



**CONVENTION ON  
MIGRATORY  
SPECIES**

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3rd MEETING OF THE SIGNATORIES (MOS3) TO THE  
MEMORANDUM OF UNDERSTANDING CONCERNING  
CONSERVATION AND RESTORATION OF THE  
BUKHARA DEER (*Cervus elaphus bactrianus*)  
Almaty, Kazakhstan, 10-11 September 2024

**WORK PROGRAMME FOR THE BUKHARA DEER (2025-2032)**

1. Decision 14.167 (d) of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) adopted at the Fourteenth Meeting of the Conference of the Parties (COP14) in Samarkand, Uzbekistan, 12-17 February 2024, commissioned the revision of the Central Asian Mammals Initiative (CAMI) Programme of Work (PoW) with the aim of streamlining its actions to focus on cross-cutting activities that benefit multiple species and to reflect updated CMS mandates relevant to the region.
2. Therefore, the new Work Programme for 2025-2032 of the Memorandum of Understanding concerning Conservation and Restoration of the Bukhara Deer (*Cervus elaphus bactrianus*) (Bukhara Deer MOU) follows a different approach than the previous Work Programme for 2021-2026. The CMS Secretariat suggests that threats impacting and activities addressing not only Bukhara Deer, but also other species covered by CMS CAMI will be included in the next CAMI PoW (preliminarily included in the Annex 1), whereas this Work Programme for 2025-2032 shall focus on activities of special relevance for one or more populations of the species.
3. The term “population” is in the context of this Work Programme applied to groups or subpopulations of Bukhara Deer which are currently or may potentially in the future become linked so that reproductive connectivity and genetic exchange are possible. The following populations are suggested as units for the Work Programme 2025-2032:
  - 1) Upper Amu Darya: in Tajikistan (bordering Afghanistan) Beshai Palangon (Tigrovaya Balka) State Strict Nature Reserve (SSNR)– Tj1 and further upstream up to the beginning of mountainous sections of the Panj valley – Tj4; in Uzbekistan between the borders with Tajikistan and with Turkmenistan (Maimun-Tugay, Aral-Paygambar and other sites) – Uz3; in TKM (Jarguzer) – Tm2; Includes Transboundary Hotspots 5, 6 and 7.
  - 2) Middle Amu Darya: Kyzylkum SSNR in Uzbekistan – Uz2, and Amu Darya SSNR and non-protected sites of riparian forest (seven in total) in Turkmenistan – Tm1; Transboundary Hotspot 38.
  - 3) Lower Amu Darya: Lower Amu Darya Biosphere Reserve (LABR) in Uzbekistan – Uz1 and potentially adjacent or nearby located areas in Turkmenistan; Transboundary Hotspot 38.
  - 4) Zarafshon: in Tajikistan Zarafshon wildlife sanctuary – Tj5, and in Uzbekistan, Zarafshon National Nature Park (NNP) – Uz4; Transboundary Hotspot 35.
  - 5) Syr Darya: river valley of the Syr Darya in Kazakhstan, Turkestan region with potential of expansion into Kyzylorda region – Kz2

- 6) Ile-Balkhash basin (introduced): in Kazakhstan Ile-Balkhash area (introduction initiated in the frame of World Wildlife Fund (WWF) project in 2018; ongoing) – Kz3, lower reaches of the Ile River (private game management area, reintroduced in 2019 but 2023 only group in enclosure) – Kz4, middle Ile River valley, Karachingil (introduced in 1970s, originally semi-captive population, currently partly free-ranging) – Kz1

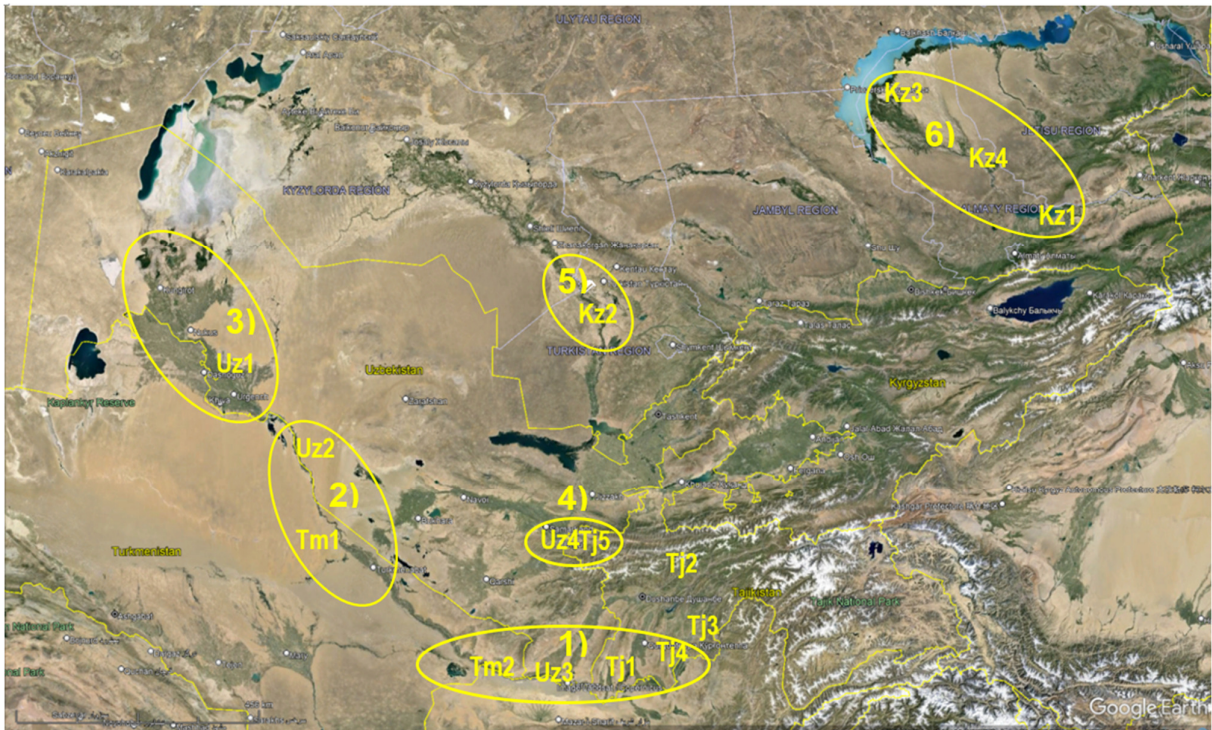


Figure 1. Approximate locations of major Bukhara Deer populations as units of the work programme (Figures 1)-6)) and major subpopulations (based on CMS, 2020, modified)

Additionally, the Work Programme considers as planning units:

- 7) Groups outside of the native habitat and native range, introduced as semi-captive and free ranging: Khutalon and Dashtijum
- 8) Captive breeding groups in enclosures in the Range States kept for the purpose of breeding for reintroduction and introduction: Uzbekistan: Baday-Tugay (LABR), Khorezm NNP, Zarafshon NNP; Kazakhstan: Syr Darya valley (two enclosures), lower Ile valley (private); Tajikistan: Romit, Sarikhosor, Khutalon (to be confirmed)

## WORK PROGRAMME FOR THE BUKHARA DEER (2025-2032)

**Overall goal:** to restore and maintain Bukhara Deer populations at a favourable conservation status throughout their range.

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
<b>1.0</b>	<b>Measures affecting several or all populations</b>		
1.1	Assess the current and projected hydrological situation and riparian dynamics in Bukhara Deer habitats in the context of direct and indirect impact of climate change; and plan and implement improvement measures as far as feasible to ensure conservation of Bukhara Deer habitat.	1	Governmental organizations (GOs), scientific institutions, non-governmental organizations (NGOs)
1.2	Undertake joint or coordinated population surveys of Bukhara Deer in all transboundary populations applying agreed methodologies.	1	GOs, scientific institutions, NGOs
1.3	Improve legal mechanisms to ensure safe transboundary migrations of Bukhara Deer as well as conduct training and enhance cooperation between border guards and customs in all transboundary populations.	1	GOs
1.4	Strengthen international cooperation and information exchange, <i>inter alia</i> , by jointly implementing specific conservation measures in all transboundary populations.	1	GOs, intergovernmental organizations (IGOs) possibly facilitated by CMS
1.5	Study conflicts between local people and Bukhara Deer, develop and implement human-wildlife conflict mitigation measures, reduction and compensation of damage from Bukhara Deer and explore the potential for Bukhara Deer populations to inhabit agricultural land and bush and tree plantations in all transboundary populations.	1	GOs, NGOs, scientific institutes

<sup>1</sup> Priority for implementing: 1 – high (high importance and urgency for solving conservation issues affecting the animals and their habitat now). 2 - medium (necessary for stabilization of numbers within 3-5 years). 3 -low (will contribute to population restoration but is not urgently needed).

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
1.6	Agree on a common position of the Range States regarding the delisting of Bukhara Deer from Convention on the Conservation of Migratory Species of Wild Animals (CMS) Appendix I and prepare a joint proposal for the 15 <sup>th</sup> Meeting of the Conference of the Parties (COP15).	2	GOs with advice by NGOs and scientific institutes
1.7	Consider changing the national legal status for enabling sustainable hunting in suitable areas in the context of population control and for creating incentives for protection from poaching and for coexistence of local communities and Bukhara Deer outside of protected areas.	2	GOs with advice by NGOs and scientific institutes
<b>Population-specific measures</b>			
<b>2.0</b>	<b>Lower Amu Darya (TKM, UZB)</b>		
2.1	Explore the feasibility of creating an ecological corridor between Nazarkhan (Lower Amu Darya Biosphere Reserve (LABR) cluster), Bekbay leskhoz (forestry enterprise) (UZB) and Sarykabdytugay (TKM) to ensure the occurrence and safe transboundary migration of Bukhara Deer.	1	GOs, NGOs, scientific institutes
2.2	Enable the dispersal of deer and recolonization of suitable sections of LABR and beyond by Bukhara Deer through improved connectivity of habitat patches and, where needed, translocations (UZB, potentially involving TKM).	1	GOs, NGOs, scientific institutes
2.3	Improve ecological conditions of forest areas into which Bukhara Deer naturally disperse from LABR (Beruni, Kipchak leskhoz) to the tugay under Karatau mountain (public land reserve), and strictly regulate grazing by livestock, horses, as well as enhance fire prevention measures and anti-poaching protection.	2	GOs, NGOs, scientific institutes
2.4	Elaborate and implement urgent special measures for controlling the population size of Bukhara Deer in the Baday-Tugay section of LABR to avoid further ecosystem degradation, farmer-deer conflict and risk of increased mortality (UZB).	1	GOs, NGOs, scientific institutes
2.5	Restore the riparian forests in natural habitats, for example through conveying water to the Kokdarya canal in order to provide deer with an additional water source and to facilitate their distribution more evenly	2	GOs, NGOs
2.6	Prepare a reintroduction project in the new special reserve Sudoehye-Akpetki with an area of 280.507 ha (with the prospect of organizing a transboundary protected area, migration UZB-KAZ) (UZB).	2	GOs, NGOs, scientific institutes

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
2.7	Create a protected area between Akdarya and Kazakhdarya, which includes a delta tugay and explore the suitability of this area for Bukhara Deer reintroduction.	3	GOs, NGOs, scientific institutes
2.8	Study the carrying capacity of sites and develop population models on potential prospects for the development of Bukhara Deer populations.	3	GOs, NGOs, scientific institutes
2.9	If Bukhara Deer is delisted from CMS Appendix I, consider in appropriate areas the introduction of sustainable hunting in the context of population control and for creation of incentives for protection from poaching and coexistence of farmers and deer outside of core zones (UZB).	2	GOs, NGOs, scientific institutes
2.10	Analyze the negative impact of industrial enterprises and quarries for extracting construction materials on the habitat of the largest population of Bukhara Deer in LABR (in particular Baday-Tugay and Dzhumurtau sections), and develop, coordinate and implement measures to reduce this negative impact on Bukhara Deer and ecotourism development (UZB).	2	GOs, NGOs, scientific institutes
2.11	Develop, coordinate and implement a system of measures to prevent the injury and death of deer on transboundary migration between TKM and UZB in the lower reaches of the Amu Darya River. (UZB-TKM)	2	GOs, NGOs
2.12	Reintroduce Bukhara Deer in the Yangibozor and Urgench sections of the recently established Khorezm NPP, by translocating animals from LABR (UZB).	3	GOs, NGOs
2.13	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem.	3	GOs, NGOs, private business
2.14	Study the feasibility of community-based wildlife management for creating ownership and deriving benefits from ecotourism and, if the species is removed from CMS Appendix I, introducing hunting to offset costs of living next to deer (UZB).	2	GOs, NGOs, private business
<b>3.0</b>	<b>Middle Amu Darya (TKM, UZB)</b>		
3.1	Develop a system of ecological corridors and buffer zones (without land alienation, land used for various economic purposes included) between Tugay Darganat Ileskhoz, Amu Darya State Strictly Protected Nature Reserve (SNNR) (TKM) and Kyzylkum SSNR (UZB) in the middle reaches of Amu Darya to ensure safe transboundary migration of Bukhara Deer across the range area of the population (TKM).	1	GOs, NGOs, scientific institutes



Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
3.2	Increase the territory of Kyzylkum SSNR in the middle reaches of the Amu Darya River through the inclusion of additional sections of tugay forests (UZB).	2	GOs, NGOs, scientific institutes
3.3	Restore the riparian forests in natural habitats.	2	GOs, NGOs, scientific institutes
3.4	Develop and agree on bilateral agreements and transboundary protected areas management plans for Amu Darya SSNR (TKM) and Kyzylkum SSNR (UZB).	2	GOs, NGOs, scientific institutes
3.5	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem.	2	GOs, NGOs, private business
3.6	Develop, coordinate and implement a system of measures to prevent the injury and death of deer on transboundary migration between TKM and UZB in the middle reaches of the Amu Darya River. (UZB-TKM)	2	GOs
<b>4.0</b>	<b>Upper Amu Darya (AFG, TJK, TKM, UZB)</b>		
4.1	Conduct biophysical (habitat modelling, population estimate, etc.) and socio-economic studies, to develop Sustainable Land Management and Integrated Land Management plans, if security permits, for Darqad protected area (AFG).	3	NGOs, scientific institutes
4.2	Develop a system of ecological corridors and buffer zones (without land alienation, land used for various economic purposes included) in the upper reaches of Amu Darya to ensure safe transboundary migration of Bukhara Deer across the range area of the population. (All sections of the range area, between AFG and TJK based on the Memorandum of Understanding (MOU) signed in 2020 between Afghanistan and Tajikistan)	1	GOs, NGOs, scientific institutes
4.3	Implement measures to mitigate the degradation of Bukhara Deer habitat by facilitating, if necessary, artificial water supply of the ecosystem in an optimal mode by clearing canals in Beshai Palangon (Tigrovaya Balka) SSNR; establishing fire-prevention measures; reducing livestock impact on riparian areas (TJK).	1	GOs, NGOs, scientific institutes

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
4.4	Consider establishing protected areas in the Amu Darya River valley in Surkhandarya oblast (UZB).	2	GOs, NGOs, scientific institutes
4.5	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem	2	GOs, NGOs, private business
4.6	Consider the possibility of signing an MOU between Afghanistan and Uzbekistan in order to conduct joint research on the status of the transboundary population in the Amu Darya River valley.	3	GOs, NGOs, scientific institutes
4.7	Encourage Afghanistan to participate in and consider signing the CMS Bukhara Deer MOU.	3	GOs
4.8	Restore tugay forests in the natural habitat of Bukhara Deer near Beshai Palangon SSNR (TJK).	1	GOs
4.9	Consider the possibility of establishing a wildlife sanctuary for the reintroduction of Bukhara Deer in Murghab and Tejen valleys.	2	GOs, NGOs, scientific institutes
<b>5.0</b>	<b>Zarafshon (TJK, UZB)</b>		
5.1	Finalize the expansion of Zarafshon National Natural Park (NNP) by including the border area with TJK (upper Zarafshon) and tugay massifs on the left bank of the Zarafshon River (UZB).	1	GOs
5.2	Improve the ecological conditions of Dzhambay leskhoz, which includes areas of natural dispersion of Bukhara Deer from Zarafshon NNP, strictly regulate grazing by livestock and enhance fire prevention as well as poaching measures.	2	GO
5.3	Restore riparian dynamics in Zarafshon NNP through i) enforcement of ban on gravel extraction; ii) feasibility assessment, planning and implementation of bottom ramps to compensate for sediment lost due to extraction and raising the water level in the river and the adjacent ground water table closer to the natural level; iii) enabling natural regeneration of riparian vegetation in the riparian areas; iv) removal and modification of dykes so that tugay is fully connected with riparian dynamics while villages remain protected from floods (UZB).	1	GOs, NGOs, scientific institutes
5.4	Conduct a study on riparian dynamics in the Zarafshon wildlife sanctuary and identify opportunities for prevention of further habitat loss, restoration of natural riparian dynamics and regeneration of tugay (TJK).	1	GOs, NGOs, scientific institutes

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
5.5	Study conflicts between local people and Bukhara Deer and explore the potential for Bukhara Deer populations to inhabit agricultural land (in particular poplar plantations).	1	GOs, NGOs, scientific institutes
5.6	Develop and agree on bilateral agreements and transboundary protected area management plans with the view of creating transboundary protected areas.	1	GOs, NGOs, scientific institutes
5.7	Develop, coordinate and implement a system of measures to allow safe transboundary migrations of Bukhara Deer between TJK and UZB in the Zarafshon river basin	1	GOs, NGOs
5.8	Strengthen protection of Bukhara Deer and its habitat in Zarafshon NNP (UZB) and Zarafshon wildlife sanctuary (TJK).	2	GOs, NGOs
5.9	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem.	2	GOs, NGOs, private business
<b>6.0</b>	<b>Syr Darya (KAZ, UZB)</b>		
6.1	Consider the feasibility of developing the protected area system in the riparian forests of Syr Darya (KAZ).	2	GOs, NGOs, scientific institutes
6.2	Support natural habitat restoration and implement reforestation programmes in natural habitats (KAZ).	1	GOs, NGOs, scientific institutes
6.3	Consider reintroducing Bukhara Deer in potential sites in the middle reaches of Syr Darya (including Bairkum forest area) (KAZ).	2	GOs, NGOs, scientific institutes
6.4	Consider the feasibility of reintroducing Bukhara Deer in the lower reaches/delta of Syr Darya river and Zhanadarya riverbed (KAZ) with the view of creating a potential transboundary population (UZB).	2	GOs, NGOs, scientific institutes
6.5	Consider the feasibility of reintroducing Bukhara Deer into the Dalverzin hunting area with the purpose of further populating the middle reaches of Syr Darya by Bukhara Deer in order to create a subpopulation of Bukhara Deer along the Syr Darya in Uzbekistan (UZB).	2	GOs, NGOs, scientific institutes



Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
6.6	Elaborate options for creating ecological corridors along Syr Darya from Turkistan to the Aral Sea(KAZ).	2	GOs, NGOs, scientific institutes
6.7	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem.	3	GOs, NGOs, private business
<b>7.0</b>	<b>Ile-Balkhash basin (KAZ)</b>		
7.1	Implement reforestation programmes in natural habitats.	1	GOs, NGOs
7.2	Continue the implementation of the reintroduction programme of Bukhara Deer in the Ile-Balkhash Reserve including translocation, adaptation and release of animals from other populations than Karachingil.	1	GOs, NGOs, scientific institutes
7.3	Evaluate the feasibility of expanding the Ile-Balkhash Reserve by adding additional habitats for Bukhara Deer.	1	GOs, NGOs, scientific institutes
7.4	Elaborate a proposal for creating an ecological corridor along Ile River from Karachingil to Ile-Balkhash Reserve.	1	GOs, NGOs, scientific institutes
7.5	Create enabling conditions for the natural dispersal of Bukhara Deer in the upper reaches of Ile River form Karachingil until the border with China.	2	GOs, NGOs, scientific institutes
7.6	Study the impact of predators on the population of Bukhara Deer.	2	Scientific institutes
7.7	Involve local people in developing eco-tourism with Bukhara Deer observations in the wild combined with other activities and enable the locals to benefit from this additional source of income while reducing impacts on the riparian ecosystem.	3	GOs, NGOs, private business
<b>8.0</b>	<b>Groups outside of the native habitat and native range, introduced as semi-captive and free-ranging</b>		

Nr.	Measures to be taken until 2032	Priority <sup>1</sup>	Responsibility <sup>2</sup>
8.1	Evaluate the previous experience in the development of reserve groups of the species in isolated areas outside the historical range in ecosystems atypical for the species (in particular, the experience of TJK in mountain-valley territories) and determine the relevance and prospects of resuming work in this direction, taking into consideration associated risks for both deer and for ecosystems in general.	1	GOs, NGOs, scientific institutes
8.2	Continue introduction activities outside the historical range in ecosystems atypical for the species only after assessments have shown that conservation benefits clearly outweigh risks and adverse impact on the ecosystems and biodiversity of introduction sites.	2	GOs, NGOs, private business
<b>9.0</b>	<b>Captive breeding groups</b>		
9.1	Undertake a critical assessment of the captive breeding programmes, evaluate these with respect to their conservation purpose <sup>3</sup> , quality of the genetic stock, husbandry conditions and cost-benefit ratio and identify measures for optimization.	1	GOs, NGOs, scientific institutes
9.2	Implement measures to optimize the captive breeding programmes in their relevance for the conservation and restoration of in-situ populations.	1	GOs, NGOs, scientific institutes
9.3	Strengthen cooperation among Range States, including on the exchange of animals, for maintaining optimum genetic diversity and herd structures, and with the World Association of Zoos and Aquariums (WAZA) and the European Association of Zoos and Aquaria (EAZA) on captive breeding of Bukhara Deer.	2	GOs, NGOs, scientific institutes

<sup>3</sup> IUCN SSC Guidelines on the Use of Ex Situ Management for Species Conservation. <https://portals.iucn.org/library/sites/library/files/documents/2014-064.pdf>