability, land-use change and waste management may also contribute. Fencing, mines, fires and restricted movement can plausibly displace bears toward settlements, orchards, apiaries and livestock, increasing losses, safety risks and pressure for retaliatory killing. Responses should combine biodiversity management with community-protection measures.

Biodiversity and Agrobiodiversity Loss

Conflict threatens Armenia's crop wild relatives, landraces and associated knowledge (FAO, 2026). Mines, displacement and restricted access can interrupt cultivation, seed exchange and knowledge transfer. Khndoghni vineyards around Togh illustrate combined risks to genetic resources and cultural heritage (Eurasianet, 2019). Priorities include safe access, support for custodial farmers, consent-based documentation, updated inventories and secure backup collections (Ministry of Agriculture, 2008).

Pasture Ecosystems and Animal Genetic Resources

Border pastures require particular attention. Mines, military infrastructure, fencing and security restrictions can make grazing land, hay meadows, water points and seasonal routes unsafe or inaccessible. Concentrating herds on smaller areas may accelerate vegetation loss, erosion and water pressure, while prolonged abandonment can alter traditional management and enable invasive species or scrub. Restoration is also difficult where surveys are incomplete, clearance costly, access uncertain and demining or reconstruction equipment itself disturbs soils. Planning should therefore align mine-action data with ecological and pasture assessment, erosion control, rehabilitation of water points and seasonal routes, and community agreements on sustainable grazing.

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Livestock genetic resources are closely linked to these pasture systems. Armenia's locally adapted cattle, sheep, goat and poultry breeds support food production and may carry traits valuable for harsh terrain, variable feed availability, disease resistance and climate adaptation (Ministry of Agriculture of the Republic of Armenia, 2010; FAO DAD-IS). Livestock losses, herder displacement, disrupted veterinary and breeding services and replacement of breeding populations can reduce genetic diversity and endanger small local populations. Recovery should assess breed status, restore essential services, support community-based breeding and pastoral knowledge, and secure backup conservation of priority material.

Peace As Connective Tissue

Armenia's Crossroads of Peace initiative envisages reopening and developing roads, railways, pipelines and power lines under the sovereignty and jurisdiction of the countries concerned (Government of Armenia, 2023). From a biodiversity perspective, any future connectivity investments would need early environmental assessment, biodiversity-sensitive design, pollution prevention and safeguards for wildlife corridors and border communities. Where relevant and mutually agreed, associated technical coordination could complement, but not substitute for, formal intergovernmental processes.

Potential Biodiversity Considerations for Regional Connectivity

- **Ecological connectivity:** Protect wildlife corridors, rivers, wetlands and connected habitats.
- **Biodiversity-sensitive infrastructure:** Build avoidance, mitigation and ecological design into transport and energy links.
- **Transboundary environmental monitoring:** Align data and monitoring of fragmentation, water quality and pollution.
- **Ecosystem restoration corridors:** Restore degraded habitats along connectivity routes and support local livelihoods.

Armenia-Georgia cooperation provides two concrete precedents. In the Khrami-Debed basin, technical work since 2020 has addressed pressures from wastewater, mining, agricultural runoff and illegal landfills. A December 2025 agreement established harmonized monitoring sites, parameters, methods, reporting and data exchange, turning shared evidence into a basis for

river management, irrigation and public-health decisions (UNECE, 2025). Around Lake Arpi and Georgia's Javakheti Protected Areas, joint biodiversity monitoring, staff exchange, bird surveys, tourism initiatives and services for farmers, including measures addressing overgrazing, show how repeated professional contact and visible local benefits can sustain cooperation (WWF, 2017).

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Armenia also faces significant domestic water stress. Its water exploitation index has repeatedly exceeded the 40% severe-scarcity threshold, while irrigation and aquaculture account for most freshwater use. Improving efficiency and ecosystem safeguards is therefore integral to credible transboundary cooperation and the resilience of rivers, wetlands and rural livelihoods (Ecoportal Armenia, 2021).

Water cooperation is also relevant in the Kura-Araks basin, linking Armenia, Azerbaijan, Georgia, Türkiye and Iran. Armenia and Türkiye have technical arrangements concerning shared Araks and Akhuryan infrastructure, including the Akhuryan Reservoir and Sardarapat regulator. These mechanisms concern allocation, regulation and operation rather than biodiversity. In May 2026, the relevant commissions held their first joint session and signed documents concerning operation of the shared infrastructure (Water Committee of Armenia, 2026).

Subject to agreement by the relevant authorities, possible areas for future technical consideration could include compatible water-quality monitoring, ecological-flow assessment, pollution control, habitat management, and drought and flood preparedness. Any such work should complement existing State-led mechanisms (FAO, 2026; UNECE, 2021).

From Community Conservation to National Opportunity

Azat Reservoir © Alexandr Hovhannisyan

The Caucasus Wildlife Refuge in Urtsadzor, developed with more than 60 communities across 30,000 hectares, shows how locally rooted conservation can benefit vulnerable border areas. Its agreements address human-wildlife conflict, ecotourism and renewable energy, while the landscape links the Khosrov Forest State Reserve with cultural heritage around Geghard and the Upper Azat Valley (FPWC; UNESCO, 2000). This peace-positive model can help Armenia advance from 13.1% protected-area coverage toward the global 30% target (Ministry of Environment, 2023).

Biodiversity, Peace and the Kunming-Montreal Global Biodiversity Framework

Armenia's post-conflict restoration agenda can contribute directly to implementation of the Kunming-Montreal Global Biodiversity Framework:

- **Targets 1 and 8:** Integrate biodiversity-inclusive spatial planning and climate resilience into recovery and infrastructure decisions.

- **Target 2:** Restore degraded ecosystems, including conflict-affected landscapes.
- **Target 3:** Protect and reconnect important borders and transboundary landscapes, contributing to the global 30% conservation goal.
- **Target 4:** Support the recovery of threatened species, strengthen ecological connectivity and help halt human-induced extinctions.
- **Target 7:** Reduce pollution from explosive remnants, military debris, damaged infrastructure and untreated waste, with safeguards throughout mine action and recovery.
- **Targets 9-11:** Promote biodiversity-friendly agriculture, livestock systems and sustainable use, including support for custodians of local diversity.
- **Target 12:** Expand biodiverse green and blue spaces to support ecological recovery, health and community well-being.
- **Target 14:** Integrate biodiversity, ecosystem services and conflict sensitivity into recovery, land-use, infrastructure, agriculture and investment decisions.
- **Target 19:** Mobilize public and private finance for restoration and conservation in conflict-affected and border landscapes.
- **Targets 21-23:** Strengthen accessible biodiversity knowledge; inclusive and gender-responsive participation by Indigenous Peoples and local communities, women and girls, children and youth, persons with disabilities and, in the Armenian context, displaced people; and access to information and justice, recognizing communities as rights and knowledge holders.

Strategic Opportunities for Armenia and Its COP17 Presidency

Priority opportunities

Apply a green-recovery approach to mine action, linking survey and clearance with explosive ordnance risk education, environmental safeguards, ecological assessment, habitat restoration, biodiversity monitoring and sustainable livelihood development. EORE should follow IMAS 12.10 and prioritize children and adolescents in border communities and households using fields, pastures and seasonal routes.

Develop a phased South Caucasus dialogue on biodiversity and water, beginning with scientific exchange, compatible monitoring, pollution control and flood-risk management through neutral platforms, while complementing State-led mechanisms.

Support community-based and privately managed conservation areas, such as the Caucasus Wildlife Refuge, through recognition as Other Effective Area-based Conservation Measures where appropriate, and mobilize biodiversity, climate and restoration finance for conflict-affected and border communities. This can generate local benefits and accelerate progress toward Armenia's 30% target.

Strengthen biodiversity monitoring and environmental information systems in affected and border areas, and integrate ecological, social and economic evidence into recovery, land-use and investment decisions. Require biodiversity-risk assessment, conflict-sensitive safeguards, disclosure and outcome monitoring.

Establish a voluntary biodiversity-and-peace results framework aligned with Armenia's biodiversity strategy and action plan, the KMGBF monitoring framework and relevant SDG indicators. It could track ecological recovery, conflict sensitivity, community participation and livelihood outcomes without creating additional reporting obligations.

Anticipate post-conflict investment pressures by applying strategic environmental assessment, biodiversity-sensitive land-use planning and carrying-capacity limits before tourism, infrastructure and resource-development projects expand into sensitive landscapes.

Promote peace-positive landscapes as an integrating framework for restoration, community development and biodiversity conservation in border regions.

Include displaced people as active partners in restoration and conservation, linking livelihood and integration support with green jobs and agrobiodiversity custodianship, and involving them in local planning.

Emerging opportunities

Pilot voluntary, trauma-informed nature-based healing activities linked to biodiversity recovery, with safeguarding, clinical referral pathways and monitoring of well-being and ecological outcomes.

Safeguard Armenia's plant and animal genetic resources through updated inventories, complementary in situ, on-farm and ex situ conservation, secure backup collections, and support for farmers and pastoralists who sustain agrobiodiversity and associated knowledge.

Explore a first Armenian nomination to UNESCO's World Network of Biosphere Reserves, keeping transboundary options open as regional conditions allow, and use the biosphere reserve model to link protected-area management, community livelihoods and cultural heritage in border landscapes.

Use the opportunity of COP17 to facilitate voluntary exchange of country experiences on conflict-sensitive ecosystem restoration, biodiversity finance, transboundary technical cooperation and inclusive governance, including through engagement with UNEP's environmental peacebuilding work and relevant United Nations observances.

Armenia's experience demonstrates that biodiversity conservation, restoration and sustainable natural-resource management can support cooperation in post-conflict settings. While such initiatives cannot replace political processes, they can help create conditions for long-term stability and sustainable development.

There can be no durable peace if the natural resources that sustain people and ecosystems are destroyed (UNEP, 2019). COP17 offers an opportunity to advance dialogue on how biodiversity conservation, ecological restoration and regional cooperation can contribute to peace and sustainable development.

** This thematic brief was prepared by the United Nations Resident Coordinator's Office in Armenia as an informational and analytical contribution to dialogue ahead of COP17. It is not a negotiated United Nations policy document and creates no legal obligations. The analysis draws on publicly available sources, and the recommendations are non-binding.*

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