TRAFFIC

February 2024

AN ASSESSMENT OF

WILDLIFE TRADE IN CENTRAL ASIA

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TRAFFIC REPORT

ABOUT US

TRAFFIC is a leading non-governmental organisation working globally to ensure that trade in wild species is legal and sustainable, for the benefit of the planet and people.

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PUBLISHED BY:

TRAFFIC International, Cambridge, United Kingdom.

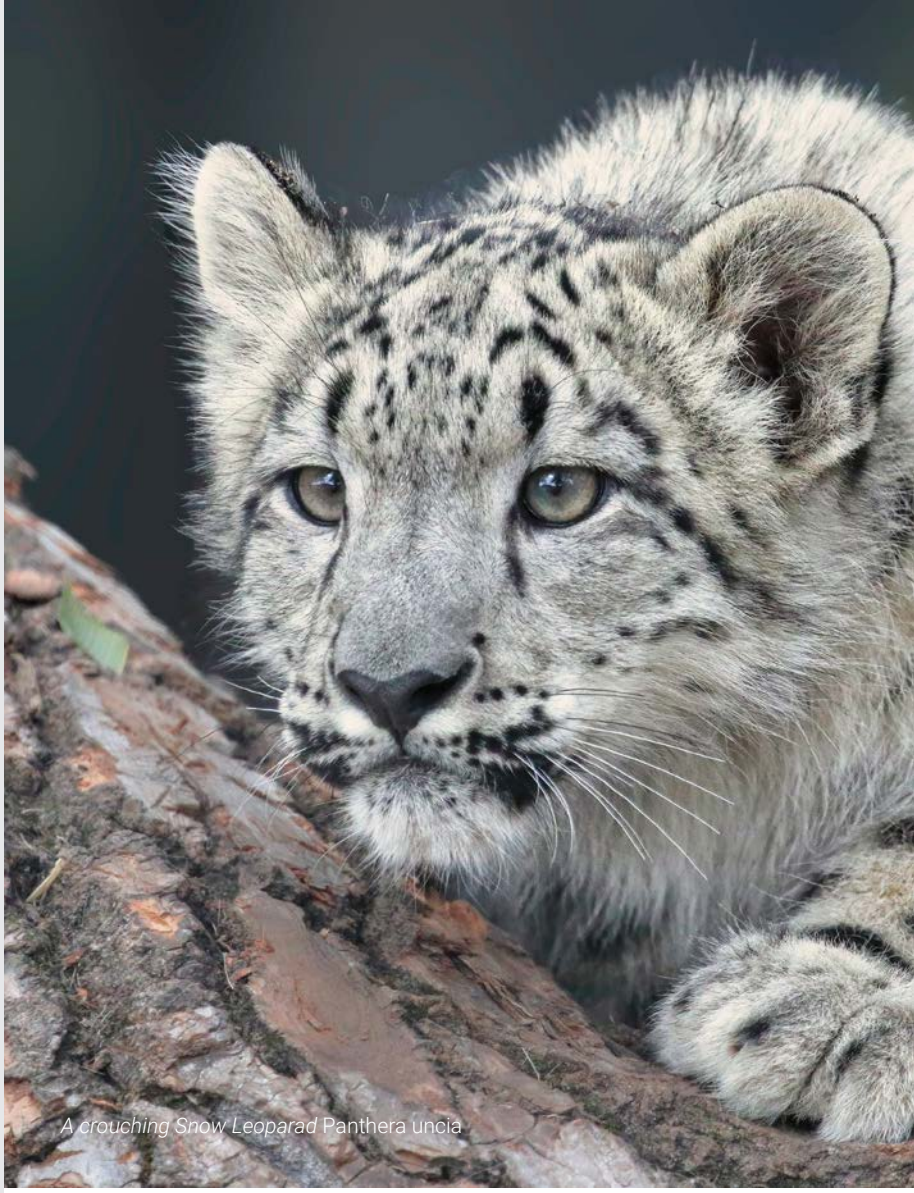
SUGGESTED CITATION

Tokubek uulu B., Musing L., Woolloff A., Musuraliev K., Kurmanov S., von Meibom S. (2024). *An Assessment of Wildlife Trade in Central Asia.* TRAFFIC.

UK Registered Charity No. 1076722

DESIGN

Cressida Stevens



A crouching Snow Leoparad Panthera uncia

ACKNOWLEDGEMENTS

The TRAFFIC project team thanks the project partners for their ongoing assistance and support in developing this report. Notably, TRAFFIC thanks Fauna & Flora, the Association for the Conservation of Biodiversity in Kazakhstan (ACBK), The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan and the Ecological Resource Centre "EKOMAKTAB". We are also grateful for the contributions and the information provided by the various government agencies in Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.

This report was funded by a grant from the United States Department of State Bureau of International Narcotics and Law Enforcement Affairs and by a grant from the UK Government through the Illegal Wildlife Trade Challenge Fund. The opinions, findings and conclusions stated herein are those of the authors and do not necessarily reflect those of the United States Department of State Bureau of International Narcotics and Law Enforcement Affairs or of the UK Government.

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EXECUTIVE SUMMARY

The Ferghana Mountains, Kyrgyzstan

The Central Asian region is home to an abundant and diverse range of fauna and flora, some of which are sought-after for the international wildlife trade (Blank and Li, 2021; European Commission, 2019; Li et al. 2020). While much of the trade is legal and compliant with national and international regulations such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the region has also seen significant illegal wildlife trade over the years. This has resulted in steep population declines of several species, such as Saiga Antelope, various medicinal plants, Steppe Tortoise and Snow Leopard (Blank and Li, 2021; Gemedzhieva et al., 2021; Milner-Gulland et al., 2001; Nowell et al., 2016; Smith and Porsche, 2015). Several initiatives, such as the establishment of the Eurasian Economic Union and China's Belt and Road Initiative, are set to improve transport routes. One result will likely be a significant increase in trade with China. As Mainland China is the largest consumer country of wildlife products from the Central Asian region, this will likely increase the scale of wildlife trafficking in Central Asia in the coming years (Farhadinia et al., 2019; Timoshyna et al., 2020).

This study sets out to establish a benchmark assessment of the levels and dynamics of trade in wild species within the four Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. This assessment focused on animal and plant species listed in the CITES Appendices but also includes information on non-CITES-listed species that are protected at national level. It is hoped that this report will enable future studies to assess the changes in wildlife trade dynamics over time. To do this, CITES trade data for each of the four study countries were obtained from the CITES Trade database for 2012-2021. Data for the year 2022 was not yet available by the time of writing of this report.

Data on the illegal trade on CITES-listed species and those species that are not CITES-listed but listed in the National Red Books for each of the four study countries were obtained from a variety of sources for the period 2012-2023, including through information requests to relevant government departments, and open-source seizure reports available online collated between January and February 2023[1]. There are several limitations on the information and data available which should be considered when examining this analysis.

A rapid overview of the CITES legal trade data between 2012 and 2020 shows that Kazakhstan (along with Kyrgyzstan) reports importing the largest quantity of CITES-listed parts and derivatives (~70,000 kg; 50% of all imports reported by mass in kg) out of the four Central Asian countries, with an additional ~18,900 whole specimens (only ~1% of all imports reported by number). Kazakhstan is not a prominent source country for CITES-listed species, with importers reporting direct imports of only ~2,200 commodities from whole specimens (mostly live specimens and ~130 trophies) from Kazakhstan between 2012 and 2020. Re-exports of CITES-listed species are rarely reported from Kazakhstan. Between 2012 and 2020 Kyrgyzstan (along with Kazakhstan) reported importing the largest quantity of CITES-listed parts and derivatives (~68,500 kg; 49% of all parts and derivatives reported imported by mass in kg) out of all four countries, with this all reported between 2015 and 2020. From 2017 onwards, most of these commodities were subsequently re-exported by Kyrgyzstan, making Kyrgyzstan a prominent re-exporting country for legal wildlife trade in the region. Kyrgyzstan is not a prominent source country for CITES-listed species, with importers reporting direct imports of ~1,200 commodities from whole specimens (mostly trophies from Siberian Ibex *Capra sibirica*, Argali *Ovis ammon*, and Marco Polo Sheep *Ovis ammon polii* from Kyrgyzstan between 2012 and 2020 and relatively negligible imports from parts and derivatives. CITES legal trade data between 2012 and 2021 shows that Tajikistan imports the smallest quantities of CITES-listed wildlife out of all four countries. Exporters reported only ~4,000 whole specimens and ~150 kg of specimens from parts and derivatives (less than 1% of all exports to the four countries) exported to Tajikistan in the ten-year period. Importers report direct exports of close to 9,000 commodities (1% of all imports of whole specimens) from whole organisms from Tajikistan between 2012 and 2021, making it the second-highest exporter of whole

specimens out of the four countries after Uzbekistan. According to the CITES legal trade data, Uzbekistan reports importing the largest quantity of CITES-listed whole specimens (~1.2 million; 98% of specimens reported imported by number) out of all four countries. Uzbekistan is also a prominent source country for CITES-listed species, with importers reporting ~740,000 specimens (98% of all imports reported by number from the four countries) from whole organisms imported from Uzbekistan between 2012 and 2020. Re-exports of CITES-listed species are rarely reported from Uzbekistan.

The CITES legal trade data analysis also identifies multiple cases in which importer and exporter records do not match. While some of these discrepancies may be accidental, some notable discrepancies did not have a clear cause from those described and occurred for more than one country in the analysis. Some key examples include:

- Importers reporting higher quantities of mammal trophies than reported by Kyrgyzstan (for Marco Polo Argali only), Tajikistan (for Argali, Marco Polo Argali, and Siberian Ibex) and Kazakhstan (for Siberian Ibex).
- Azerbaijan reported exporting large quantities of live captive-bred Medicinal Leeches *Hirudo medicinalis* to Kazakhstan (~1 million) and Kyrgyzstan (50,000), with no corresponding imports by either country.
- The Netherlands reports large quantities of live specimens mostly from moth orchids *Phalaenopsis* spp. hybrids/ species, and other plant species, exported to all four countries between 2012 and 2021, with no reported imports of these or any other plant species by the four countries in this time.

Based on the available illegal trade data from all four countries, authorities should be especially vigilant along road networks across borders between the four countries, and additionally into the Russian Federation and mainland China, where illegal trade was reported to occur. Air transport should also not be neglected given the cases of particularly live specimens from species including Saker Falcons, and various reptiles, being smuggled using this mode of transport. The illegal trade data analysis has identified some species that are reported in seizure records for more than one country and therefore may warrant regional collaborative efforts to tackle illegal trade and harvesting in the region. Some notable examples include:

- Argali *Ovis ammon*, which were amongst the taxa most frequently reported in Kazakhstan, Kyrgyzstan, and Tajikistan.
- Ferula species (which are not currently listed on CITES but are included in the National Red Book) were amongst the taxa most frequently reported in seizure records from government agencies and in open-source reports of seizures in Tajikistan. Seizures of these species were also identified in Kyrgyzstan.
- Goitered Gazelles *Gazella subgutturosa*, a non-CITES-listed species that is listed as Vulnerable on the IUCN Red List and targeted by poachers, were among the species reported most frequently in seizure records for Kazakhstan and some records in Uzbekistan.
- Saiga Antelope was the species most frequently reported in seizure records from government agencies in Kazakhstan and appeared in minimal seizure records in Kyrgyzstan (a non-range state) and Uzbekistan (where Saiga are known to migrate to in the winter).
- The Saker Falcon *Falco cherrug* was reported in seizure records for Kazakhstan, Kyrgyzstan and Uzbekistan, with additional reports of live falcons (species not identified) seized on import to UAE from Tajikistan.
- The Siberian Ibex *Capra sibirica* was identified in seizure records for all three countries where it was additionally identified as a top species reported in exports in legal (CITES) trade: Kazakhstan, Kyrgyzstan, and Tajikistan.
- Snow Leopards *Panthera uncia* specimens were identified in small quantities in seizure records between 2012 and 2021 in both Kyrgyzstan and Tajikistan, the latter identified as one of five range states with the highest levels of poaching.

- Live specimens of the Steppe Tortoise were also identified in seizure records for Kazakhstan, Kyrgyzstan, and Uzbekistan.

Based on the report's findings and observations, the following priority recommendations are proposed to the authorities of all four countries:

Reporting of legal and illegal wildlife trade

- As a matter of priority, all four countries are encouraged to complete and submit their CITES Annual Reports by 31st October of each year, both those relating to legal and illegal trade, and where relevant submit missing reports for previous years.
- To enable an accurate understanding of plant species imported into the region, CITES authorities are encouraged to ensure imports of plant species are reported in the CITES Annual Reports and seizures in the CITES Annual Illegal Trade Report. Dialogue with the Netherlands is also needed by all four countries to ascertain the cause in discrepancies of reporting for hybrid moth orchids and to determine exports of these hybrids from the Netherlands meet requirements for exemption from CITES regulations, and thus trade reporting.
- When reporting illegal trade, all four countries would benefit from consistent reporting of seizure dates to better identify future trends, and the assignment of unique ID numbers for seizure records to enable accurate counts of unique seizure events amongst commodities seized. Currently, key data on transit and destination countries were missing from many seizure reports provided by government agencies in this analysis, making it difficult to identify key interception points for illegally traded wildlife commodities; these should be recorded in future seizure records wherever possible.

Building cooperation between countries to tackle illegal wildlife trade

- All four countries would benefit from building closer ties with each other to enhance enforcement effort and build trust and collaboration to help counter the activities of organised criminal groups involved in wildlife trafficking in the region.
- The countries would benefit from collaboration to protect and promote the sustainable and legal trade of priority species known to be subjected to high levels of demand and are often illegally traded, and could start with those identified in seizure records for more than one country in this report. These include: Argali (including subspecies such as the Marco Polo argali), Ferula species, Goitered Gazelles, Muskrat, Saiga, Saker Falcons, Siberian Ibex, Snow Leopards, Steppe Tortoises and Steppe Wolves.
- For some species, such as the Critically Endangered Saiga, collaborating with relevant stakeholders in key domestic consumer countries (e.g., Mainland China, Japan, Singapore) to ensure effective management of stockpile to prevent illegal laundering of specimens through this supply chains may be a useful approach. Consideration could also be given to demand reduction campaigns for illegally sourced products from Saiga horn in these countries.
- Cross-border collaboration with neighbouring countries, such as, the Russian Federation and Mainland China is also needed. Mechanisms should be set up to enable rapid sharing of any relevant actionable enforcement information between countries in the wider region. This could be through the introduction of a similar platform to EU-TWIX in this region to share data on seizures and mode of smuggling for wildlife seized.

Targeted enforcement action

- Road networks appear to be the main method by which contraband wildlife is moved within and between the countries in the Central Asian region. Enforcement agencies of all four countries could consider the merits of targeted vehicle inspections, with officers receiving prior training to enable them to identify any wildlife items encountered and how to search for them.

1. INTRODUCTION

CENTRAL ASIA IS A LARGELY ARID REGION CONSISTING MAINLY OF STEPPES, DESERTS, AND MOUNTAINS. THE REGION STRETCHES FROM THE BORDERS OF CHINA TO THE SHORES OF THE CASPIAN SEA, AND FROM RUSSIA TO AFGHANISTAN. TRAVERSED BY THE ANCIENT TRADE ROUTES KNOWN AS THE SILK ROAD WHICH LINKED CHINA AND ASIA MINOR, THE REGION HAS BEEN A CROSSROAD FOR GOODS, PEOPLE, AND IDEAS BETWEEN ASIA AND THE WHOLE OF EUROPE (ANON., 2011).

Yaghnob Valley, Tajikistan

The Central Asian region[2] is home to an abundant and diverse range of fauna and flora, some of which are harvested for the international wildlife trade, such as Snow Leopard *Panthera uncia*, Saiga *Saiga tatarica*, Saker Falcons *Falco cherrug*, Argali *Ovis ammon*, Liquorice *Glycyrrhiza* spp., Juniper *Juniperus* spp., and Rose Hips *Rosa* spp. (Blank and Li, 2021; European Commission, 2019; Li et al. 2020). While much of the trade is legal and compliant with national and international regulations, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the region has also experienced significant illegal wildlife trade which has led to steep population declines of several species (Blank and Li, 2021). For example, between the late 1990s to early 2000s, there was a 90% decline in the number of Saiga Antelope (Milner-Gulland et al., 2001); there has been significant over-exploitation of various medicinal plants (Gemedzhieva et al., 2021) and significant declines in Steppe Tortoise *Testudo horsfieldii* and Snow Leopard *Panthera uncia* populations in the region (Smith and Porsche, 2015; Nowell et al., 2016). The scale of wildlife trafficking in Central Asia will likely grow in the coming years, following the establishment of the Eurasian Economic Union which has already facilitated increased trafficking from the region (Vaisman et al., 2013), and China's Belt and Road Initiative (European Commission, 2018) which is set to improve transport routes. This will significantly increase China's trade with and across Uzbekistan, Kyrgyzstan, and Kazakhstan, which may further accelerate wildlife trafficking as China is the largest consumer market for wildlife products from the region (Farhadinia et al., 2019; Timoshyna et al., 2020). These initiatives are of concern because the illicit wildlife trade not only impacts biodiversity but affects the wider stability of the region. It endangers the function of ecosystems and their capacity to support nature-based livelihoods, which can worsen socio-economic inequalities and conflicts, and provides opportunities for organised criminal groups involved in other illegal activities.

China is the largest consumer market for wildlife products from the region

CITES is a multilateral agreement that aims to ensure that international trade in specimens of wild animals and plants does not threaten the species' survival. The Convention regulates the international trade of over 38,700 species, including approximately 5,950 species of animals and 32,800 species of plants (CITES, 2022). It achieves this through the inclusion of threatened species on one of three Appendices within the Convention, with Appendix I having the highest restrictions and Appendix III the lowest restrictions to their international trade[3]. CITES entered into force on 1 July 1975 and currently has 184 Parties. Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan are all Parties to CITES, with accession ranging from 1997 to 2015 (Table 1). Turkmenistan is the only country in the Central Asian region that is not a Party to CITES.

the wider stability of the region is affected by illicit wildlife trade

TABLE 1

Dates of accession of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan to CITES and the date when the Convention's regulations entered into force at the national level.

CITES PARTY	DATE OF ACCESSION	DATE OF ENTRY INTO FORCE
Kazakhstan	20 January 2000	19 April 2000
Kyrgyzstan	4 June 2007	2 September 2007
Tajikistan	31 December 2015	30 March 2016
Uzbekistan	10 July 1997	8 October 1997

To help national governments improve their policies and legislation, CITES reviews national legal frameworks through its National Legislation Project, categorising countries according to their status of legislative progress for implementing CITES. The most recent such assessment in November 2022 concluded that none of the four target countries was in Category I (national laws meet all four requirements for effective implementation). Kazakhstan, Kyrgyzstan, and Uzbekistan were all classified as Category II countries (legislation generally believed to meet between one to three of the four requirements for CITES

implementation). Tajikistan, given its recent accession in 2016, has not yet been allocated to a category: consultations between Tajikistan officials and the CITES Secretariat are still in their early stages while a review of existing CITES-related legislation and the preparation of draft legislation to fill any gaps identified is needed[4].

Through Resolution Conf. 11.17 (Rev. CoP18) CITES requires all Parties to report on the annual levels of legal and illegal trade of CITES-listed species. For the CITES Annual Report (that refers to legal trade), Parties are requested to submit information on the number and type of permits and certificates granted, the States with which such trade took place, the quantities and types of specimens, and the names of species as included in the three different Appendices. CITES Parties must also submit a CITES Annual Illegal Trade Report on all detected violations involving CITES-listed species irrespective of whether any infraction was detected at an international border or elsewhere, for example during inspections at internal markets. The Annual Illegal Trade Report is mandatory but not subject to compliance procedures, as opposed to the Annual Report for which Parties may be subject to recommendations to suspend trade if they have not submitted annual reports for three consecutive years without providing adequate justification. The deadline for submission of these Annual Reports is 31 October of the following year, e.g., the submission deadline for 2022 reports is 31 October 2023. Although Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan have submitted some Annual Reports to CITES, by June 2, 2023 there were still gaps in recent submissions (Table 2). For example, in recent years Tajikistan and Uzbekistan had not submitted all their CITES Annual Reports, and by March 15, 2023, both Kazakhstan and Tajikistan were missing all the CITES Annual Illegal Trade Reports (Table 2).

TABLE 2

Submission of CITES Annual Reports by Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan over the last six years. Information up to date as of 2 June 2023 (CITES Annual Reports) and 15 March 2023 (CITES Annual Illegal Trade Reports).

CITES ANNUAL REPORT[5]		
CITES PARTY	**ANNUAL REPORTS SUBMITTED OVER THE LAST SIX YEARS**	**ANNUAL REPORTS MISSING OVER THE LAST FIVE YEARS**
Kazakhstan	2017; 2018; 2019; 2020; 2021; 2022	
Kyrgyzstan	2017; 2018; 2019; 2020; 2021; 2022	
Tajikistan	2017; 2018; 2019; 2020; 2021; 2022	
Uzbekistan	2017; 2018; 2019; 2020; 2021; 2022	
CITES ANNUAL ILLEGAL TRADE REPORT[6]		
Kazakhstan	2020; 2021; 2022	2017; 2018; 2019;
Kyrgyzstan	2022	2017; 2018; 2019; 2020; 2021
Tajikistan		2017; 2018; 2019; 2020; 2021; 2022
Uzbekistan	2017; 2018; 2019; 2020	2021; 2022

This study sets out to establish a benchmark assessment of the levels and dynamics of wildlife trade—both legal and illegal—within the four Central Asian countries of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. This will enable future studies to assess the changes in wildlife trade dynamics over time. The study also aims to identify the common challenges and what solutions are available to assist national agencies within each of the study countries to manage and regulate the dynamics of the legal wildlife trade and support them to combat illegal trade within the region in a coordinated manner. The study includes an analysis of the wildlife trade data currently available for these four countries. Much of these data are derived from the information gathered from national government agencies within the region carrying out their international obligations as a Party to CITES.

2. METHODOLOGY

Pamir Mountains, Kyrgyzstan

Data on the reported trade in CITES-listed species for each of the four study countries were obtained from the CITES Trade database as detailed below. Data on the illegal trade on CITES-listed species and those species listed on the National Red Books for each of the four study countries were obtained from a variety of sources, including through information requests to relevant government departments, and open-source seizure reports available online. Data on the legal and illegal trade were analysed separately for each country to gain insights into the dynamics of the underlying trade in each case. The common names for species were sourced from Species+[7] where available, or from the IUCN Red List[8] when there was no common name given.

2.1.1 LEGAL TRADE DATA

Data on the legal international trade in CITES-listed species were downloaded in February 2023 from the CITES Trade database, which is maintained by UNEP-WCMC on behalf of the CITES Secretariat[9]. The data covered the period 2012 to 2021 for global exports and imports of all CITES-listed species reported by Kazakhstan, Kyrgyzstan, Tajikistan, or Uzbekistan, inclusive of all purposes of trade and sources of wildlife. A full list of purpose and source codes can be found in Annex 3 of *A guide to using the CITES Trade Database* (CITES Secretariat and UNEP-WCMC, 2022).

For commonly reported species, Species+ was checked for any relevant CITES export quotas or suspensions for each country. To enable comparisons between the different commodity types reported, each was assigned a category as either whole specimens (for bodies, live, skeletons, skins, skulls, and trophies) (hereafter referred to as 'whole specimens') or parts and derivatives (all other CITES terms used). These were analysed according to their reported mass in kg, or the number of specimens involved. Other units of analyses (e.g., ml, m^2) were rarely reported and were excluded from the analysis.

CITES trade data includes both importer and exporter-reported quanties of specimens, which were used to identify any notable discrepancies in reported trade data. There are often legitimate reasons for discrepancies between importer and exporter-reported quantities (CITES Secretariat and UNEP-WCMC, 2022). Potential causes include delays in a Party reporting trade, Parties reporting permits issued rather than permits used, and the use of different term or purpose codes by Parties for the same specimen. Importer-reported quantities of CITES-listed commodities/specimens were used for the main analysis as they are usually more accurate, given they report the number of commodities/specimens that arrive in the country, whereas exporter reported may include permits issued and not actual shipments sent. Exporter-reported quantities are therefore often higher than those reported by importers. Two types of exports/imports are referred to in the analysis:

- direct, where the origin country for the commodity/specimen is the same as the exporter
- indirect, where the origin country is different from the exporter (e.g., the commodity/specimen has been re-exported).

A rapid overview analysis carried out ahead of preparing the country profiles identified prominent trade flows (e.g., import, export, or re-export) and commodity/specimen categories (e.g., whole specimens, or parts and derivatives) of trade in CITES-listed species for each Party. For example, Uzbekistan predominantly exported and imported whole specimens from CITES-listed species. These trade flow/commodity category combinations were then used in the analyses of trade dynamics presented in each country profiles chapter. For each country profile the analysis identified:

- The top species and commodities reported in trade
- Any notable discrepancies between importer and exporter-reported data
- Top importers and exporters for species most traded
- Any notable changes over time in the source of specimens and/or purpose of trade for species most traded.

Relevant prominent trade routes for species were displayed visually using the TRAFFIC-developed online TradeMapper tool[10].

Each country's CITES Annual Reports[11], and those of prominent trading partners identified, were consulted during the analysis to identify any anomalies in data that could be due to non-reporting in particular years.

2.1.2 ILLEGAL TRADE DATA

Each country has its own list of threatened and protected species documented in its National Red Data Book. CITES-listed species, especially species that are not native to the country are not necessarily included in these and there are variations between the four countries in the species documented as nationally protected (see Table 3). This has implications for international wildlife trade, e.g., an export of a wildlife commodity considered illegal in Uzbekistan may not be illegal to import in Kazakhstan.

Data on the illegal trade in wildlife species was derived from several sources (outlined below).

Information on seizures reported by government agencies (2012-2022)

Information on wildlife seizures was requested directly from the government agencies in each of the four countries via partner organisations working in the region. These requests generally took place over the latter half of 2022 as follows:

- For Kazakhstan, information on wildlife seizures was collected by the Association for the Conservation of Biodiversity in Kazakhstan (ACBK) through direct information requests to government agencies made via formal letters comprising: 1) the Committee of Forestry and Wildlife of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan; 2) the Agency of the Republic of Kazakhstan for Financial Monitoring of the Ministry of Finance of the Republic of Kazakhstan; 3) the Ministry of Internal Affairs of the Republic of Kazakhstan; 4) the General Prosecutor's Office of the Republic of Kazakhstan; 5) Border Service of the National Security Committee of the Republic of Kazakhstan; and 6) the State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan. It was not possible to obtain information from the State Revenue Committee while owing to various pieces of legislation, some stakeholders could only provide incomplete data.
- For Kyrgyzstan, despite requests from both TRAFFIC and Flora & Fauna, information on illegal wildlife trade was not obtained. However, data was obtained with the assistance of the public branch of the German-based Nature and Biodiversity Conservation Union (NABU) in the Kyrgyz Republic and from the Kyrgyzstan Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic and State Committee for National Security of the Kyrgyz Republic.
- For Tajikistan, information on seizures was compiled by Fauna & Flora Tajikistan who contacted the following government agencies for data in addition to holding a workshop with representatives of the agencies: 1) Customs Service under the Government of the Republic of Tajikistan; 2) Eco Police of the Republic of Tajikistan; 3) National Academy of Sciences of the Republic of Tajikistan; 4) Committee for Environmental Protection under the Government of the Republic of Tajikistan.
- For Uzbekistan, information was collected from the State Customs Committee of the Republic of Uzbekistan, the Ministry of Natural Resources of the Republic of Uzbekistan, the Institute of Zoology, the Institute of Botany of the Academy of Sciences of the Republic of Uzbekistan, and Tashkent Zoo. The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan and the Ecological Resource Centre "EKOMAKTAB" then compiled the information received for the analysis. The Border Service and the Ministry of Internal Affairs replied that the information was classified and could not be shared.

Online research

Between January and February 2023, research was undertaken online of open-source reports of illegal trade incidents reportedly involving selected threatened species (Table 3). This was not intended to be exhaustive but to complement the information received from government agencies. Two search engines were used: Yandex.ru (the main search

platform for Russian speakers) and Google.com. A total of 22 search terms were used (see Annex 2). For each search term, the first two pages of results were reviewed, and information was compiled on species, commodity type (e.g., live specimens or derivatives), quantity, reporting country, location of the seizure, transport details, trade routes, and agencies involved in the seizure. Seizures identified in online research were cross referenced with reports from government agencies to identify any obvious duplicates, however, due to a lack of data of key identifiable features such as the dates of seizures from government agencies, some duplicates may not have been identified in the analysis.

It is important to note that findings from open-source reports of illegal trade incidents should not be used to infer trends in illegal wildlife trade, as media reporting of seizures may vary by country, by species/commodity, and over time. Although potential biases in media reporting have rarely been quantified, one study compared open-source media reports of seizures to those from government agencies in Nepal and found that open-source reports recorded fewer seizures than government sources, and reported a higher proportion of seizures involving charismatic, protected species (Paudel et al., 2022). Similarly, seizure reports from government agencies may vary according to enforcement and reporting efforts.

In the data provided for all four countries from both government agencies and open-source reports, seizures involving several species/commodity types were separated and treated as distinct 'seizure records' for each species/commodity combination. For example, a snakeskin, a sheep horn, and a sheep carcass were recorded as three different seizure records in the data, with no indication they were part of the same seizure. Similarly, three different commodities/specimens from the same species in one seizure would be recorded as three distinct seizure records. The number of unique seizures reported in each country and for each taxon will therefore likely be lower than the number of seizure records identified per country/taxon in the analysis.

Pallas's Cat Otocolobus manul

TABLE 3

Threatened species groups/species searched for during online research together with their CITES and National Red Data Book status (status: March 2023).

SPECIES GROUP/SPECIES	CITES APPENDICES	INCLUSION IN NATIONAL RED DATA BOOK
FLORA		
Liquorice *Glycyrrhiza glabra*	Not listed	Only included in Kyrgyzstan
Arnebia spp.	Not listed	Not included in all four countries
Ferula spp.	Not listed	Included in Kazakhstan, Kyrgyzstan, (only *Ferula czatkalensis*) and Tajikistan
Ornamental Onion *Allium aflatunense*	Not listed	Included in Kazakhstan only. In Uzbekistan, *Allium isakulii*, *A. rhodanthum*, *A. giganteum*, *A. majus* are included.
Ephedra spp.	Not listed	Only *Ephedra strobilacea* and *Ephedra persica* are included in Tajikistan
FAUNA		
Snow Leopard *Panthera uncia*	Appendix I	Included in all four countries
Pallas's Cat *Otocolobus manul*	Appendix II	Included in Kazakhstan, Kyrgyzstan and Uzbekistan (for Uzbekistan only *Felis (Otocolobus) manul ferrugineus*
Saiga *Saiga borealis* and *S. tatarica*	Appendix II with zero export quota for wild specimens traded for commercial purposes	Only included in Uzbekistan. In Kazakhstan Saiga has a special status and there is a separate law prohibiting Saiga hunting and a criminal article with a separate clause.
Golden Eagle *Aquila chrysaetos*	Appendix II	Included in all four countries
Falcons (e.g. Saker Falcon *Falco cherrug)*	Appendix I and Appendix II	Included in all four countries
Steppe Tortoise *Testudo horsfieldii*	Appendix II	Included in Tajikistan (*Testudo horsfieldii*), Kyrgyzstan and Uzbekistan
Siberian Ibex *Capra sibirica*	Appendix III	Not included
Argali *Ovis ammon*	Appendix II	Included in all four countries. For Tajikistan the following species are included *Ovis ammon polii*, *O. a. severtzovi*, *O. vignei bochariensis*. For Uzbekistan *O. a. severtzovi*, *O.a. karelini, O. vignei bochariensis*. *O.v.arkal*

3. COUNTRY PROFILES

Altyn-Emel National Park, Kazakhstan

3.1 KAZAKHSTAN

Area	2,724,900 km^2
Population	20 million
Languages	Kazakh (State), Russian (can be used as the official language)
Capital	Astana
CITES Accession	20 January 2000
CITES legislation	Category 2 (legislation generally believed to meet one to three of the four requirements for CITES implementation)
CITES Management Authority	Ministry of Ecology and Natural Resources of the Republic of Kazakhstan
CITES Scientific Authority	Ministry of Education and Science of the Republic of Kazakhstan (fauna excluding aquatic species) / Ministry of Ecology and Natural Resources of the Republic of Kazakhstan (aquatic species only)/ Ministry of Education and Science of the Republic of Kazakhstan (flora)
CITES Enforcement Authority focal points	Customs Control Agency of the Republic of Kazakhstan / Ministry of the Interior
CITES-listed species	179 CITES-listed species/subspecies
Red Data Book publication date	The latest edition was released in 2014. In 2021 three species were added to the Red Book of Kazakhstan.
Number of Red Data Book species	133 Vertebrates and 400 plant species.

Kazakhstan, the largest country in Central Asia, contains a variety of habitats: arid lowlands with steppes, semi-deserts, and deserts comprise more than 80% of the land area. Mountains occupy another 10% of the territory. Thousands of small lakes, rivers, Lake Balkhash, the Caspian and Aral Seas further add to the diversity of ecosystems. Forests occupy only 4.6% of the total land area (Anon., 2011). Eastern Kazakhstan is home to part of the Mountains of Central Asia biodiversity hotspot, with 25 Key Biodiversity Areas in this area, however, by 2019 less than 3.5% of the land area of Kazakhstan was protected (European Commission, 2019).

Threatened and Endangered mammals include the Bukhara Deer *Cervus hanglu bactrianus*, Asiatic Wild Ass *Equus hemionus*, Goitered Gazelle *Gazella subgutturosa*, Desman *Desmana moschata*, Central Asian Otter *Lutra lutra seistanica* and Menzbier's Marmot *Marmota menzbieri* (Table 12). More positively, the Saiga Antelope *Saiga tatarica* living in the southern steppes and semi-deserts recovered from near-extinction. Among 12 amphibians is the unique Semirechye Salamander *Ranodon sibiricus*. Rare mountain species are the Endangered Snow Leopard *Panthera uncia*, Tien-Shan Bear *Ursus arctos isabellinus*, wild sheep and vultures. Wetlands host Greater Flamingos *Phoenicopterus roseus* and Relict Gulls *Larus relictus*. The Caspian Sea basin holds 90% of the world's sturgeons and the endemic Caspian Seals *Pusa caspica* (Anon., 2011).

Several species that occur in Kazakhstan are reported to be at risk from illegal and unsustainable hunting and trade, including Argali, Saiga, Siberian Ibex *Capra sibirica*, Snow Leopards, Goitered Gazelles, Urial *Ovis vignei* and the MacQueen's Bustard *Chlamydotis macqueeni* (European Commission, 2022). Wild liquorice (*Glycyrrhiza* spp.) has also been identified at risk from unregulated, uncontrolled, and destructive harvesting in Kazakhstan with a need for improved regulatory frameworks to enable sustainable use (Gemedzhieva, 2021).

Poaching and illegal trade in Snow Leopard has been widely reported across Kazakhstan and skins have been used for display as a symbol of wealth and power (Nowell et al., 2016, European Commission, 2019). In addition, items such as bones, teeth and claws from Snow Leopards are used as substitutes for Asian medicinal trade in tiger bones. A total ban on hunting in Kazakhstan has however led to a decrease in poaching of Snow Leopards (European Commission, 2019; GSLEP, 2011). Furthermore, a 2016 TRAFFIC report found that Kazakhstan was not identified as a range state with the highest levels of Snow Leopard poaching and instead had the lowest frequencies of retaliatory killings for attacks on livestock according to expert surveys across the 12 range states (Nowell et al., 2016). The 2017 IUCN Red List assessment for Snow Leopards does however point out that in this 2016 TRAFFIC report, Kazakhstan had a low level of seizures in comparison to observations of poaching and illegal trade, indicating there may be a need for improved enforcement for Snow Leopard poaching in this country (McCarthy et al., 2017).

Argali, Siberian Ibex, and Snow Leopards are some of Kazakhstan's species found at risk from illegal and unsustainable hunting and trade

* The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organisations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Saiga and Goitered Gazelles have been more recently targeted for their horns for use in Chinese Traditional Medicine but are also hunted for trophies. As a result, Goitered Gazelle populations in Kazakhstan have drastically reduced in recent years (European Commission, 2019). Saiga once widespread are now refined to five populations; in Russian Federation (1), Kazakhstan (3) and Mongolia (1) only, with one population in Kazakhstan known to migrate to Uzbekistan, and potentially Turkmenistan, in the winter months (IUCN SSC Antelope Specialist Group, 2018). The areas inhabited by Saiga in Kazakhstan are within economically deprived regions, with illegal hunting and sale of horns to customers in Asia previously documented to be an important source of income, in addition to use of the Saiga meat for subsistence (von Meibom et al., 2010). At least two populations in Kazakhstan have increased since the last dramatic population decline in the 2000s, which is thought to be largely due to effective protection measures by the government in Kazakhstan (Karimova et al., 2021). However, illegal trade in Saiga horns is still ongoing: a recent survey of online advertisements for Saiga horn on Russian language websites identified various horns for sale in Kazakhstan (Roberts et al., 2021). Demand for the MacQueen's Bustard from falconers in Middle Eastern countries has led to loss of the species across much of its range in the Middle East and subsequently led to over-exploitation of the MacQueen's Bustard across its range in Central Asia (Dolman et al. 2021). More recently a conservation programme has led to breeding and release of the species in Kazakhstan, where half the global population currently resides (BirdLife International, 2021a).

Kazakhstan has been Party to CITES since 2000 and is currently in Category 2 (one being the highest and three the lowest) for their CITES implementing legislation (CITES, 2023). This means it is generally believed to meet requirements for CITES implementation, but some gaps remain (European Commission, 2019). A rapid overview analysis of CITES legal trade data between 2012 and 2020 shows that Kazakhstan (along with Kyrgyzstan) reports importing the largest quantity of CITES-listed parts and derivatives (~70,000 kg) out of the four Central Asian countries, with an additional ~18,900 whole specimens. Kazakhstan is not a prominent source country for CITES-listed species, with importers reporting direct imports of only ~2,200 commodities from whole specimens (mostly live specimens and ~130 trophies) from Kazakhstan between 2012 and 2020. Re-exports of CITES-listed species are rarely reported from Kazakhstan, so it does not appear to be a re-exporting country for legal CITES-listed wildlife trade.

demand for MacQueen's Bustard has depleted Middle Eastern populations, and led to over-exploitation in Central Asia

MacQueen's Bustard Chlamydotis macqueeni

3.1.1 CITES LEGAL TRADE DATA

This CITES legal trade analysis for Kazakhstan focuses on the prominent trade flows and commodities identified in a rapid overview analysis of all four countries: imports and exports of whole specimens reported by number, and imports of parts and derivatives reported by mass in kg. When the legal trade analysis occurred in February 2023, Kazakhstan had not yet submitted their CITES Annual Legal Trade Reports for 2020, and 2021, and therefore data for these years were excluded from the analysis of imports by Kazakhstan.

3.1.1.1 LEGAL IMPORTS

Imports of parts and derivatives

Kazakhstan import data for parts and derivatives of 13 commodities totalling more than 69,500 kg between 2012–2019 involved entirely Sturgeons from *Huso* spp. and *Acipenser* spp. All except 4 kg were imported for commercial purposes and all were said to be from captive-bred sources. The majority (98%) was imported between 2017–2019 with much smaller quantities in 2015 and 2016.

Three species account for 98% of all such imports: Azov-Black Sea Sturgeon *Acipenser gueldenstaedtii* (~35, 000kg; 51% of all reported imports), a hybrid sturgeon *Huso dauricus x Acipenser schrenckii* (~21, 000kg; 30%), and Siberian Sturgeon *Acipenser baerii* (~12, 000kg; 17%). All were imported as meat apart from 440 kg of caviar from the hybrid sturgeon. Re-exports from Kyrgyzstan (originating in Mainland China) accounted for 98% of Azov-Black Sea Sturgeon commodities imported, 95% of the hybrid sturgeon and 84% of the Siberian Sturgeon. The remaining Azov-Black Sea Sturgeon, hybrid sturgeon, and Siberian Sturgeon commodities (~3,800kg) were directly imported, mainly from Russian Federation (32%), Mainland China (31%), Germany (17%), and Turkey (14%). Almost all specimens imported from countries other than Kyrgyzstan were imported as caviar (over 99.5%) with the remainder as live eggs.

Exporter-reported data show a similar pattern for the top three species imported by Kazakhstan, but a notable discrepancy is the direct export of 20,000 kg of Kutki *Saussurea costus* roots (CITES Appendix I) from Mainland China in 2018. Mainland China reported all Kutki roots were exported for commercial purposes from artificially propagated sources (source code D), with no imports of this species reported by Kazakhstan between 2012 and 2019.

Imports of whole specimens

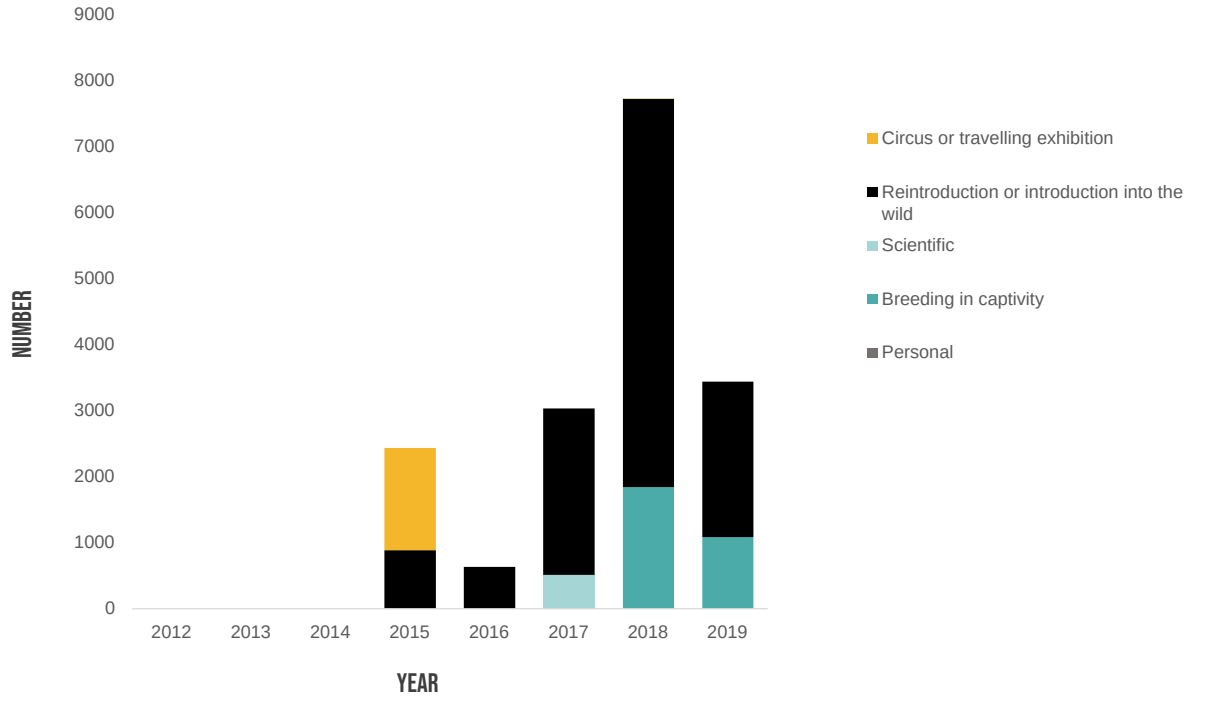
Kazakhstan reports importing close to 19,000 specimens from a total of 97 species between 2012 and 2019 with MacQueen's Bustard (CITES Appendix I) accounting for 91% of such imports (around 17,300 specimens) and the vast majority (>99.5%) of these as live specimens. The United Arab Emirates (UAE) is the top exporter of the MacQueen's Bustard to Kazakhstan (94% of specimens reported in imports), with 4% of specimens re-exported from Argentina (origin UAE) and 2% directly exported from Uzbekistan. Kazakhstan reports most imports are from ranched (54%) and captive-bred (46%) specimens (54%) but exporters report around 80% are captive-bred and the remainder captive-born. According to Kazakhstan, most imports are for the purpose of reintroduction or introduction into the wild (71%) with smaller numbers imported for breeding in captivity (17%: in 2018 and 2019), circuses or travelling exhibitions (10%: in 2015), and for scientific purposes (<3%: in 2017). (Figure 1). Exporters also report most exports of MacQueen's Bustard (90%) are for reintroduction or introduction into the wild, with the bulk of the remainder for captive breeding (9%).

Sturgeon species
were the only parts/derivatives reportedly imported by Kazakhstan

MacQueen's Bustard
was the most imported whole specimen according to import data

FIGURE 1

Number and purpose of MacQueen's Bustard Chlamydotis macqueeni *imports (99.5% as live specimens) reported by Kazakhstan 2012–2019. Source: CITES Trade Database.*

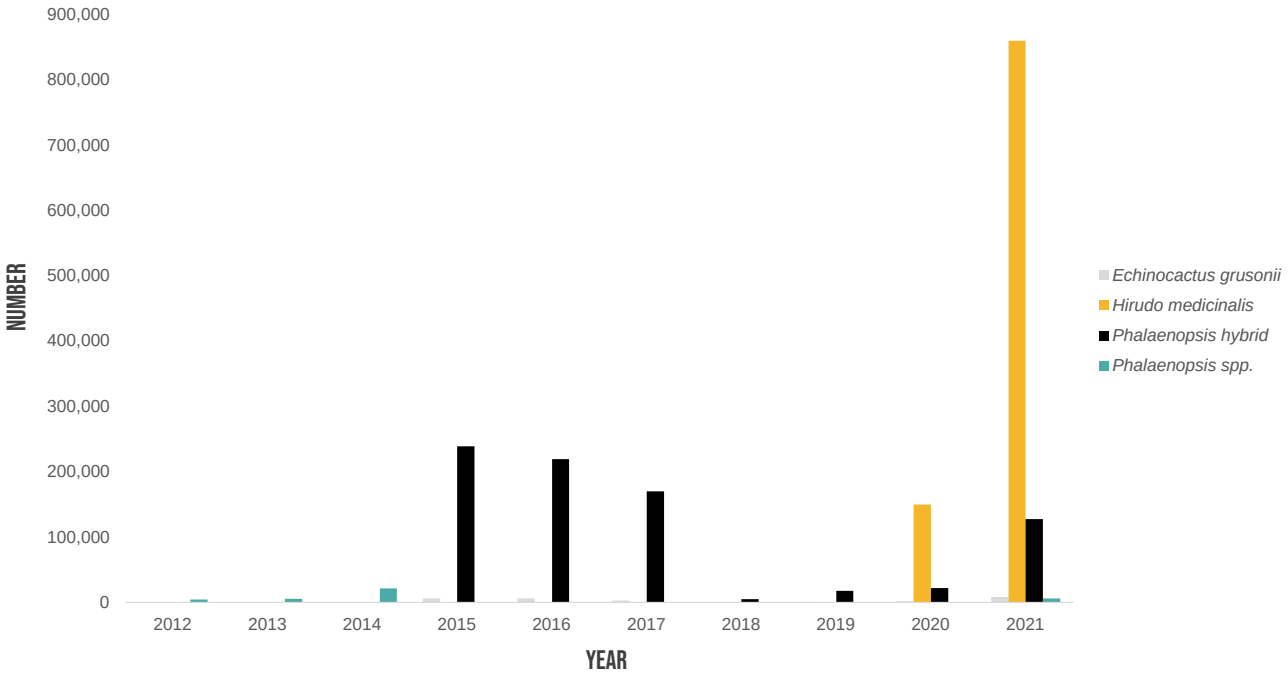


There are significant discrepancies between what Kazakhstan reports as the main species imported as whole specimens and those reported by exporters. According to exporter data, MacQueen's Bustard is the fifth most imported species by Kazakhstan (~27,000; 1% of imports reported by exporters) after live Medicinal Leeches *Hirudo medicinalis* (~1 million; 48%), followed by live specimens from plant species including moth orchid *Phalaenopsis* hybrids (~800,000; 38%) and *Phalaenopsis* spp. (~39,000; 1.8%) and the Golden Barrel Cactus *Echinocactus grusonii* (~29,000; 1%) (Figure 2). This places Kazakhstan as the second highest importer of Medicinal Leeches globally after the USA, with 17% of imports between 2012–2021. The Medicinal Leeches were all directly exported by Azerbaijan in 2020 and 2021 (years which Kazakhstan are yet to report data for) with over 99% of the plant species directly exported by the Netherlands, who reported plant exports reported in all years between 2012 and 2021. All Medicinal Leeches were reported to be from captive-bred sources and all plant species from artificially propagated sources. Most imports were for commercial purposes, although the purpose was not stated for the Golden Barrel Cactus or more than 99% of Phalaenopsis spp. Netherlands reported exports of *Phalaenopsis* hybrids and Golden Barrel Cactus to Kazakhstan in most years and *Phalaenopsis* spp. in very small quantities since 2014.

Medicinal Leeches and plant species were the most imported whole specimens according to export data

FIGURE 2

Numbers of whole specimens of the top four species imported by Kazakhstan 2012–2021 as reported by exporters. Source: CITES Legal Trade Database.



Other notable discrepancies for which Kazakhstan reports no corresponding imports include:

- Over 10,300 specimens from live captive bred specimens from Sturgeon species (mostly from a hybrid species *Acipenser baerii* x *gueldenstaedtii*) for commercial purposes, with most of these (9,000) reported exported by Uzbekistan in 2021, and the remainder by Germany in 2014
- Around 3,100 wild sourced/ranched live corals from around 50 different species reported exported by Indonesia between 2013 and 2018
- Around 158,000 artificially propagated plants from over 480 different species – all but ~3,000 by the Netherlands – reported exported for commercial purposes between 2012 and 2021 (average ~16,000 a year).

3.1.1.2 LEGAL EXPORTS

Direct exports of whole specimens

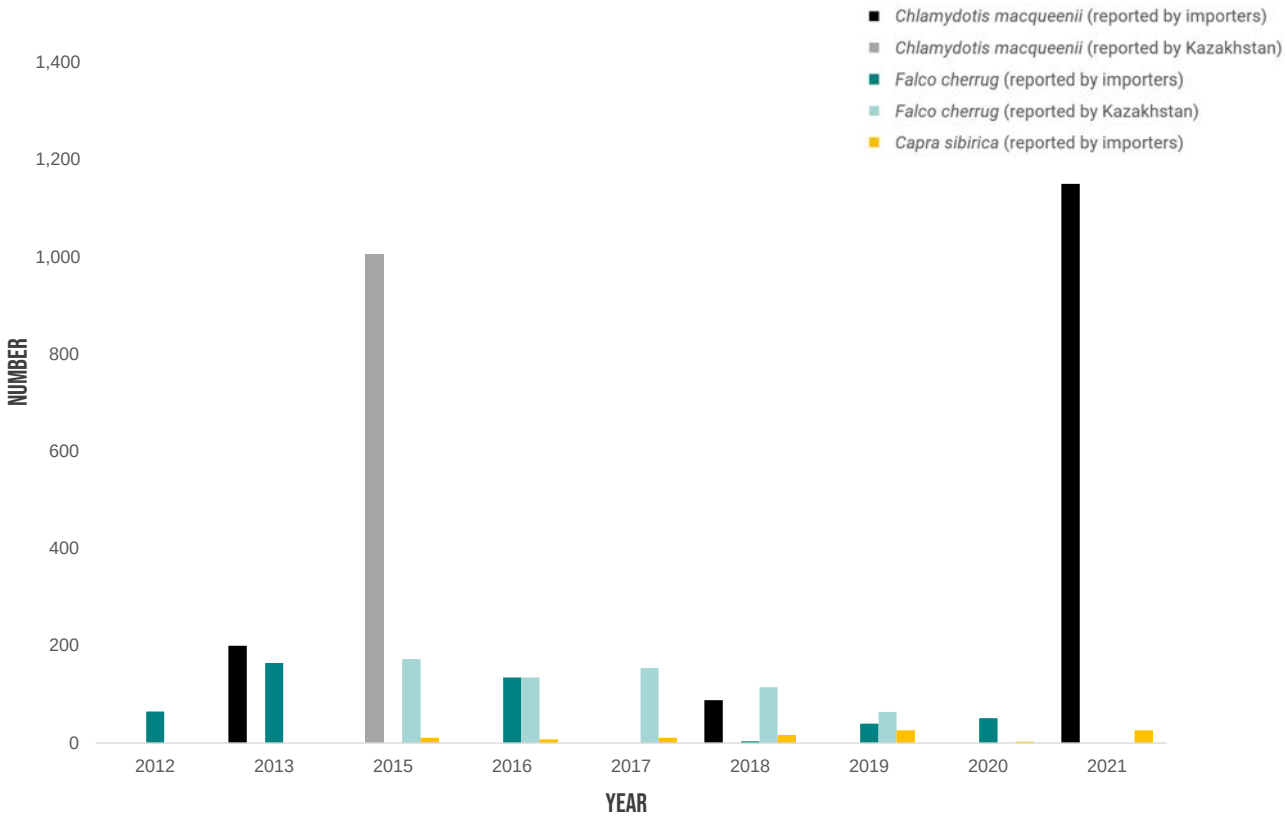
Importers reported relatively small quantities of ~2,200 commodities equating to whole specimens from 40 different species directly exported from Kazakhstan between 2012–2019, with three accounting for 92% of all such exports: MacQueen's Bustard (CITES Appendix I: 1,438 specimens; 66% of all direct exports), Saker Falcon (CITES Appendix II: 460; 21%) and Siberian Ibex (CITES Appendix III: 102; 5%) (Figure 3).

According to importers, all the MacQueen's Bustard and Saker Falcon exports were live specimens from captive-bred sources, with all but four reported as imported for commercial purposes. As the MacQueen's Bustard is listed on CITES Appendix I, all specimens exported for commercial purposes should come from a CITES registered breeding facility in accordance with CITES Resolution Conf,12.10 (Rev. CoP15), however to date Kazakhstan has not yet registered any breeding facilities with the CITES Secretariat. Kazakhstan has had a zero-export quota for live wild-sourced Saker Falcons in place since 2012. Importer and exporter reported trade in live Saker Falcons are relatively consistent for the years in which Kazakhstan reported trade from 2012–2019, aside from reported imports of 56 live captive bred specimens in 2012 which Kazakhstan did not report exporting. There are however notable discrepancies in reported trade of MacQueen's Bustard and Siberian Ibex (Figure

3). UAE figures report the direct import of live MacQueen's Bustard from Kazakhstan in 2013 (200 for captive breeding) and 2018 (around 90 for scientific purposes) while Kazakhstan reports the export of ~1,000 live MacQueen's Bustard to the UAE in 2015 only, with all reported as exported for the purpose of reintroduction or introduction into the wild. In 2021, Uzbekistan reported the direct import of 1,150 live MacQueen's Bustards from Kazakhstan for personal purposes, but Kazakhstan has not yet reported trade data for that year. It is unlikely that this large number of live birds were used for personal purposes. Misuse of source codes occurs and is sometimes used to circumvent CITES provisions for CITES Appendix I listed species that are not allowed in trade for commercial purposes. Importers reported that most of the 102 Siberian Ibex specimens directly exported from Kazakhstan were trophies (92%) with the remainder skins and skulls, and the majority (95%) were sourced from the wild. Imports of Siberian Ibex specimens averaged 14 a year reported in all years between 2015 and 2021. Kazakhstan did not report any direct exports, or re-exports, of Siberian Ibex specimens from 2012–2019.

FIGURE 3

Direct exports of whole specimens from Kazakhstan of the top three importer reported species, 2012–2021, as reported by Kazakhstan and importers. Kazakhstan has not reported trade data for 2020 and 2021. Source: CITES Trade Database.



3.1.2 ILLEGAL WILDLIFE TRADE

3.1.2.1 INFORMATION ON SEIZURES REPORTED BY GOVERNMENT AGENCIES (2012-2022)

Seizures reported on exports

Information was received on a total of 25 seizure records[12] where wildlife commodities were seized on export from Kazakhstan over the period 2012–2022 encompassing a total of ~5,400 specimens and ~23,000 kg of specimens from wildlife commodities comprised of mostly horns (11 seizure records), bodies (seven), and live specimens (five). Only nine taxa were reported seized,

with four taxa in one seizure record only, and five in more than one seizure record (range 2-9). The taxa reported in the largest quantity of seizure records are outlined in Table 4. Two taxa identified as most frequently reported in seizure records, *Acipenser* species and the Saker Falcon, were also identified as top traded species in legal CITES-listed trade for Kazakhstan. Commodities from *Acipenser* species and the Saker Falcon, as well as the Saiga, were identified as among the most frequently reported in seizure records both upon export from Kazakhstan, and internally within Kazakhstan.

The destination for contraband was rarely reported (only Mainland China and UAE in two seizure records each), but Russian Federation was reported as the transit country for 17 out of the 25 seizure records on export from Kazakhstan, which included a total of 631 Saiga horns (6 seizure records), bodies/caviar from *Acipenser* species (5), 248 live Steppe Tortoises *Testudo horsfieldii* (2), 2,700 kg of Crayfish *Astacidea* spp. (1), 2 horns from deer *Cervidae* spp. (1), and two horns and one skull from Argali *Ovis ammon* (2). All but one of these wildlife specimens were transported by road, which was the most frequently reported mode of transport for all seizure records (22 out of 25), with the remaining air (1), rail (1), or unknown.

The species most frequently reported in seizure records was Saiga (10 seizure records totalling ~5,000 horns transported via road) (Table 4). Mainland China was reported as the final destination for ~1,200 Saiga horns in one seizure record by the National Security Committee of the Republic of Kazakhstan during investigations into organised criminal activities involving protected rare and threatened wildlife species, but destinations for other seizure records were unknown. Another 3,144 Saiga horns from Kazakhstan were reported to be due to transit Mainland China in one seizure record, but Russian Federation was most frequently reported as a transit country (six out of 10 seizure records).

The other species most frequently reported in seizure records were unidentified *Acipenser* species transported by road (5 seizure records totalling 123 bodies, 20 kg of bodies, and an additional 400 kg of bodies and caviar combined). The intended final destination was not reported for any seizure records for *Acipenser* species, but Russian Federation was reported as a transit country in all five.

The data also reported 35 live specimens of Saker Falcon seized in four seizure records, some of which were carried out by the Border Service with the help of sniffer dogs. The UAE was the destination country for most (20) live Saker Falcons, with Mainland China the destination for six. A further nine being transported by road were reported as transiting via Kyrgyzstan upon export from Kazakhstan, with final destination unknown.

Other species were reported in fewer seizure records of 2 or less, but some notable quantities in these included:

- 19,964 kg of Brine Shrimp *Artemia salina* en route to Mainland China via road in one seizure record
- 2,700 kg of Crayfish *Astacidea* sp. transiting via the Russian Federation by road
- 248 live specimens of Steppe Tortoises *Testudo horsfieldii* transiting via Russian Federation by road and rail (1 seizure record each).

two taxa most frequently reported in seizure records were also top species in legal CITES-listed trade

Saiga were the most frequently reported in seizure records

TABLE 4

The taxa most frequently reported in seizure records seized in import into and export from Kazakhstan, and where the direction of contraband flow was not known, between 2012–2022. Source: ACBK. Bold indicates a species that was identified as most frequently reported seized in Kazakhstan in both internal and export seizure records from government agencies between 2012 and 2021, and a star a species that was amongst the top legally traded species in Kazakhstan from CITES Trade Data between 2012 and 2021.

TRADE FLOW	TOP TAXA	NATIONAL AND INTERNATIONAL PROTECTION		QUANTITY OF COMMODITIES (NO. SEIZURE RECORDS)		COMMODITY TYPE (NO. SEIZURE RECORDS)	EXPORT FROM (NO. SEIZURE RECORDS)	INTENDED FINAL DESTINATION (NO. SEIZURE RECORDS)	MODE OF TRANSPORT TO FINAL DESTINATION (NO. SEIZURE RECORDS)	TRANSIT (NO. SEIZURE RECORDS)
		NATIONAL PROTECTION	CITES LISTING	NO. SPECIMENS	KG					
Export	**Saiga *Saiga tatarica***	Not included in national Red Book but has a special status with a separate law prohibiting Saiga hunting	II (zero export quota for wild specimens commercially traded since 2019)	4,895 (9)		Horns (all)	Kazakhstan (all)	Mainland China (1), unknown (8)	Road (all)	Russian Federation (6), China (1)
	***Acipenser** species**	*Acipenser baeri* and *Acipenser nudiventris* are included in the national Red Book	I (*Acipenser brevirostrum* and *Acipenser sturio*)/ II (all others)	123 (2)	420 (3)	Bodies (4), bodies and caviar (1)	Kazakhstan (all)	Unknown (all)	Road (all)	Russian Federation (all)
	Saker Falcon *Falco cherrug*	Included in national Red Book	II	35 (4)		Live specimens (all)	Kazakhstan (all)	UAE (2), Mainland China (1), unknown (1)	Air (2), road (1), unknown (1)	Kyrgyzstan (1)
	Argali *Ovis ammon*	Included in national Red Book	II	3 (2)		Skull (1), horn (1)	Kazakhstan (all)	Unknown (all)	Road (all)	Russian Federation (all)
	Steppe Tortoise *Testudo horsfieldii*	Not included in national Red Book	II	248 (2)		Live specimens (all)	Kazakhstan (all)	Unknown (all)	Road (1), rail (1)	Russian Federation (all)
Import	Golden-bellied Mangabey *Cercocebus chrysogaster*		II	6 (1)		Live specimens (all)	Uzbekistan (all)	Unknown (all)	Road	Kazakhstan
Unknown	**Saiga *Saiga tatarica***	Not included in national Red Book but has a special status with a separate law prohibiting Saiga hunting	II (zero export quota for wild specimens commercially traded since 2019)	5,808 (49)		Horns (26), bodies (14), horns and bodies combined (7), meat (1), skin (1)	Kazakhstan (all)	Unknown (all)	Road (46), air (1), unknown (2)	
	Acipenser* species	*Acipenser baeri* and *Acipenser nudiventris* are included in the national Red Book	I (*Acipenser brevirostrum* and *Acipenser sturio*)/ II (all others)	7 (1)	253 (9)	Bodies (8), caviar (2)	Kazakhstan (all)	Unknown (all)	Road (7), water (3)	Russian Federation (6)
	Saker Falcon *Falco cherrug*	Included in national Red Book	II	1 (1)		Live specimens (all)	Kazakhstan (1)	Unknown (all)	Road (1), air (1)	
	Parrots *Psittacidae*			200 (2)		Live specimens (all)	Unknown (all)	Unknown (all)	Road (all)	

Seizures reported on import

The only case for which official information was received of a seizure made during import into Kazakhstan involved six live Golden-bellied Mangabeys *Cercocebus chrysogaster* en route by road from Uzbekistan (Table 4). They were seized by the Border Service of the National Security Committee of the Republic of Kazakhstan during an illegal border crossing incident. Kazakhstan was considered a transit country rather than a final destination for the shipment.

Internal and other seizures (trade flow not known)

Information was received on a total of 74 seizure records where wildlife commodities were seized internally or, with direction of travel was not known over the period 2012–2022. Horns were the most frequently reported commodity (reported in 28 out of 75 seizure records), followed by bodies (24). A variety of taxa were seized, with 15 taxa/species in one seizure record only, and two species in more than one (range 10-49). The taxa/species reported most frequently in seizure records are outlined in table 4. The Police made most of these seizures, with others largely resulting from special operations with other agencies, but no mode of detection was given for any seizure records.

Three species most frequently reported in seizure records internally were the same as those reported upon export from Kazakhstan: Saiga (~5,800 specimens in 49 seizure records), unidentified *Acipenser* species (~250 kg of specimens in 9 seizure records, and 7 specimens in another), and the Saker Falcon (7 live specimens reported in two seizure records). Although these were seized internally, all were reported to be intended for export from Kazakhstan. The most frequently reported commodity types of the Steppe Saiga (horns) and mode of transport (road) were the same as those reported for seizures of Steppe Saiga commodities upon export (Table 4). These were also the same for unidentified *Acipenser* species (bodies and caviar mostly transported by road), with the most commonly reported transit country for *Acipenser* species Russian Federation, as per export records. Some *Acipenser* species seized internally were however also reported transported by water (187 kg of bodies/caviar in 3 seizure records). Commodity types (live specimens) and transit/intended transport modes (road and air) were also similar for Saker Falcons in internal and export seizure records.

Most other species seized internally in Kazakhstan and not identified in Table 4 were reported in one seizure record, with quantities of 8 or less specimens.

3.1.2.2 ONLINE RESEARCH

Online research between January and February 2023 of open-source reports of illegal wildlife trade incidents identified a total of 101 seizure records spanning the period 2003–2023 involving over 36,400 specimens plus ~1,000 kg of items (Table 5). At least 24 species were seized with commodities mostly horns (31%), live specimens (26%), carcasses (22%), and a smaller number involving roots, skins, skulls, dried herbs, claws, teeth, and paws (Table 5). Seizures took place internally (70% of incidents) during export (27%) or during import (3%). The destination countries of species seized on export (total of 28 seizure records) included Russian Federation (12 seizure records), Mainland China (4), UAE (4) plus Qatar and neighbouring Central Asian countries (8).

The most frequently seized species reported in open sources were Saiga (~23,000 specimens, and 500 kg of specimens in 41 seizure records), Steppe Tortoises (~13,000 live specimens in seven), Argali (30 specimens in 11) and Saker Falcons (120 live specimens in 10) (Table 5). Saiga, Steppe Tortoises, Argali and Saker Falcons were also identified as most frequently reported species in seizure records for wildlife commodities seized upon export, or internally with intent to export, from Kazakhstan (Table 4), and as mentioned previously, Saker Falcons were amongst the top species reported in legal exports from Kazakhstan between 2012 and 2021.

101 seizure records
were found during online research for the period 2003-23

TABLE 5

Seizures reported between 2003 and 2023 in Kazakhstan identified through online research conducted from January- February 2023. Bold indicates a species that was identified as most frequently reported seized in Kazakhstan in seizure records from government agencies between 2012 and 2021, and a star a species that was amongst the top legally traded species in Kazakhstan from CITES Trade Data between 2012 and 2021.

SPECIES GROUP	QUANTITY	NUMBER OF SEIZURE RECORDS	MAIN COMMODITY GROUPS	CITES APPENDIX
REPORTED BY NUMBER OF SPECIMENS SEIZED				
Saiga *Saiga* sp.	22,968	41	Horns, bodies	II
Saker Falcon *Falco cherrug**	120	10	Live specimens	II
Argali *Ovis ammon*	26	10	Horns, bodies	II
Steppe Tortoise *Testudo horsfieldii*	12,843	7	Live specimens	II
Himalayan Brown Bear *Ursus arctos isabellinus*	39	6	Claws, teeth	I/II
Goitered Gazelle *Gazella subgutturosa*	11	3	Bodies, horns	Not listed
Gyr Falcon *Falco rusticolus*	23	2	Live specimens	I
Siberian Ibex *Capra sibirica*	4	2	Skin, skulls	III
Roe deer *Capreolus capreolus*	2	2	Bodies	Not listed
Wild garlic *Allium ursinum*	330	1	Live specimens	Not listed
Siberian fritillaria *Fritillaria pallidiflora*	33	1	Roots	Not listed
Primates	26	1	Live specimens	I/II
Golden Eagle *Aquila chrysaetos*	7	1	Live specimens	II
Boa constrictor *Boa constrictor*	7	1	Live specimens	I/II
Caimans *Caimaninae sp.*	6	1	Live specimens	Not listed
Wild Mountain Sheep	4	1	Live specimens	II
Lizard species *Lacertilia* sp.	3	1	Live specimens	Not listed
Steppe eagle *Aquila nipalensis*	2	1	Live specimens	II
Common Crane *Grus grus*	2	1	Bodies	II
Leopard sp. *Panthera sp.*	2	1	Live specimens	I
Lynx *Lynx lynx*	2	1	Skins	II
REPORTED BY MASS OF SPECIMENS SEIZED (KG)				
Ephreda	21.62	2	Dried derivatives	Not listed
Rhodiola rosea	500	1	Roots	II
Saiga *Saiga* sp.	500	1	Horns	II
Siberian Ibex *Capra sibirica*	62	1	Meat	III
Siberian fritillaria *Fritillaria pallidiflora*	2.5	1	Roots	Not listed

Most Saiga seizures were reported to take place internally with very few during export. But both Mainland China and Russian Federation were identified as destination countries for commodities seized on export. Some illustrative examples include:

- In December 2015, the Border Service of the National Security Committee of the Republic of Kazakhstan detained one Russian citizen attempting to smuggle 17 Saiga horns from Kazakhstan to Russian Federation through a checkpoint on the Kazakh-Russian border. The authorities detected the specimens by using sniffer dogs.
- In October 2019, the National Security Committee of the Republic of Kazakhstan conducted operations across Kazakhstan, including in Atyrau, Aktobe, West Kazakhstan, Turkestan, and Kyzylorda, and in the cities of Almaty and Shymkent, seizing approximately 6,000 Saiga horns from animals that had been shot in Kazakhstan and were due to be exported to Mainland China.
- In December 2021, the National Security Committee of the Republic of Kazakhstan seized 2,347 Saiga horns from two individuals in the Kyzylorda region who were attempting to sell them. The authorities believed the two were part of an organised criminal gang involved in the illegal trade of Saiga.
- In July 2022, police officers in Almaty seized 500 kg of Saiga horns that were being transported by road destined for Mainland China.

All 12,843 live Steppe Tortoises were seized on export and were mostly destined for Russian Federation (6 out of 7 seizure records) or Uzbekistan (1). Examples include:

- In April 2010, Kazakh authorities found 1,500 live Steppe Tortoises on a train at Shymkent railway station en route to Russian Federation.
- In October 2019, Russian authorities seized 4,000 live Steppe Tortoises that were concealed in cabbage crates that had been sourced from the wild in southern Kazakhstan.

The 10 seizure records involving Saker Falcons included 119 live specimens and 1 carcass. Four of the seizure records were reported as internal, with the others made during attempted smuggling of the Saker Falcons to countries including UAE, Qatar, Kazakhstan, and Kyrgyzstan. Most of the birds were found during inspections at roads (4 out of 10 seizure records) or at airports (3) with other reports not stating transport modes. According to the data, there were 10 seizure records involving Argali included 11 horns, 7 skins, 5 bodies, 4 bags of meat and 3 skulls between 2003 and 2023. Most seizures took place internally, but two seizure records (10 horns and a skin) were for specimens seized upon export to Kyrgyzstan.

Other notable seizures include:

- Six seizures involving 39 Himalayan Brown Bear *Ursus arctos isabellinus* commodities/specimens including 19 claws, 10 teeth, four live specimens, four paws, one carcass and one skin. They were seized on export (29 specimens), internally (6) or on import (4). In May 2022, customs officers seized four live Himalayan Bear cubs from traders attempting to import the animals from Russian Federation.
- In June 2020, Kazakh and Russian border authorities acting in the Altai region of Kazakhstan intercepted illegal plant harvesters of 500 kg of wild *Rhodiola* rosea roots (which at the time were not regulated by CITES but since February 2023 they are included in/regulated by Appendix II of the Convention) and 330 kg of live Wild Garlic *Allium ursinum*.
- In August 2022, State Inspectors of the Zhongar-Alatau National Park seized 62 kg of Siberian Ibex *Capra sibirica* meat (plus two skulls and two skins) from Spanish citizens who had been illegally hunting in Zhetysu Reserve.

12,843 Steppe Tortoises
seized on export, mostly destined for Russian Federation

3.2 KYRGYZSTAN

Area	199, 951 km^2
Population	6.8 million
Languages	Kyrgyz (State), Russian (official)
Capital	Bishkek
CITES Accession	4 June 2007
CITES legislation	Category 2 (legislation generally believed to meet one to three of the four requirements for CITES implementation)
CITES Management Authority	Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic; Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic
CITES Scientific Authority	Institute of Biology of the National Academy of Sciences of the Kyrgyz Republic
CITES-listed species	140 CITES-listed species/subspecies
Red Data Book publication date	The latest edition was issued in 2006
Number of Red Data Book species	Birds (53), mammals (26), amphibians (two), reptiles (eight), fish (seven), arthropods (18), higher plants (89), fungi (six).

Kyrgyzstan is dominated by the mountains of the Tien Shan and Alai, important in providing fresh water to other Central Asian states and the western part of China. Mountains occupy over 90% of the territory, sheltering a unique and varied range of ecosystems. Many have been affected by overgrazing and deforestation, and the Kyrgyz mountain forests have significantly declined in the 20th century, threatening many species with extinction and increasing risk of erosion and disasters. Forests currently cover about 4.5% of the land area of Kyrgyzstan. Spruce, juniper and fruit-and-nut forests are the main types of national forests (Anon., 2011).

The Mountains of Central Asia biodiversity hotspot encompasses most of Kyrgyzstan, with 31 Key Biodiversity Areas in this area, and around 6.5% of the land area of Kyrgyzstan is protected (European Commission, 2019).

There are several species distributed in Kyrgyzstan and reported to be at risk from illegal and unsustainable hunting and trade: Siberian Ibex *Capra sibirica*, Snow Leopards *Panthera uncia*, Goitered Gazelle *Gazella subgutturosa*, and Argali *Ovis ammon*, including the Macro Polo Argali subspecies *Ovis ammon polii* (Table 12) (European Commission, 2019).

As mentioned previously, trade in items such as bones, teeth and claws from Snow Leopards is thought to result from their use as substitutes for medicinal trade in tiger bones, and also for use of skins for display as a symbol of wealth and power, with some instances in which retaliatory poaching for attacks on livestock have led to subsequent sale (Nowell et al., 2016, European Commission, 2019). Kyrgyzstan was identified as a range state with one of the highest frequencies of killing of Snow Leopards for trade based on reports by experts surveyed across 12 range states in a TRAFFIC report on Snow Leopard crime in 2016 (Nowell et al., 2016). Goitered Gazelles have been more recently targeted for their horns for use in Chinese Traditional Medicine, but are also hunted for trophies, and populations in Kyrgyzstan have almost disappeared in recent years (European Commission, 2019). Horns from Argali and Siberian Ibex are also targeted for use as hunting trophies (European Commission, 2019). In recent years, it is thought that Kyrgyzstan has become one of the top destinations for trophy hunting of both Argali and Siberian Ibex (Nordbø et al., 2017). A review of twelve CITES-listed species known to be targeted in trophy hunting in Asia identified that Kyrgyzstan had exported the second highest quantity of trophy items (after Russian Federation) between 2010 and 2019, mainly Siberian Ibex (average 108 trophy items a year) and Argali (88) (Parker et al., 2022).

For Kyrgyzstan, as per all countries in Central Asia, it can be difficult to govern remote landscapes, which often contain important species and conservation sites (European Commission, 2019). Kyrgyzstan has been Party to CITES since 2007 and is currently in Category 2 (one being the highest and three the lowest) for their CITES implementing legislation (CITES, 2023). This means it is generally believed to meet requirements for CITES implementation, but some gaps remain (European Commission, 2019).

decline in mountain forests threatens many species with extinction

* The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organisations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

A rapid overview analysis of CITES legal trade data between 2012 and 2020 show that Kyrgyzstan (along with Kazakhstan) reports importing the largest quantity of CITES-listed parts and derivatives (~68,500 kg) out of all four countries, with this all reported from 2015 -2020. From 2017 onwards, most of these are subsequently re-exported by Kyrgyzstan, making Kyrgyzstan a prominent re-exporting country for legal wildlife trade in the region. Kyrgyzstan is not a prominent source country for CITES-listed species, with importers reporting direct imports of ~1,200 commodities from whole specimens (mostly trophies from Siberian Ibex, Argali, and Marco Polo Sheep) from Kyrgyzstan between 2012 and 2020 and relatively negligible imports from parts and derivatives.

largest quantity of CITES-listed imports
of all four countries from 2012-2020, and a prominent re-exporter

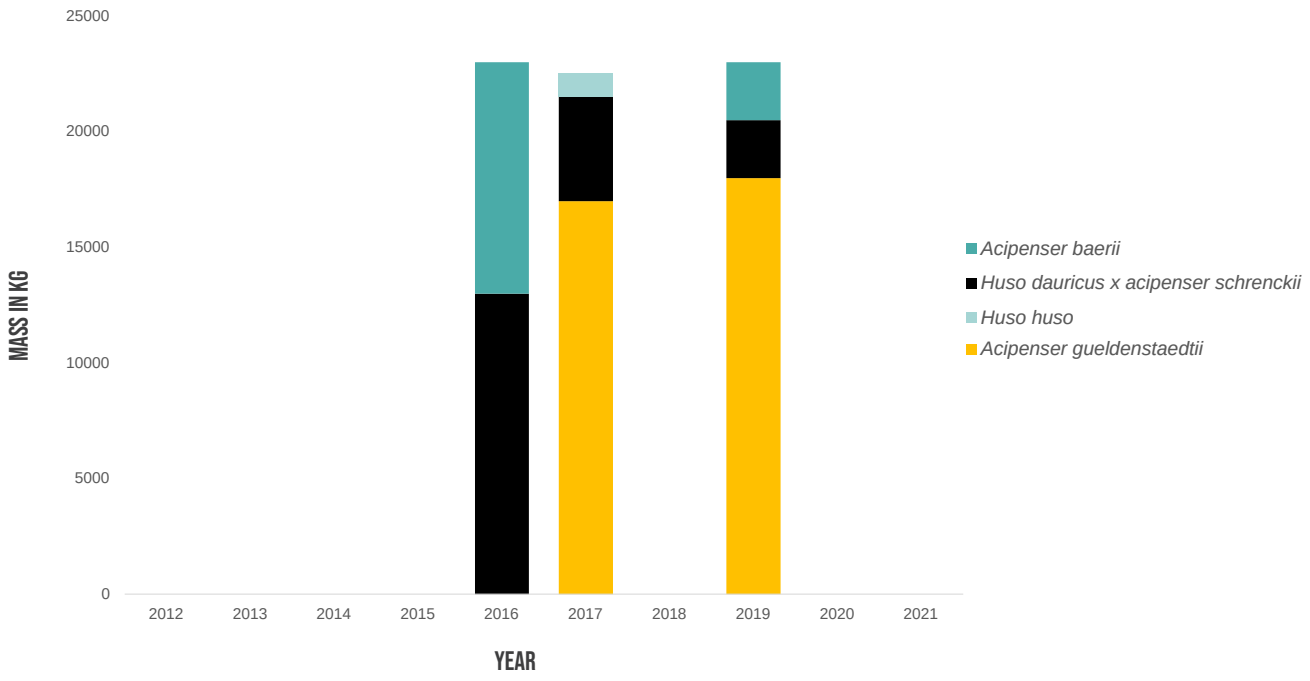
3.2.1 CITES LEGAL TRADE DATA

A rapid overview analysis was carried out ahead of preparing the country profiles which identified the following as the most commonly reported wildlife commodities/specimens in trade by the four study countries. These categories were then used in the analyses of trade dynamics presented in the Kyrgyzstan country profile: imports and re-exports of parts and derivatives reported by mass in kg, and exports of whole specimens.

3.2.1.1 LEGAL IMPORTS OF PARTS AND DERIVATIVES

According to the CITES data, Kyrgyzstan reports just four species imported between 2012–2022, all between 2016 and 2019; Azov-Black Sea Sturgeon *Acipenser gueldenstaedtii* (51% of all reported imports), a hybrid sturgeon *Huso dauricus* x *Acipenser schrenckii* (29%), Siberian Sturgeon *Acipenser baerii* (18%) and Beluga *Huso huso* (2%) (Figure 4). All four are listed in CITES Appendix II and were reported as imported from Mainland China from captive-bred sources for commercial purposes. Almost all (68,000 kg: 99%) were imported as meat plus 530 kg of caviar from the hybrid sturgeon. From 2017 onwards meat from the Azov-Black Sea Sturgeon comprised most imports (Figure 4).

FIGURE 4
Kyrgyzstan reported imports of CITES-listed species 2012–2021. Source: CITES legal trade database.



There are some discrepancies with exporter reported data for Sturgeon species imported by Kyrgyzstan. Mainland China, which has reported trade data up to 2021, reported much smaller quantities of meat from each species in direct exports to Kyrgyzstan between 2012 and 2021: some 35, 000 kg less Azov-Black Sea Sturgeon meat, 10,000 kg less Siberian Sturgeon meat, and no hybrid sturgeon *Huso dauricus* x *Acipenser schrenckii* or Beluga meat. This is however likely due to a difference in reporting of terms between the two Parties; Mainland China reports exporting almost double the quantities of commodities from the Azov-Black Sea Sturgeon, hybrid sturgeon, and Siberian Sturgeon by mass in kg (~128,000 kg compared to ~68,000 kg reported imported by Kyrgyzstan), but reports 96% of this as 'bodies', whereas Kyrgyzstan reports almost all imports as 'meat'. It is common for exporter reported data to be higher than importer reported, for reasons such as reporting of permits issued rather than actual shipments sent. Both countries report all specimens as being from captive-bred sources for commercial purposes.

UNEP-WCMC identified the Azov-Black Sea Sturgeon as a potential candidate for inclusion in the Review of Significant Trade (RST) process following CoP18 (UNEP-WCMC, 2020). The RST identifies species thought to be at risk from unsustainable levels of international trade and that may require additional support such as destination of export quotas to ensure trade is at sustainable levels. UNEP-WCMC identifies an initial list of all species that are potential candidates before Parties select specific country-species combinations at Animal and Plant Committees meetings. Mainland China was identified by UNEP-WCMC as the primary exporter (96% of all direct exports) of the Avoz-Black Sea Sturgeon. Importer reported data demonstrate that Kyrgyzstan reported 2% of all global imports of Azov-Black Sea Sturgeon parts and derivatives (reported by mass in kg) between 2012 and 2021, with Hong Kong SAR the top importer (32% of all imports).

A more marked discrepancy is for trade in sturgeon species with Germany as the exporter. Germany reported the direct export of over 54,000 kg of commodities from sturgeon species (~60% as bodies and most of the remaining as meat) to Kyrgyzstan between 2012 and 2021, but Kyrgyzstan reports no imports of these species from Germany, despite having reported trade data across these years. Germany reports most specimens from sturgeon species (68%) were exported to Kyrgyzstan in 2021, with most of the remainder in 2020, all from captive-bred sources for commercial purposes. Around half were reported to be from the Azov-Black Sea Sturgeon, but over a third (38%) were from the CITES Appendix II listed White Sturgeon *Acipenser transmontanus*.

Other marked discrepancies between imports reported by Kyrgyzstan and those reported by exporters are outlined below. In each case, Kyrgyzstan did not report any imports of these species from these exporters between 2012 and 2021:

- 50,000 live captive bred Medicinal Leeches reported exported by Azerbaijan in 2021 for commercial purposes
- Close to 13,000 derivatives from captive bred Medicinal Leeches reported exported by Russian Federation in 2012
- 100,000 captive bred eggs from the Siberian Sturgeon reported exported by Poland in 2018
- Close to 14,000 artificially propagated live plants from mostly moth orchids (74%; 10,200 specimens) and ~50 other species reported exported by Netherlands between 2012 and 2021 (average 1,400 a year).

Azov-Black Sea Sturgeon identified by UNEP-WCMC as potentially at risk from unsustainable trade

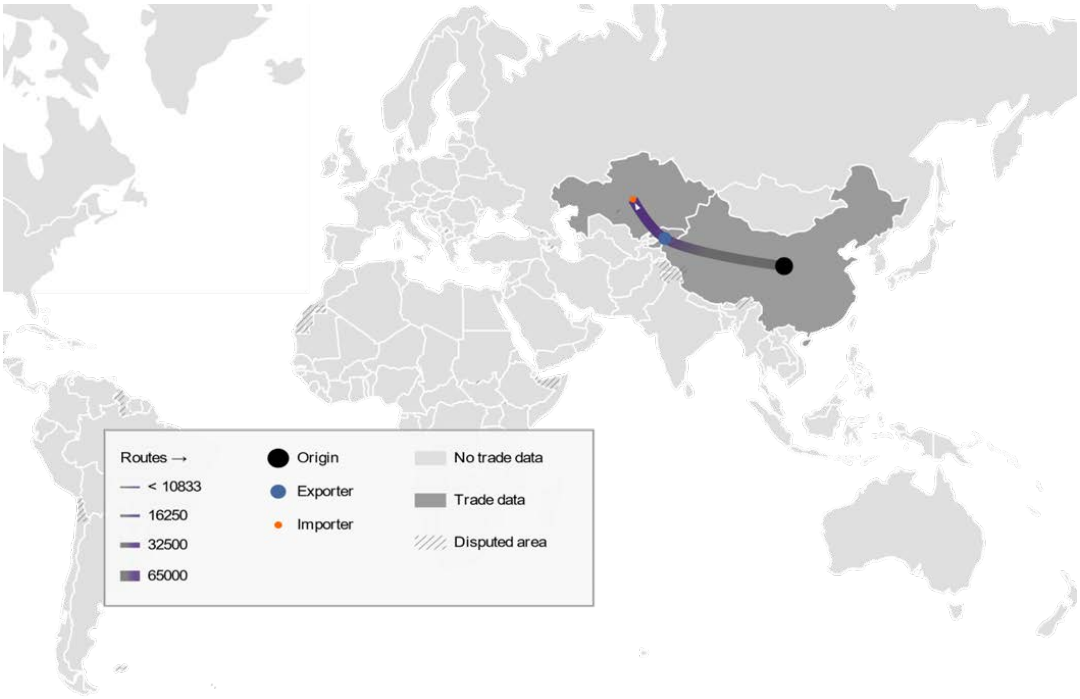
Medicinal Leeches and moth orchids reported by exporters to Kyrgyzstan but not in the nation's import records

3.2.1.2 LEGAL RE-EXPORTS

Aside from 1 kg of *Acipenser* sp., imported by the USA, importers report all re-exports from Kyrgyzstan (~67,500 kg) which involved the same four species Kyrgyzstan reports importing from Mainland China, namely: Azov-Black Sea Sturgeon, a hybrid sturgeon *Huso dauricus* x *Acipenser schrenckii*, Siberian Sturgeon and Beluga. Almost all (95%) of the exports of the four sturgeon species from Mainland China were re-exported from Kyrgyzstan in the same year or the following one, according to Kazakhstan import records (Figure 5). Similar to imports, all except 440 kg of caviar from sturgeon species were re-exported as meat and Kazakhstan records all commodities as being from captive-bred sources for commercial purposes.

FIGURE 5

Re-export of Azov-Black Sea Sturgeon Acipenser gueldenstaedtii*, hybrid sturgeon* Huso dauricus *x* acipenser schrenckii*, Siberian Sturgeon* Acipenser baerii *and Beluga* Huso huso *commodities from Kyrgyzstan as recorded in Kazakhstan imports 2012–2022. Source: CITES Trade Database.*



3.2.1.3 LEGAL EXPORTS

Importers report only around 1,400 whole specimens imported from Kyrgyzstan between 2012 and 2021, with most of these involving Siberian Ibex (~600), and Argali (~260), and Marco Polo Argali (193) trophies. Trade in the Marco Polo Argali was flagged for potential inclusion in the RST following CoP18, due to sharp increases in exports of trophies (40) exported by Kyrgyzstan in 2018, compared to an average of around 16 a year between 2013–2017, based on importers data (UNEP-WCMC, 2020). Between 2019–2021 importers report 68 trophies, two skins and one skull from the Marco Polo sheep imported from Kyrgyzstan, most of them (45) in 2019, with just 18 in 2020 and 8 in 2021. It is possible that the lower quantities in recent years reflect the lack of trade data reports from 2020 onwards by the main importer, the USA. Kyrgyzstan has not reported any direct exports of the Marco Polo Argali between 2012 and 2022 but has reported almost double the number of trophies from Siberian Ibex (~1,350) and Argali (~600) than are reported imported by importers. As mentioned previously, exporter reported data are often higher than importer reported, as they may reflect permits issued and not actual shipments sent.

3.2.2 ILLEGAL WILDLIFE TRADE

3.2.2.1 INFORMATION ON SEIZURES REPORTED BY GOVERNMENT AGENCIES (2012-2022)

Information on seizures by Kyrgyzstan officials was extremely hard to source, with some information obtained with the assistance of NABU Kyrgyzstan from the Kyrgyzstan Ministry of Natural Resources and State Committee for National Security. The sparse records available do not give a full picture of the scale of illegal wildlife trade in the country, nor of the efforts being made to counter wildlife crime by the national authorities and the successes they have had in carrying out their duties. Nevertheless, despite the paucity of records, the following is presented to give some indication of the situation currently prevalent in Kyrgyzstan.

sparse records don't give a full picture of illegal wildlife trade in the country

Between 2012 to 2022 information on a total of nine internal seizure records involving two

(injured) live specimens and 12 carcasses of seven different species was sourced (Table 6). All seizures took place along the country's road network, and most were seized because of poaching (93%), the remainder owing to disease. Notable seizures include two incidents relating to the CITES Appendix I listed Snow Leopard *Panthera uncia*. One specimen was seized due to poaching, the other because it was a diseased animal. Both were taken to the NABU Wild Animal Rehabilitation Center in Ananievo, Issyk-Kul region. The State Committee for National Security also reported the seizure of 14 live Saker Falcons *Falco cherrug* (CITES Appendix II) as they were being smuggled out of the country by air, although their intended destination was not stated. Only one species reported in seizure records – the Argali – was also identified as amongst the top species in legal exports from Kyrgyzstan.

TABLE 6

Wildlife commodities/specimens reported seized internally in Kyrgyzstan 2012–2022. Source: Kyrgyzstan Ministry of Natural Resources and State Committee for National Security.

SPECIES	NO. OF SPECIMENS (NO OF SEIZURE RECORDS)	DESCRIPTION	NATIONAL AND INTERNATIONAL PROTECTION	
			NATIONAL	CITES APPENDIX
Siberian Ibex *Capra sibirica*	3 (2)	Carcasses	Not included in National Red Data Book	III
Snow Leopard *Panthera uncia*	2 (2)	Live (injured) specimens	Included in National Red Data Book	I
Hare *Lepus* sp.	5 (1)	Carcasses	Not included in National Red Data Book	Not listed
Argali *Ovis ammon*	1 (1)	Carcasses	Included in National Red Data Book	II
Muskrat *Ondatra zibethicus*	1 (1)	Carcasses	Not included in National Red Data Book	Not listed
Pheasant *Phasianus* sp.	1 (1)	Carcasses	Not included in National Red Data Book	Various species in the Phasianidae family are listed in I/II/III
Roe Deer *Capreolus capreolus*	1 (1)	Carcasses	Not included in National Red Data Book	Not listed

3.2.2.2 ONLINE RESEARCH FOR REPORTS OF ILLEGAL TRADE

Online research between January and February 2023 of open-source reports of illegal trade incidents identified a total of 38 seizure records spanning the period 2005–2022 involving ~5,400 specimens (mostly horns, live specimens, and skins) from animals, plus over 42,000 kg of seeds, roots and derivatives from plants (Table 7).

A total of 21 species/taxa were reported seized, with most (15) of these reported in one seizure record only, and the remaining seized between two and six times each. Three species reported most frequently in seizure records from open-source reports were the same as those reported in seizure records from government agencies: the Snow Leopard, Argali, and Siberian Ibex. The latter two species were also reported as species frequently exported from Kyrgyzstan in CITES legal trade data between 2012 and 2021. Some large seizures from plants were also reported in open sources (Table 7).

Most seizures were reported to take place internally (54%), with the remainder during export (33%) or import (13%). Tajikistan was identified as a country for where items seized in Kyrgyzstan originated in more than one seizure record, including commodities from Argali (14 horns and seven skins) and Siberian Ibex (eight horns and four skins). A variety of destination countries were reported for contraband from Kyrgyzstan including Mainland China (for Saiga and Steppe Tortoises), Serbia (*Ovis* species), Kazakhstan (Argali, Saiga and Snow Leopards), Uzbekistan (Kashmir Stag), South Korea, Russian Federation (*Ephreda* species), UAE (Saker Falcon), and India (*Ferula* species) (Table 7).

TABLE 7

Seizures reported between 2005 and 2022 in Kyrgyzstan, identified through online research of open-source reports conducted from January-February 2023. Bold indicates a species that was identified as most frequently reported seized in Kyrgyzstan in seizure records from government agencies between 2012 and 2021 and a star a species that was amongst the top legally traded species in Kyrgyzstan from CITES Trade Data between 2012 and 2021.

SPECIES/TAXON	QUANTITY	TOTAL NUMBER OF SEIZURE RECORDS	MAIN COMMODITY TYPES	DETAILS ON TRADE ROUTE IF AVAILABLE	CITES APPENDIX
REPORTED BY NUMBER OF SPECIMENS SEIZED					
Snow Leopard *Panthera uncia*	7	6	Skins; skulls	Destined for Kazakhstan (1 skin)	I
Argali *Ovis ammon* *	25	4	Horns	Destined for Kazakhstan (2 skulls and 2 horns), originating from Tajikistan (14 horns, 7 skins)	II
Falcon *Falco* sp.	22	4	Live specimens		I/II
Wild Sheep *Ovis* sp.	25	3	Horns; skins	Destined for Serbia (all specimens)	I/II
Siberian Ibex *Capra sibirica**	13	3	Horns; skins	Originating from Tajikistan (8 horns, 4 skins)	III
Saiga *Saiga* sp.	5,304	2	Horns	Destined for Mainland China (5,000 specimens). And Kazakhstan (2 horns, 2 skulls)	II
Steppe Tortoise *Testudo horsfieldii*	17	1	Live specimens	Destined for Mainland China (all)	II
Kashmir Stag *Cervus elaphus hanglu*	5	1	Live specimens	Uzbekistan (all)	I
Saker Falcon *Falco cherrug*	4	1	Live specimens	UAE (all)	II
Other species	8	8	Live specimens; skins; meat		
REPORTED BY MASS OF SPECIMENS SEIZED (KG)					
Ephreda sp.	38,500	2	Derivatives	Destined for South Korea (24,500 kg) and Russian Federation (14,000 kg)	Not listed
Aflatun Onions *Allium aflatunense*	3,500	1	Roots		Not listed
Arnebia sp.	40	1	Roots		Not listed
Ferula sp.	22	1	Seeds	Destined for India (all)	Not listed

The species seized most frequently according to the open-source seizure records was the Snow Leopard. Examples include:

- In January 2022, Border Service seized a Snow Leopard skin at Chaldybar, Chui region in Kyrgyzstan, that was being smuggled across the border to Kazakhstan.
- In April 2022, police in the Ak-Suu district arrested two individuals with a Snow Leopard skin in their possession. It was suspected the animal had been shot in the Syrt Valley in the Ak-Suu district of Kyrgyzstan.

Other species reported most in seizure records were Argali, or Wild Sheep *Ovis* species, with 50 specimens (28 horns, 14 skins and eight skulls) reported in seven seizure records. Examples of seizures include:

- In April 2017, Kyrgyz Customs Officers seized 14 Argali horns and seven skins smuggled from Tajikistan.
- In December 2022, Kyrgyz Customs Officers seized 12 wild sheep horns, seven skins and six skulls destined for Serbia from Kyrgyzstan

Other notable seizures included:

- A large seizure of 5,300 Saiga horns by Customs Border Police took place in October 2015 at the Torugart border crossing between Kyrgyzstan and Mainland China. In July 2015, Kyrgyz Customs Officers also seized two Saiga horns and two skulls from a Swiss national who was attempting to smuggle them from Kyrgyzstan to Kazakhstan.
- In April 2007, 17 live Steppe Tortoises were seized at Erkestam Customs Post in southern Kyrgyzstan from a Chinese citizen who was attempting to smuggle them to Mainland China.
- In September 2016, poachers were arrested in Toktogul district of the Jalal-Abad region by local police officers after being found in possession of Himalayan Brown Bear *Ursus arctos isabellinus* meat and skins. They were fined KGS400,000 (USD4,600).
- In November 2020, Customs Officers at Manas International Airport arrested an individual attempting to smuggle five live and two dead Falcons from Kyrgyzstan to an unknown destination.
- The two biggest plant seizures involved *Ephedra* sp. derivatives, totalling 38,500 kg, all of which had been harvested in Kyrgyzstan. In October 2010, the State Commission for Drug Control carried out a one week special operation in the suburbs of Bishkek and seized a total of 24,500 kg of *Ephreda* sp. derivatives. The specimens were destined for South Korea and valued at USD 200,000. The second seizure also occurred in October 2010 after Russian authorities seized 14,000 kg of *Ephreda* sp. derivatives in Primorsky Krai, Russian Federation during a customs inspection of a container.
- A total of 104 bags of garlic *Allium* sp. roots that had been collected in Kyrgyzstan and were destined to be used for medicinal purposes, and 3,500 kg of roots from Aflatun Onions *Allium aflatunense* seized by the Ministry of Natural Resources, Ecology and Technical Supervision and the International Affairs Department of the Toktogul district during a joint operation in July 2022.

Snow Leopards were found most frequently in open-source seizure records

3.3 TAJIKISTAN

Area	141, 400 km^2
Population	10.1 million
Languages	Tajik
Capital	Dushanbe
CITES Accession	31 December 2015
CITES legislation	No category assigned (consultations between Tajikistan officials and the Secretariat are ongoing)
CITES Management Authority	Committee of Environmental Protection under the Government of the Republic of Tajikistan,
CITES Scientific Authority	National Centre for Biodiversity and Biosafety
CITES-listed species	132 CITES-listed species/subspecies
Red Book publication date	The latest edition of the Red Book was released on October 15, 2015
Number of Red Data Book species	Plants 226, and 222 endangered animal species. Of these, 43 are birds, 44 are mammals, 31 are reptiles, 14 are fish, 81 are insects and 9 species of molluscs.

Tajikistan is the smallest country of Central Asia, dominated by the Pamir, Gissar and Alai mountains, with 93% of its land considered mountainous and over half above 3,000 m. It boasts a wealth of biodiversity and a broad range of habitats, reflected in high species diversity and local flora endemism. Tajikistan's ecosystems include nut, juniper, and broadleaf forests, alpine meadows and grasslands and high-mountain deserts (Anon., 2011).

The Mountains of Central Asia biodiversity hotspot encompasses most of the land area of Tajikistan, with 35 Key Biodiversity Areas in this area. Over 22% of the land area of Tajikistan is protected, which exceeds the world average of ~15% (European Commission, 2019). Several species are distributed in Tajikistan and reported to be at risk from illegal and unsustainable hunting and trade: Goitered Gazelle, Argali (including the Marco Polo Argali subspecies), Markhor *Capra falconeri*, Urial, Siberian Ibex and Snow Leopards (European Commission, 2019). Goitered Gazelle populations in Tajikistan have almost disappeared in recent years and the country was also identified as a range state with one of the highest levels of poaching of Snow Leopards based on reports by experts surveyed across 12 range states in a TRAFFIC report on Snow Leopard crime in 2016 (European Commission, 2019; Nowell et al., 2016). Tajikistan was identified as one of the four range states with the highest frequencies of killing for trade and was the only country out of Kazakhstan, Kyrgyzstan and Uzbekistan to be recommended as a priority country for increased law enforcement against illegal Snow Leopard Trade (Nowell et al., 2016). Furthermore, a review of 12 CITES-listed species known to be targeted in trophy hunting in Asia identified Tajikistan had exported the third highest quantity of legally exported trophy items (after Russian Federation and Kyrgyzstan) between 2010 and 2019, with exports mainly from Argali (average 53 trophy items a year), Siberian Ibex (26), Markhor (three) and Urial (two) (Parker et al., 2022).

For Tajikistan, as per all countries in Central Asia, it can be difficult to govern remote landscapes, which often contain important species and conservation sites, and Tajikistan also faces political divisions within the country (European Commission, 2019). Tajikistan has become a Party to CITES relatively recently (in 2016) so does not currently have a category assigned for their CITES implementing legislation, with a review of existing legislation needed to identify any possible gaps (CITES, 2023). A rapid overview analysis of CITES legal trade data between 2012 and 2021 shows that Tajikistan imports the smallest quantities of CITES-listed wildlife out of all four countries, with exporters reporting only ~4,000 whole specimens and ~150 kg of specimens from parts and derivatives exported to Tajikistan in the ten-year period. Importers report direct exports of close to 9,000 commodities from whole organisms from Tajikistan between 2012 and 2021, making it the second highest exporter of whole specimens out of the four countries after Uzbekistan.

>20% land is protected
exceeding the world average of ~15%

* The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organisations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

3.3.1 CITES LEGAL TRADE DATA

A rapid overview analysis was carried out ahead of preparing the country profiles which identified the most reported wildlife commodities/specimens in trade by the four study countries. These categories were then used in the analyses of trade dynamics presented in the Tajikistan country profile: imports and exports of whole specimens reported by number. Tajikistan only acceded to CITES in 2015, so was not required to report trade in CITES-listed species prior to this date. Therefore, exporter reported data were used to compile information in this country profile for imports by Tajikistan prior to 2016.

3.3.1.1 LEGAL IMPORTS

Exporters reported 75 different species from ~4,000 commodities (equating to whole specimens) as exported to Tajikistan between 2012 and 2016, most in small numbers; 150 or fewer specimens. Two species accounted for almost 70% of these exports, all reported as live specimens; Golden Birdwing *Troides rhadamantus* (CITES Appendix II: ~1,600 specimens; 39% of all exporter-reported imports into Tajikistan), and moth orchid hybrids *Phalaenopsis* sp. hybrids (CITES Appendix II: ~1,200; 30%). All the Golden Birdwing specimens were reported exported by the Philippines in 2012, with all captive-bred for commercial purposes, and all moth orchid *Phalaenopsis* sp. hybrids were reported exported by the Netherlands, most (23%) in 2015 and declining in number from 2016. Almost all legal exports of moth orchids to Tajikistan from the Netherlands were reported as artificially propagated, although no purpose codes were given.

Since 2016, exporters reported ~1,200 specimens equating to whole organisms exported to Tajikistan, most (88%; ~1,100) artificially propagated plant species from the Netherlands. Other exports included 16 predominantly captive bred mammals exported to Tajikistan mostly for circuses/travelling exhibitions, 64 captive bred/born birds for personal/commercial use, and seven captive bred/wild reptiles for hunting trophies/zoos. Similar to the exports reported by the Netherlands between 2012-2015, the plant species exported in the highest quantities between 2016 and 2021 were moth orchids (~550; 50%) with the remaining exports from 21 different plant species reported exported in quantities of 80 or less between 2016 and 2021. Tajikistan itself reported only one species imported since 2016; 50 live African Grey Parrots *Psittacus erithacus* (CITES Appendix I) imported from South Africa for commercial purposes in 2017 and said to be bred in captivity (source code D).

3.3.1.2 LEGAL EXPORTS

Importers report 30 different species totalling ~9,000 specimens imported from Tajikistan between 2012 and 2021. Five species, all of which are CITES Appendix II-listed and imported by Ghana in 2012 as live specimens for commercial purposes account for close to 90% of these exports. This included Emperor Scorpion *Pandinus imperator* (5,050 specimens; 56% of all importer-reported exports from Tajikistan), Senegal Chameleon *Chamaeleo senegalensis* (850; 9%), Savannah Monitor *Varanus exanthematicus* (750; 8%), Ball Python *Python regius* (560; 6%), and Spur-heeled Chameleon *Chamaeleo gracilis* (500; 6%). Most of these specimens are reported by exporters to be from ranched sources, with only 500 live specimens from the Savannah Monitor reported to be from captive bred sources.

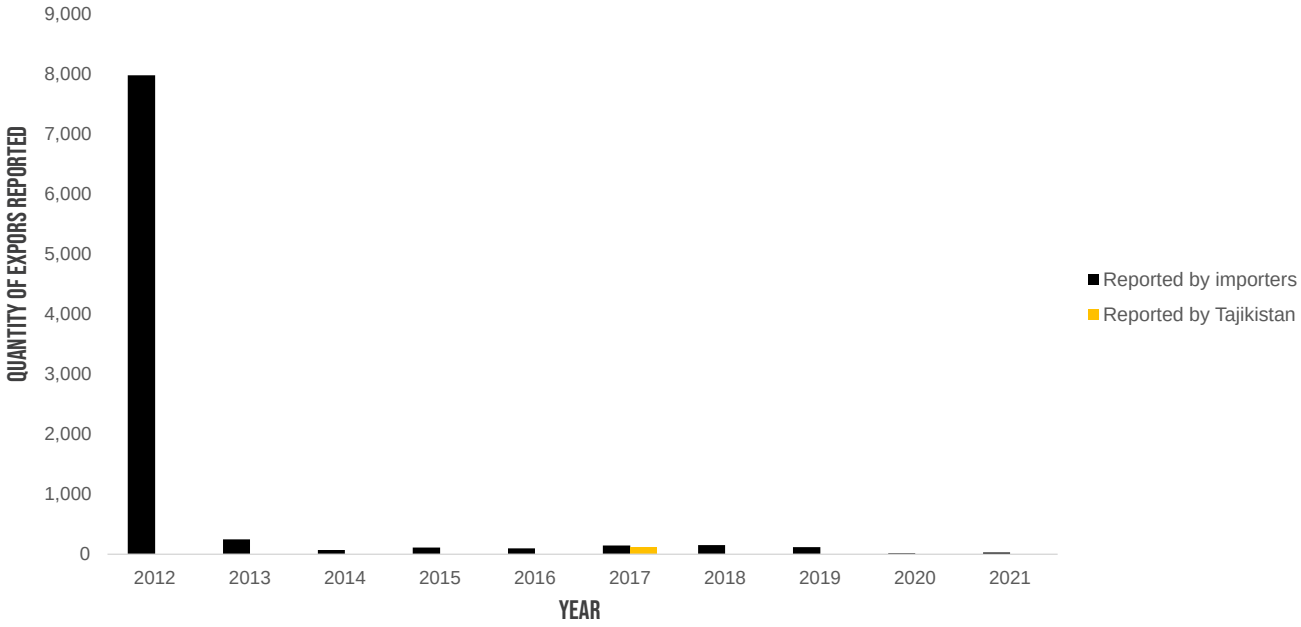
Since 2012, importers have reported only ~1,000 commodities equating to whole specimens imported from Tajikistan (Figure 6). Most (76%) are mammal trophies taken from the wild from mainly Siberian Ibex (~280; 28% of imports since 2012), Argali (~270; 27%) and Marco Polo Argali (~150; 15%), with three quarters of mammal trophies imported by the USA. Tajikistan has reported only 120 exports of commodities of whole specimens since it acceded to CITES in 2016. These records were all reported in 2017 and involved mammal trophies taken from the wild from mostly Siberian Ibex (58) and Argali (55). This is around 450 fewer whole specimens than reported by importers between 2016 and 2021 (Figure 6), with importers reporting almost four times as many trophies from Siberian Ibex (220) and twice as many from Argali (130).

75 species
reported by exporters to Tajikistan from 2012–2016

Golden Birdwing and moth orchids
accounted for 70% of reported exports to Tajikistan

FIGURE 6

Exports of commodities/specimens equating to whole organisms as reported by Tajikistan since 2016 and by importers between 2012 and 2021. Source: CITES legal trade database.



One of the mammal species reported in trade as trophies from Tajikistan, the Marco Polo Argali, has been previously chosen as a potential candidate for inclusion in the RST process because of a sharp increase in exports by Kyrgyzstan and Tajikistan in 2018 in comparison to the average quantity exported between 2013–2017 (UNEP-WCMC, 2020). According to importer records, Tajikistan directly exported 56 Marco Polo Argali trophies in 2018, compared to an average of around nine per year between 2013–2017. Since then, importers reported 33 Marco Polo Sheep trophies were directly exported from Tajikistan in 2019, with smaller numbers in 2020 (7) and 2021 (13), which could be because the main importer since 2018, the USA, has yet to report CITES trade data records for 2020 onwards. Tajikistan has not reported any direct exports of Marco Polo Sheep since it acceded to CITES in 2016, although it has not yet reported annual legal trade reports for 2021.

3.3.2 ILLEGAL WILDLIFE TRADE

3.3.2.1 INFORMATION ON SEIZURES REPORTED BY GOVERNMENT AGENCIES (2012-2022)

Information on seizures in Tajikistan was compiled by Fauna & Flora Tajikistan after contacting various government agencies (see Methodology section). Information was supplied covering the period 2012–2022 and covered seizures on export, or internally in Tajikistan.

Export seizure

The only reported seizure during export from Tajikistan involved 1,211 kg of undeclared Ferula *Ferula* sp. seeds (non CITES-listed) seized by the Ministry of Internal Affairs of Tajikistan during a vehicle inspection. Although the final destination was not known, the shipment was believed to have transited through India and the Russian Federation.

Internal and other seizures

Information was received on a total of 72 seizure records where wildlife commodities/specimens were seized internally or, with the direction of travel as unknown, over the period 2012–2022. These seizures encompassed a total of ~370 specimens (mainly bodies), ~5,000 m^3 of tree trunks, and ~61.2 million kg of specimens from mostly fish carcasses, as well as some meat, roots, and plant resin. A variety

of taxa were seized, with 21 taxa/species in one or two seizure records only, and five species in more than one seizure. Nine seizure records did not identify the species involved and referred only to 'local' fish/tree species. The ten taxa identified to species or genus level and reported most frequently in seizure records are outlined in Table 8.

Seizures made on roads were most frequently reported as the mode of transport for seized wildlife commodities (43 seizure records), followed by rail (7) and air (5) , with the remaining seizure records provided no information. The Forest Enterprise was most frequently reported as the Tajik agency intercepting wildlife commodities (23 out of 72 seizure records), followed by the Ministry of Internal Affairs (20). Most were reportedly detected from third party information (16 out of 72 seizure records), followed by discovery in the field (15), or from inspections (12). Most items were reportedly seized because of poaching incidents (32 out of 72 seizure records). The species most frequently reported in seizure records was the Tundra wolf *Canis lupus*, with 21 seizure records totalling 23 carcasses and two skins. Other species most frequently reported in seizure records were *Eryx* species, including the Tartary Sand Boa *Eryx tataricus* (12 carcasses in nine seizure records) and Snow Leopards (four carcasses in four seizures). All but two seizure records for Tundra wolves and Snow Leopards were linked to revenge attacks because of attacks on farmer's livestock (mostly Argali).

More than 11.8 million kg of undeclared *Ferula* sp. resin was seized by the Ministry of Internal Affairs of Tajikistan, with no further information on the specific species involved. This was the only species reported as an internal seizure record and was also frequently reported as seized on export from Tajikistan. Other large seizure records include over 49 million kg of local fish species that were seized because they had been illegally caught by locals, with ~7.2 million kg caught in the Kairakum reservoir, Sughd region of Tajikistan.

Tundra Wolf

most frequent in poaching seizure records, mostly linked to human-wildlife conflict

TABLE 8

The taxa most frequently reported in seizure records (out of those identified to species/genus level) from seizures occurring in Tajikistan, where the direction of contraband flow was not known, between 2012–2022. Source: FF Tajikistan.

TOP TAXA	COMMODITY TYPE (NO OF SEIZURE RECORDS)	NATIONAL AND INTERNATIONAL PROTECTION		QUANTITY OF COMMODITIES (NUMBER OF SEIZURE RECORDS)	
		NUMBER OF SPECIMENS	KG	NATIONAL PROTECTION	CITES LISTING
Tundra wolf *Canis lupus*	Carcasses (19), skins (2)	25 (21)			I/II
Eryx species/Tartary Sand Boa *Eryx tataricus*	Carcasses (all)	12 (9)			II
Snow Leopard *Panthera uncia*	Carcasses (all)	4 (4)			I
Old World Otter *Lutra lutra*	*Carcasses (all)*	3 (3)			I (with reservations from Russian Federation)
Ferula *Ferula* sp.	*Resin (all)*		> 11.8 million (3)	11 species are included in the National Red Book	Not listed

3.3.2.2 ONLINE RESEARCH

Online research between January and February 2023 of open-source reports of illegal trade incidents identified a total of 13 seizure records involving 34 specimens, plus over 3,000 kg of items reported to involve Tajikistan (Table 9). All were internal seizures except for a seizure from the UAE involving 27 live falcons that had been exported from Tajikistan by air. Where modes of transport for other seizure records were reported they were mainly by road, followed by air.

A total of six species/taxa were reportedly seized during this period, with *Ferula* sp. the most common species reported. This species was also identified most frequently in seizure records from government agencies, with resin reported as the commodity in all seizure records from both sources. Open sources reported seven seizures of *Ferula* sp. resin, totalling close to 3,000 kg. Two species identified in online seizure reports are species identified as imported from Tajikistan in the highest quantities in CITES legal trade data between 2012 and 2021; Argali *Ovis ammon* and Marco Polo Sheep *Ovis ammon polii*.

Ferula resin
the most common commodity reported in seizure records

TABLE 9

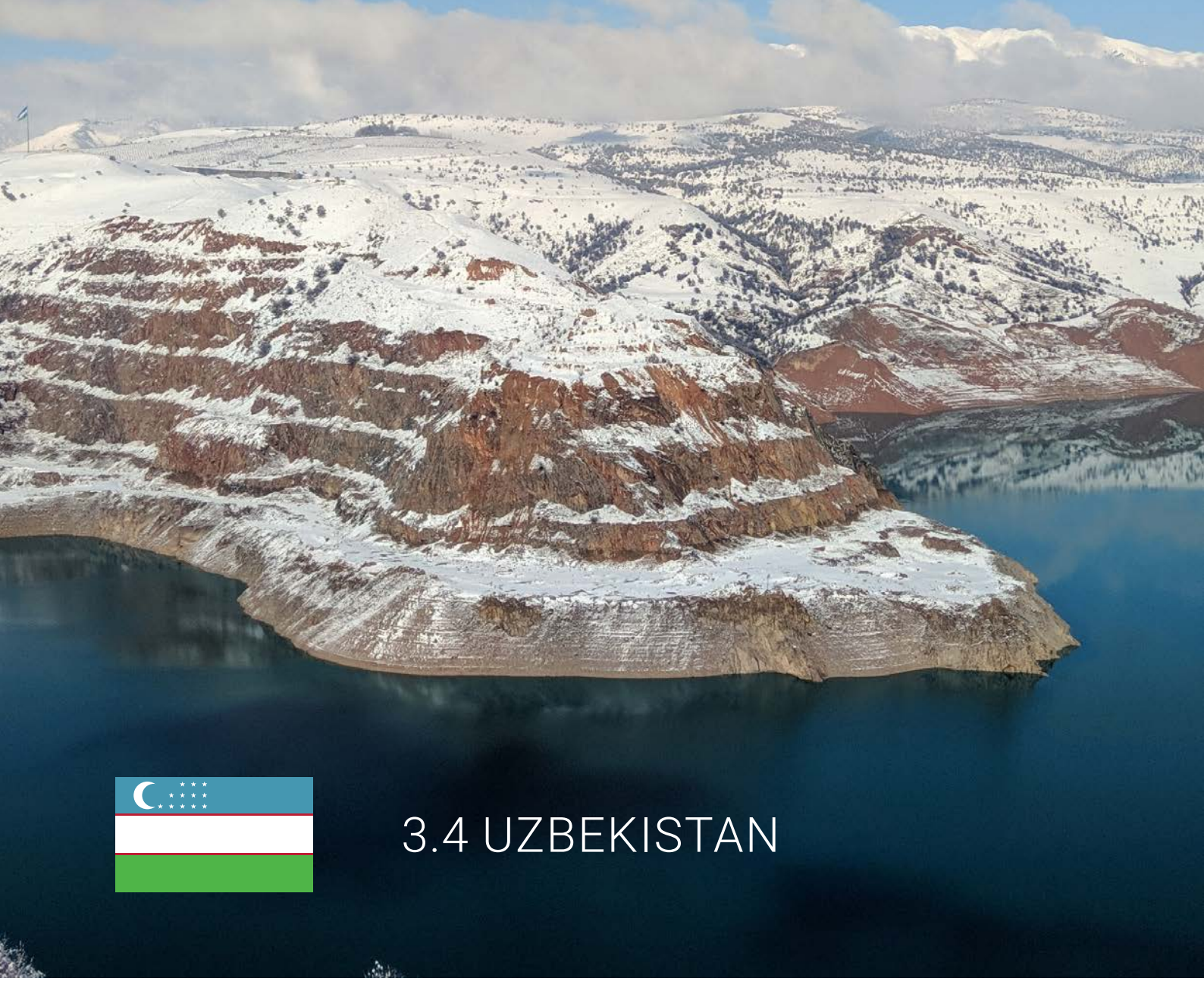
Seizures reported in Tajikistan, identified through online research of open-source reports conducted from January- February 2023. Asterisks indicate one of the top species reported directly exported from Tajikistan in (legal) CITES Trade Data between 2012 and 2021.

SPECIES GROUP	QUANTITY	NUMBER OF SEIZURE RECORDS	MAIN COMMODITY GROUPS	CITES APPENDIX
REPORTED BY NUMBER OF SPECIMENS SEIZED				
Falcon *Falco* sp.	27	1	Live specimens	I/II
Argali *Ovis ammon**	3	1	Carcasses	II
Bear *Ursus* sp.	2	1	Live specimens	I/II
Markhor *Capra falconeri*	*1*	1	Carcasses	I
Marco Polo Sheep *Ovis ammon polii**	*1*	1	Carcasses	II
WEIGHT (KG)				
Ferula sp.	2,965	7	Resin	Not listed
*Argali Ovis ammon**	60	1	Meat	II

Notable seizures included:

- In April 2019, Customs Officers in the UAE seized 27 live falcons at Dubai Airport following inspection of an incoming shipment.
- In May 2018, Police Officers in the Murgab district of the Gorno-Badakhshan Autonomous Region seized 60 kg of Argali meat from an individual who was fined TJS400,000 (USD 36, 600).
- In February 2020, enforcement officers intercepted an individual transporting a Marco Polo Sheep *Ovis ammon polii* carcass through Gorno-Badakhshan Autonomous Province.

In addition to the 13 seizures summarised in Table 9, there was also one report of a Russian citizen being detained at Domodedovo Airport in Russian Federation for smuggling an unknown number of Marco Polo Sheep, Markhor *Capra falconeri*, and Siberian Ibex *Capra sibirica* skins and horns from Tajikistan to Russian Federation.



3.4 UZBEKISTAN

Area	448, 971 km^2
Population	36.4 million
Languages	Uzbek
Capital	Tashkent
CITES Accession	10 July 1997
CITES legislation	Category 2 (legislation generally believed to meet one to three of the four requirements for CITES implementation)
CITES Management Authority	Ministry of Natural Resources of the Republic of Uzbekistan
CITES Scientific Authority	The Institutes of Botany and Zoology under the Academy of Sciences of the Republic of Uzbekistan
CITES Enforcement Authority focal points	Biodiversity Protection Department of the Ministry of Natural Resources of the Republic of Uzbekistan
CITES-listed species	138 CITES-listed species/subspecies
Red Book publication date	Latest fifth edition was released in 2019
Number of Red Data Book species	314 rare and endangered species of plants that need protection. 30 species of mammals (with subspecies – 32), 52 species of birds, 21 species of reptiles, 17 species of fish (with subspecies – 18), three species of annelids, 14 species of molluscs and 66 species of arthropods.

Uzbekistan's mountains, deserts, riparian wetlands and the Aral Sea produce a diversity of habitats. More than four fifths of the country is desert and semi-desert which includes seven types of terrestrial ecosystems as well as wetlands. Mountains occupy nearly 20% of the total land area. Forests cover 7.7% of the land area (Anon., 2011).

The extreme East of Uzbekistan is home to part of the Mountains of Central Asia biodiversity hotspot, with 36 Key Biodiversity Areas in this area. Less than 3.5% of the land area of Uzbekistan is protected (European Commission, 2019). According to the same report, several species distributed in Uzbekistan and reported to be at risk from illegal and unsustainable hunting and trade: Saiga, Siberian Ibex *Capra sibirica*, Snow leopards, Goitered gazelles, Argali, Markhor and Urial. The Steppe Tortoise *Testudo horsfieldii* has also been identified as at risk from both legal, and illegal trade in Uzbekistan (Smith and Porsch, 2015; European Commission, 2019).

Poaching of Snow Leopards has been documented in all designated conservation areas in Uzbekistan, with trade in bones, teeth and claws thought to be used as substitutes for medicinal trade in tiger bones. Uzbekistan was not identified as a range state with the highest levels of Snow Leopard poaching in a 2016 TRAFFIC report on Snow Leopard crime, although it was identified as having amongst the highest frequencies of retaliatory killings (alongside India, Nepal and Pakistan), based on reports from experts surveyed across the 12 range states (Nowell et al., 2016).

Siberian Ibex, Goitered gazelle, Markhor goats and Argali sheep are all targeted for trophy hunting with both Markhor and Argali prized for their long horns, and for domestic subsistence consumption of meat (European Commission, 2019). Saiga and Goitered Gazelles have also more recently targeted for their horns, which are used in Chinese Traditional Medicine, with Saiga horns documented to be worth 40 times that of ivory (European Commission, 2019; Roberts et al. 2021). Although there are no permanent Saiga populations in Uzbekistan, one population in Kazakhstan migrates to Uzbekistan in the winter months (IUCN SSC Antelope Specialist Group, 2018). It has been previously documented that Saiga populations inhabit economically deprived regions in Uzbekistan, with illegal hunting and sale of Saiga horns an important source of income (von Meibom et al., 2010), however a recent study that surveyed online advertisements for Saiga horn in Russian-language websites suggested that given low populations of Saiga in Uzbekistan, any ongoing trade in Saiga was more likely to be from Kazakhstan's populations (Roberts et al., 2021). The study found only one advertisement for Saiga horn offered for sale in Uzbekistan.

Uzbekistan has a strong, centralised government but as per all countries in Central Asia, it can be difficult to govern remote landscapes, which often contain important species and conservation sites (European Commission, 2019). Uzbekistan has been Party to CITES since 1997 and is currently in Category 2 (one being the highest and three the lowest) for their CITES implementing legislation, which means it is generally

<3.5% land protected and several species at risk from illegal and unsustainable hunting and trade

* The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organisations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

believed to meet requirements for CITES implementation, but some gaps remain (CITES, 2023).

CITES legal trade data between 2012 and 2020 show that Uzbekistan reports importing the largest quantity of CITES-listed whole specimens (~1.2 million) out of all four countries. Uzbekistan is also a prominent source country for CITES-listed species, with importers reporting ~750,000 commodities from whole specimens imported from Uzbekistan between 2012 and 2020. Re-exports of CITES-listed species are rarely reported from Uzbekistan, so it does not appear to be a re-exporting country for legal CITES-listed wildlife.

most imports of CITES-listed whole specimens reported by Uzbekistan

3.4.1 CITES LEGAL TRADE DATA

This CITES Legal Trade analysis for Uzbekistan focuses on the prominent trade flows and commodities identified in a rapid overview analysis of all four countries: imports and exports of whole specimens reported by number. Uzbekistan has reported legal trade to CITES for all years between 2012 and 2021.

3.4.1.1 LEGAL IMPORTS

Uzbekistan reported importing more than 1.2 million CITES-listed wildlife specimens of whole organisms between 2012 and 2021, all reported as live specimens. The overwhelming majority (97%) were invertebrates, the remainder mainly birds (2%), mammals and reptiles (less than 1%). The breakdown of exports to Uzbekistan reported by exporters differed, comprising of 67% invertebrates and 29% plants. Similar to findings for Kazakhstan, Kyrgyzstan and Tajikistan, there are no reports of plant imports in the Uzbekistan reports.

According to Uzbekistan, most whole specimens imported (83%) were captive-bred, and the remainder mostly sourced from the wild (17%), with less than 300 specimens from other sources. Most whole specimens (79%) were imported for commercial purposes, with the remainder mostly for captive breeding (19%), for (re)-introduction into the wild (1%) or for personal use (1%). Exporters also reported most (70%) of specimens exported to Uzbekistan are from species bred in captivity, and the remaining are mostly reported artificially propagated (29%) with only 0.2% taken from the wild. They also reported that the majority of specimens (69%) were exported to Uzbekistan for commercial purposes, but none are said to be exported for captive breeding.

A total of 200 different species were reported as specimens/commodities equating to whole specimens by Uzbekistan with three species accounting for over 98% of all such imports; Medicinal Leech *Hirudo medicinalis* (CITES Appendix II: 79%, ~960,000 live specimens), Southern Medicinal Leech *Hirudo verbena* (CITES Appendix II: 18%, 213,000 live specimens) and MacQueen's Bustard *Chlamydotis macqueeni* (CITES Appendix I: 1%, ~15,000 live specimens). Very few imports of these three species were reported by Uzbekistan prior to 2017 (Figure 7).

Medicinal Leech imports have increased annually

Since 2019, imports of the Medicinal Leech have increased annually, from 55,000 live specimens in 2019 to 575,000 in 2021 (i.e., increased by ~945%). The main purpose for these imports has also changed: prior to 2019, all were imported for captive breeding, but by 2020, half were reported as for captive breeding and half for commercial purposes, and by 2021, all were imported for commercial purposes. Uzbekistan reports almost all (97%) Medicinal Leeches are imported from Azerbaijan. According to CITES import trade data between 2012–2021 Uzbekistan was the top importer of Medicinal Leeches globally, with 26% of all imports, although exporter reported data places the USA as the top importer (17% of all reported exports) with Uzbekistan fourth (8%).

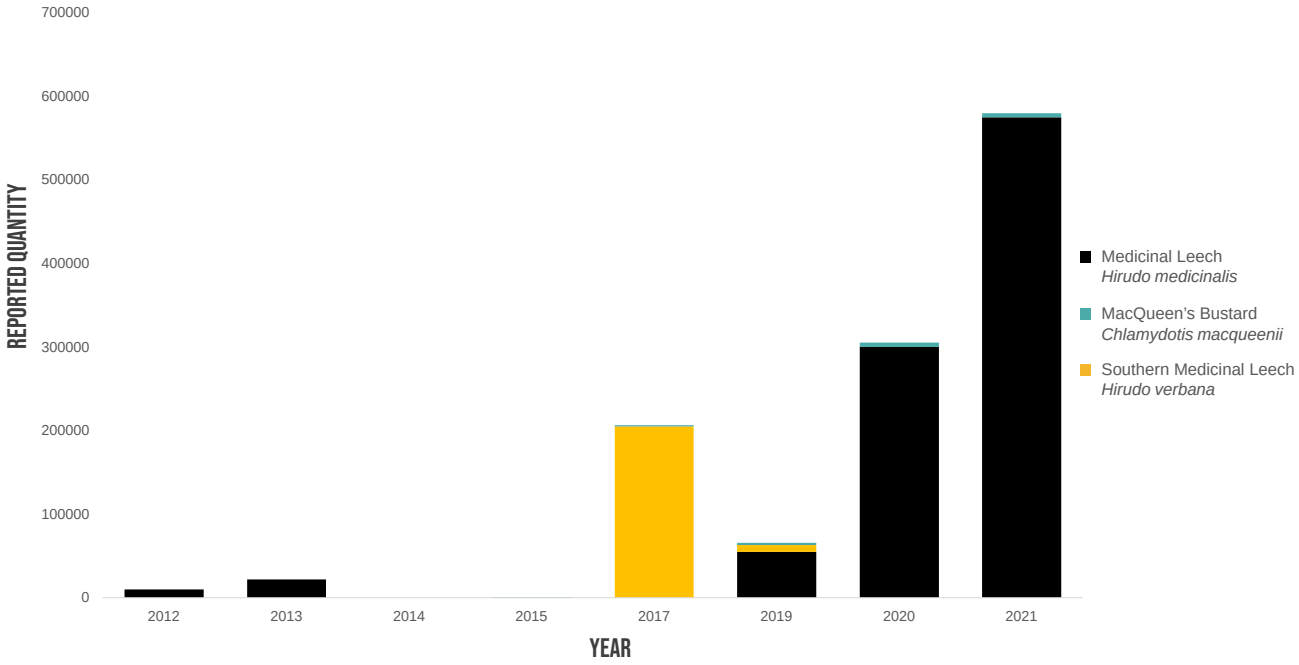
According to Uzbekistan data, in 2017 almost all live Southern Medicinal Leech specimens (~200,000) were exported directly from Turkey. Turkey has had export quotas for live specimens of this species since 2011, with quotas for 2,000 kg in place most years, and most recently 1,500 kg in 2022. Turkey

reported no direct exports of this species to Uzbekistan between 2012 and 2021 but has reported trade data to CITES for these years. The Southern Medicinal Leech has not been reported imported by Uzbekistan since 2019 when 8,000 captive-bred live specimens were imported from the Russian Federation.

The MacQueen's Bustard was first reported as imported by Uzbekistan in 2015 (500 live specimens) but numbers increased between 2019 and 2021, with an average of around 4,400 live specimens a year. This species is listed in CITES Appendix I, which prohibits exports of wild-sourced specimens for commercial purposes. Uzbekistan reported that all the live MacQueen's Bustard were imported for introduction/re-introduction into the wild until 2021, when Uzbekistan reported all the live specimens (~4,800) were imported for personal use. Uzbekistan reports the majority (68%) were imported from UAE with 8% from Kazakhstan and the remaining exporter unknown.

FIGURE 7

Numbers of specimens of the top three species equating to whole specimens reported by Uzbekistan 2012–2021. Source: CITES Trade Database.



Exporters reported similar trends for two of the top three species. However, rather than the Southern Medicinal Leech as the third most traded species, they report it is moth orchid hybrids *Phalaenopsis* sp. (CITES Appendix II: ~180,000 live specimens, 29% of reported exports to Uzbekistan). Almost all live moth orchid hybrids are exported directly from the Netherlands, with exports taking place annually from 2014–2021. Numbers averaged around 4,000 specimens from 2014–2017 but from 2018 began almost to double in quantity each year, with a high of nearly 90,000 in 2021. Netherlands reports all live specimens to be from artificially propagated sources, with no purpose for export reported. Notably, Uzbekistan does not report any imports of moth orchid hybrids between 2012 and 2021.

3.4.1.2 LEGAL EXPORTS

Importers reported direct imports of around 738,000 commodities/specimens equating to whole specimens from Uzbekistan between 2012 and 2021, with almost all reported as live specimens exported for commercial purposes (>99.5% of all exports). According to importers 95% are reptiles, with the remainder almost all birds (5%) and only 32 mammals. No other taxonomic classes are reported in exports. Uzbekistan reports similar proportions of these taxa in direct exports, but also reports some fish and invertebrate species (<1% each).

live reptiles
Uzbekistan's top reported export

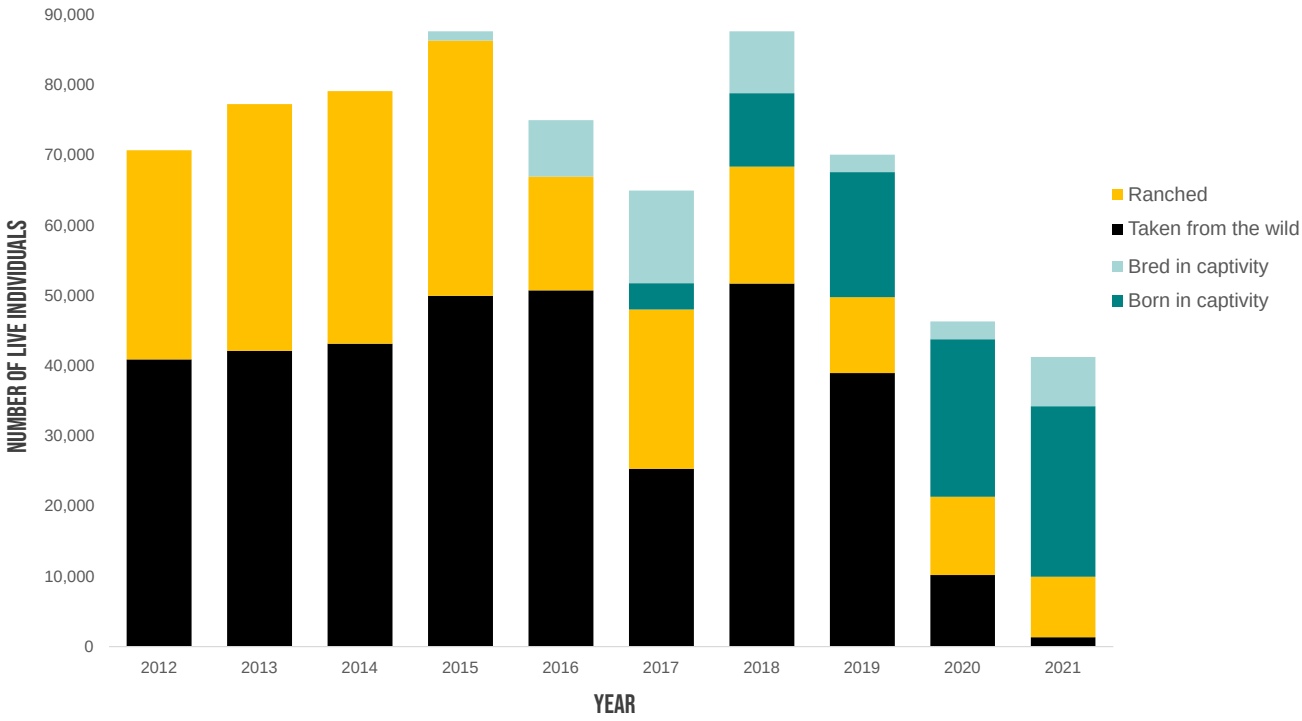
According to importers, most direct imports of ~738,000 live specimens from Uzbekistan (48%) are of specimens taken from the wild, with the remainder predominantly ranched (30%), born in captivity (11%), or bred in captivity (11%) and less than 2,000 specimens from other sources.

Importers report a total of 53 species directly exported from Uzbekistan. Most are in small quantities but one species accounts for 95% of all direct imports of commodities reported as whole specimens from Uzbekistan; the Steppe Tortoise *Testudo horsfieldii* (CITES Appendix II), all imported as live specimens. Uzbekistan was the primary exporter of the Steppe Tortoise globally between 2012–2021, with 97% of direct exports as reported by both exporters and importers. Importers report a decline in exports of live Steppe Tortoises from Uzbekistan since 2020 (Figure 8). However, this is likely owing to the USA, a major importer, not having reported CITES imports since 2019, with Uzbekistan reporting exports in consistent with previous years in 2020 and 2021. Prior to 2020, importers reported a yearly average of around 77,000 live Steppe Tortoises specimens directly imported from Uzbekistan.

Steppe Tortoise
accounts for 95% of reported whole specimen imports from Uzbekistan

FIGURE 8

Numbers and sources of live Steppe Tortoises Testudo horsfieldii *reported by importers from direct exports by Uzbekistan between 2012–2021. Source: CITES legal trade database.*



The top five importers of live Steppe Tortoises directly exported from Uzbekistan are USA (30%), Italy (23%), Germany (14%), UK (12%) and France (5%) (Figure 9), with much smaller quantities imported by countries in Asia. All five top importers reported consistent quantities of Steppe Tortoise imported from Uzbekistan between 2012–2021. From 2012–2015, importers of live Steppe Tortoises from Uzbekistan reported the animals as almost entirely sourced from the wild (~56%) or ranched (~43%) with less than 1% from captive-bred and other sources (Figure 8). From 2015 onwards, this changed as the proportion of live Steppe Tortoises reported from captive-bred or captive-born sources increased; from 6% in 2017 to 59% in 2021. Relatively low numbers are reported as sourced from the wild in recent years: 22% in 2020 and 3% in 2021 (3%).

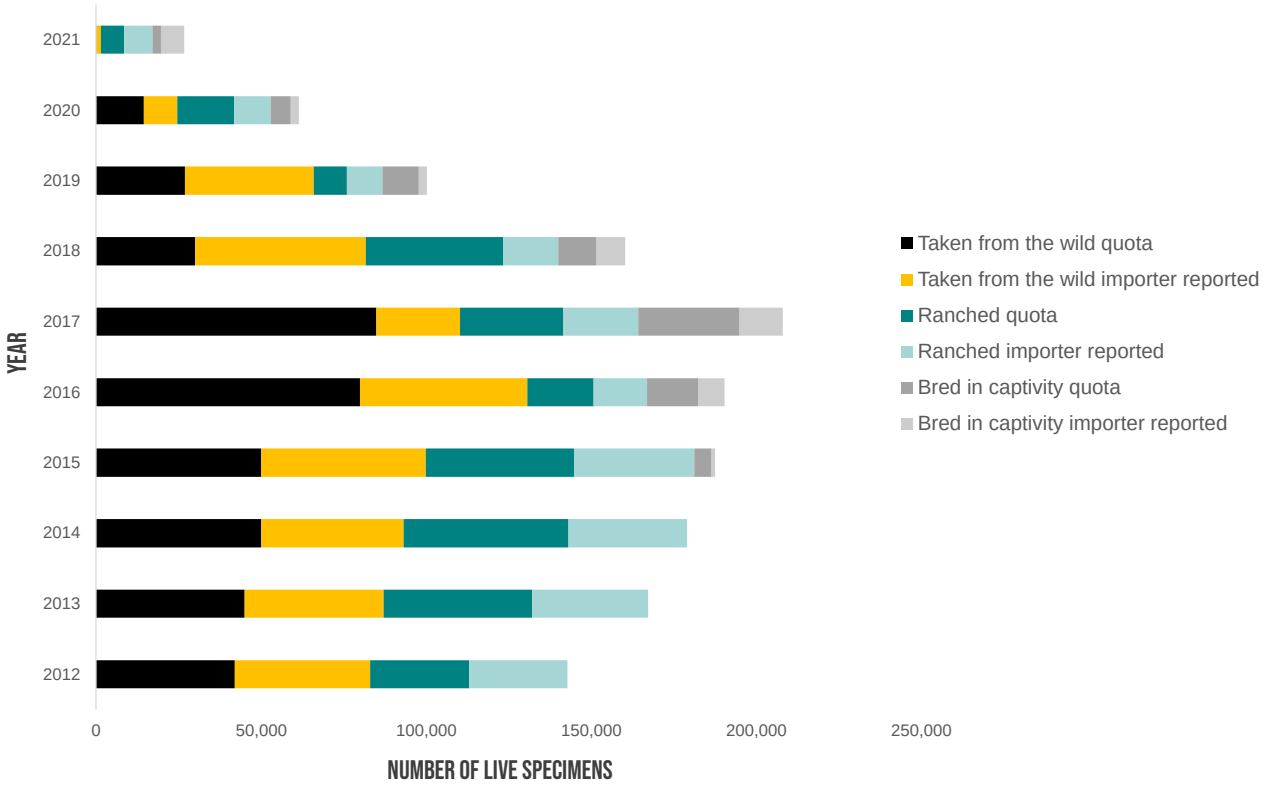
FIGURE 9

Top five importers of live Steppe Tortoises Testudo horsfieldii *directly exported by Uzbekistan 2012–2021, as reported by importers. Source: CITES legal trade database.*

Uzbekistan has had varying quotas in place for live Steppe Tortoise exports since 1998, however importer reported data show that Uzbekistan exceeded these quotas between 2018–2021 (Figure 10). For live specimens in 2018 (by ~22,000 individuals) and in 2021 (by ~1,200), for live ranched specimens in 2019 (by ~800 individuals) and in 2021 (by ~1,500) and for captive-bred specimens in 2021 (by ~4,500 individuals). Uzbekistan also reports exceeding export quotas for these years and commodity types, and additionally reports exceeding export quotas for wild sourced live specimens in 2014, 2017 and 2020, and for ranched live specimens in 2012, 2014, and 2017. Since 2020, Uzbekistan has also had quotas for live specimens born in captivity. Importers have not reported Uzbekistan exceeding these quotas, but Uzbekistan has reported exceeding quotas in both 2020 and 2021, by an average of around 13,500 live captive-born specimens a year.

FIGURE 10

A comparison of Uzbekistan annual export quotas for live Steppe Tortoises Testudo horsfieldii *from wild, ranched and captive bred sources, and the number of tortoises from these sources reported by importers between 2012 and 2021. Source: CITES Trade Database.*



In 2018, the EU held a negative opinion on the trade of wild Steppe Tortoises with a straight carapace length greater than 12 cm, but a positive opinion for individuals with a straight carapace length smaller than 12 cm or for those born in captivity or ranched. Although the EU has not published any further decisions on imports of Steppe Tortoises from Uzbekistan since 2018, the EU Scientific Review Group was actively reviewing the situation in 2022 (UNEP-WCMC, 2023).

In 2008 the Steppe Tortoise was selected for the RST. Of the seven exporting countries, Uzbekistan and Tajikistan were given the provisional category of "possible concern" in a report prepared by UNEP-WCMC (2010). Their report referenced legal and illegal trade contributing to declines, although at this time the species was not thought to be rare in Uzbekistan. The Steppe Tortoise was included in the Red Data Book of Uzbekistan in 2019. The report noted export quotas possibly being exceeded by Uzbekistan between 1999 and 2008 and the lack of scientific evidence for the non-detriment findings underpinning the high quota levels. In 2014, at the 27th CITES Animals Committee meeting it was stated that Uzbekistan had complied with the recommendations of the RST findings (AC27 Doc. 12.3). Nevertheless, following an extended analysis, UNEP-WCMC selected the Steppe Tortoise for potential inclusion in a future RST process following CoP18 (UNEP-WCMC, 2020).

Two further species directly exported by Uzbekistan were selected by UNEP-WCMC for possible inclusion in the RST process following CoP18 due to the lack of source code specified in Uzbekistan's export reports (UNEP-WCMC, 2020) but these were not kept in the RST process. These include two parrot species, and neither are native to Uzbekistan: Fischer's Lovebird *Agapornis fischeri* and Malherbe's Parakeet *Cyanoramphus malherbi* (both CITES Appendix II). According to importer reported data, from 2012–2022 Fischer's Lovebird was the second highest directly exported species from Uzbekistan (2% of all reported imports; 14,190 live specimens) after the Steppe

Tortoise. All were imported by Turkey between 2015 and 2021, which reported average annual imports of ~3,200 live Fischer's Lovebirds from Uzbekistan between 2015 and 2018, none in 2019, and a decline to an average of ~600 a year in 2020 and 2021. All were reported to be live specimens and from captive-bred sources. Fischer's Lovebird is endemic to Tanzania and introduced and extant in Burundi, Rwanda, and Kenya (BirdLife International, 2021b). Tanzania had a zero-export quota for this species in 2019, and a suspension of exports between 2013–2019 (UNEP-WCMC, 2020).

Similar to the Fischer's Lovebird, Turkey reported all the direct imports of live Malherbe's Parakeets from Uzbekistan between 2012–2022 (0.4% of all direct exports; 2,975 live specimens) making it the fifth most exported species from Uzbekistan. All the records fell between 2016 and 2021 and all were reported as from captive-bred sources. Malherbe's Parakeet was assessed as Critically Endangered in 2018 and is endemic to New Zealand (BirdLife International, 2018).

3.4.2 ILLEGAL WILDLIFE TRADE

3.4.2.1 INFORMATION ON SEIZURES REPORTED BY GOVERNMENT AGENCIES (2012-2022)

Information on seizures in Uzbekistan was compiled by the Institute of Zoology of the National Academy of Sciences of the Republic of Uzbekistan and the Ecological Resource Center "EKOMAKTAB" following requests to various government agencies (see Methodology section for more details). Information was received on seizures relating to commodities/specimens seized on import, export, internally and when the direction of trade was not known, which are summarised in Table 10.

Exports

Information was received on a total of 69 seizure records where wildlife commodities were seized on export from Uzbekistan over the period 2012–2022 encompassing a total of ~19,000 wildlife commodities. A variety of taxa were seized, with 19 taxa/species in one seizure record only, and eleven species in more than one seizure record (range 2-10). One species identified as most frequently reported in seizure records, the Steppe Tortoise, was also identified as the most exported species in (legal) CITES-listed trade for Uzbekistan and was additionally amongst the most frequently seized species in internal seizure records (Table 10). Another species, the Saker Falcon, was identified as a most frequently seized species in seizure records upon both import to and export from Uzbekistan.

The main destination for contraband was reported to be the Russian Federation (41 out of 69 seizure records), but some commodities were reported to be destined for Kazakhstan (4), Mainland China (1), Tajikistan (1), or unknown/unconfirmed destinations (22). Kazakhstan was also identified as a transit location in 10 seizure records intended for the Russian Federation, and six with unknown final destinations. Wildlife commodities were detected owing to a range of enforcement measures including targeted cargo and luggage inspections, baggage scanning or third-party tip offs. Most seizure records involved undeclared items (32) with only two seizure records reporting a lack of the appropriate CITES permits. Air was most frequently reported as the mode of transport (31 out of 69 seizure records), followed by road (19) with wildlife commodities in four seizure records reported to be transported by rail and the remaining involving unknown transport modes. A wide range of commodities/ specimens was involved from all species including live and dead specimens, specimens preserved in alcohol or vials, skins, horns, tails, tail tips and faeces in vials, and shrimp cysts.

Russian Federation
the main destination for contraband exported

TABLE 10

The taxa most frequently reported in seizure records seized in import into and export from Uzbekistan, and where the direction of contraband flow was not known, between 2012–2022 . Source: Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan and Ecomaktab. Bold indicates a species that was identified as most frequently reported seized in Uzbekistan in both import and export, or import and internal, seizure records from government agencies between 2012 and 2021, and a star a species that was amongst the top legally traded species in Uzbekistan from CITES Trade Data between 2012 and 2021.

TRADE FLOW	TOP TAXA	CITES LISTING	QUANTITY OF COMMODITIES (NO. SEIZURE RECORDS)	COMMODITY TYPE (NO. SEIZURE RECORDS)	EXPORT FROM (NO. SEIZURE RECORDS)	INTENDED FINAL DESTINATION (NO. SEIZURE RECORDS)	MODE OF TRANSPORT TO FINAL DESTINATION (NO. SEIZURE RECORDS)	TRANSIT (NO. SEIZURE RECORDS)
Export	**Steppe Tortoise *Testudo horsfieldii****	II	9,202 (10)	Live specimens (all)	Uzbekistan (all)	Russia (7), unknown (3)	Road (7), rail (2), unknown (3)	Kazakhstan (all)
	Muskrat *Ondatra zibethicus*	Not listed	8,305 (9)	Skins (7), tail (1), eppndorfs with excrement (1)	Uzbekistan (all)	Russia (3), Kazakhstan (2), unknown (4)	Road (5) air (3), unknown (1)	Kazakhstan (1)
	Steppe Saiga *Saiga tatarica*	II (zero export quota for wild specimens)	882 (7)	Horns (6), skins (1)	Uzbekistan (3), remaining unknown	Russia (2), remaining unknown	Air (2), road (1), rail (1), unknown (3)	Kazakhstan (2)
	Sunwatcher *Phrynocephalus helioscopus*	Not listed	17 (3)	Live specimens (1), animal in alcohol (1), eppendorfs with tissue samples (1)	Uzbekistan (all)	Russia (all)	Air (all)	
	Saker Falcon *Falco cherrug*	II	15 (3)	Live specimens (2), carcass (1)	Uzbekistan	Kazakhstan (1), unknown (2)	Road (2), unknown (1)	
	Rose-shouldered Toad Agama *Phrynocephalus interscapularis*	Not listed	7 (3)	Animal in alcohol (1), eppendorfs with tissue samples (1), eppendorf with animal (1)	Uzbekistan (all)	Russia (all)	Air (all)	
	Central Asian Racerunner *Eremias velox*	Not listed	4 (3)	Live specimens (1), animal in alcohol (1), eppendorfs with tissue samples (1)	Uzbekistan (all)	Russia (all)	Air (all)	
	Sand Racerunner *Eremias scripta*	Not listed	3 (3)	Animals in alcohol (2), eppendorfs with tissue samples (1)	Uzbekistan (all)	Russia (all)	Air (all)	
	Bogdanov's Thin-toed Gecko *Tenuidactylus bogdanovi*	Not listed	7 (2)	Live specimens (1), animal in alcohol (1)	Uzbekistan (all)	Russia (all)	Air (all)	
	Caspian Bent-toed Gecko *Tenuidactylus caspius*	Not listed	4 (2)	Animal in alcohol (1), live specimens (1)	Uzbekistan (all)	Russia (all)	Air (all)	
Import	Elk *Cervus elaphus*	I/II/III (various subspecies only, see footnote)	18 (7)	Live specimens (3), horns (3), stuffed animal (1)	Kazakhstan (4), unknown (3)	Uzbekistan (5), unknown (2)	Railway (4), road (1), unknown (1)	

TRADE FLOW	TOP TAXA	CITES LISTING	QUANTITY OF COMMODITIES (NO. SEIZURE RECORDS)	COMMODITY TYPE (NO. SEIZURE RECORDS)	EXPORT FROM (NO. SEIZURE RECORDS)	INTENDED FINAL DESTINATION (NO. SEIZURE RECORDS)	MODE OF TRANSPORT TO FINAL DESTINATION (NO. SEIZURE RECORDS)	TRANSIT (NO. SEIZURE RECORDS)
Import	**Saker Falcon *Falco cherrug***	II	42 (5)	Live specimens (all)	Saudi Arabia (2), Kazakhstan (1), Qatar (1), unknown (1)	Uzbekistan (4), unknown (1)	Air (3), road (1), unknown (1)	UAE (1), Azerbaijan (1)
	Peregrine Falcon *Falco peregrinus*	I (with reservations from Saudi Arabia and Palau)	8 (3)	Live specimens (all)	Kazakhstan (1), Saudi Arabia (1), Qatar (1)	Uzbekistan (all)	Air (2), road (1)	UAE (1), Azerbaijan (1)
	Eastern Goldfinch *Carduelis caniceps*	Not listed	155 (2)	Live specimens (all)	Kazakhstan (all)	Uzbekistan (all)	Road (all)	
	Nile Crocodile *Crocodylus niloticus*	I/II	58 (2)	Live specimens (all)	Egypt (all)	Uzbekistan (all)	Air (all)	
	African Gray Parrot *Psittacus erithacus*	I (with reservations from DRC, Saudi Arabia and UAE)	42 (2)	Live specimens (all)	UAE (all)	Uzbekistan (1), unknown (1)	Air (all)	Russian Federation (1)
	Common Chameleon *Chamaeleo chamaeleon*	Not listed	30 (2)	Live specimens (all)	Egypt (all)	Uzbekistan (all)	Air (all)	
	Indian Python *Python molorus*	I	18 (2)	Live specimens (all)	Egypt (all)	Uzbekistan (all)	Air (all)	
	Common Iguana *Iguana iguana*	II	13 (2)	Live specimens (all)	Egypt (all)	Uzbekistan (all)	Air (all)	
	Blue-and-yellow Macaw *Ara ararauna*	II	2 (2)	Live specimens (all)	Spain (1), USA (1)	Uzbekistan (all)	Air (all)	Turkey (1)
	Goitered Gazelle *Gazella subgutturosa*	Not listed	2 (2)	Horns (all)	Uzbekistan (1), unknown (1)	Kazakhstan (1), unknown (1)	Rail (1), unknown (1)	
Unknown	**Steppe Tortoise *Testudo horsfieldii****	II	6,407 (7)	Live specimens (all)			Road (all)	
	Lion *Panthera leo*	I/II	6 (4)	Live specimens (all)			Road (2), unknown (2)	
	Golden Eagle *Aquila chryaetos*	II	3 (3)	Live specimens (all)			Road (all)	
	Goldfinch *Carduelis caniceps* and *Carduelis carduelis*	Not listed *(Carduelis caniceps)*, III *(Carduelis carduelis)*	143 (3)	Live specimens (all)			Road (2), rail (1)	
	Common Buzzard *Buteo buteo*	II	4 (3)	Live specimens (all)			Road (all)	
	White Stork *Ciconia ciconia*	Not listed	3 (3)	Live specimens (all)			Road (all)	
	Steppe Wolf *Canis lupus campestris*	I/II	2 (2)	Live specimens (all)			Road (all)	
	Suckermouth Catfish *Hypostomus plecostomus*	Not listed	616 (1)	Live specimens			Air (all)	
	Lebetine Viper *Macrovipera lebetinus*	Not listed	560 (1)	Dried specimens			Unknown (all)	

The species most frequently reported in seizure records was the Steppe Tortoise (10 seizure records totalling ~9,200 live specimens) (Table 10). The intended destination in most (seven out of 10 seizure records with over 6,000 live Steppe Tortoises) was the Russian Federation, with roads the most frequently reported mode of transport to the Russian Federation (six seizure records) followed by rail (1). The destination of the remaining three seizure records of live Steppe Tortoise specimens were unknown but all ten seizure records identified Kazakhstan as a transit country for Steppe Tortoises upon export from Uzbekistan.

The other species most frequently reported in seizure records was Muskrat *Ondatra zibethicus* (nine seizure records totalling ~8,300 skins, one tail, one skin part and one eppendorf with excrement). Skins were the commodity types reported most frequently (six out of nine seizure records). The largest seizure of 4,500 skins was to an unknown destination but the second and third largest seizures were both reported destined for Kazakhstan (two seizure records totalling ~2,700 skins). Road was the transport mode used in all but one seizure record of Muskrat skin. There was also a seizure record of a vial containing Muskrat faeces, and one each of skin parts and a tail, all destined for Russian Federation by air.

The seizure records also included many Steppe Saiga *Saiga tatarica* commodities: over 700 horns in six seizure records, and 170 skins in one seizure record. The origin/destination countries and modes of transport for many of these products were not known, although at least 151 Steppe Saiga horns in two seizure records were destined for Russia via railway/road, with Kazakhstan as a transit country in both instances. An additional 21 horns were also seized upon export with mode of transport air, although the final destination was unknown. The Steppe Saiga is listed on CITES Appendix II and has had zero export quota for wild specimens exported for commercial use since 2019, with no (legal) exports from Uzbekistan reported in CITES Trade Data between 2012 and 2021.

Most other species seized on export from Uzbekistan were reported in three or less seizure records with quantities of 20 or less specimens. The only exception was over 470 live parrots in one seizure record, all reported destined for Russian Federation via air.

Muskrat
the second most reported species in export seizure records

Muskrat Ondatra zibethicus

Imports

Information was received on a total of 116 seizure records where wildlife commodities/specimens were seized on import to Uzbekistan over the period 2012–2022, encompassing a total of ~3,200 specimens of the following commodities: 2,000 larvae, ~900 live specimens, 25 horns, 300 carnivore teeth, seven stuffed deer, and unknown quantities of various insects/invertebrates. A large variety of taxa were seized, with 90 taxa/species in one seizure record only, and twelve species in more than one (range 2-7). For 44 taxa reported in one seizure record only (mainly insects) the quantities were not recorded, which may be because insects are difficult to count accurately. The ten taxa/species reported most frequently in seizure records are outlined in Table 11.

The main exporting countries reported for seized wildlife commodities from insects were Philippines and Malaysia, and Belgium and Russian Federation (each country pair with 20 out of 116 seizure records). The order in the trade route and transport mode for each of these pairings was not recorded. Other notable exporting countries for seized commodities were Egypt (18 seizure records for commodities transported by air), Kazakhstan (six by rail and five by road), and Malaysia (nine by air). Only eight seizure records reported transit countries. Air was most frequently reported as a mode of transport for seized wildlife commodities (45 seizure records), followed by road (eight) and rail (seven), with the remaining seizure records stating no mode of transport. Wildlife commodities/specimens were detected owing mainly to third-party tip offs (60 seizure records out of 90 reporting a detection method) or inspections (26). Most seizure records involved no CITES permits (27 out of 56 seizure records reporting a reason).

The species most frequently reported in seizure records was the Elk *Cervus elaphus* (seven seizure records totalling seven live specimens, four horns and one stuffed deer). Live specimens and horns were both the most frequently reported commodity types seized (three seizure records each). The intended destination in most (four out of seven seizure records) was reported as Kazakhstan, with Uzbekistan a transit country. These wildlife commodities were being transported by rail. The destination of the remaining three seizure records of Elk specimens were unknown.

The other species most frequently reported in seizure records were both falcons: Saker Falcon (five seizure records totalling 42 live specimens) and Peregrine Falcon *Falco peregrinus* (3 seizure records involving eight live specimens). The largest seizure record of 32 live Saker Falcons was from an unknown exporting country. The remaining were reported to be imported from Kazakhstan by road (one seizure record of six live specimens), Saudi Arabia by air (two; three live specimens) and Qatar by air (one; one live specimen) via air. The UAE was a transit country for one live specimen seized on import from Saudi Arabia, and Azerbaijan for a live specimen from Qatar. The trade routes reported for the three Peregrine Falcon seizure records were identical to those for the Saker Falcon, which indicate the species were likely seized together in the same instance. The Saker Falcon was the only taxa most frequently reported in seizure records on import to Uzbekistan that was also most frequently reported seizure records for wildlife commodities seized on export (Table 10).

Most other species seized on import into Uzbekistan were reported in three or less seizure records with quantities of 10 or less specimens. Some notable exceptions were:

- A seizure record reporting 2,000 larvae from Medicinal Leeches smuggled from Kyrgyzstan to Uzbekistan via road.
- A seizure record reporting 302 Steppe Saiga horns seized from Kazakhstan via rail, suspected to be en route to Mainland China.
- A seizure record reporting 14 live specimens of the Long-Tailed Macaque *Macaca fascicularis* seized from Malaysia via air, with no CITES permits (this species is listed on CITES Appendix II). The Long-Tailed Macaque was also reported in one seizure record of six live specimens exported from Uzbekistan, with transit country Kazakhstan and final destination not known. This species was recently excepted as an exceptional case for the Review of Significant Trade at AC32 due to concerns over high trade volumes, the

air travel

the most frequent mode of transport for items seized on import

recent reclassification of the species as Endangered in 2022, and indications of laundering of wild caught specimens into captive breeding facilities[13].

- A seizure record reporting 100 live specimens of the Rose-ringed Parrakeet *Psittacula krameri* imported from UAE via Russian Federation by air, with the reason given as no CITES permit, despite this species not having been listed on CITES since 2007 (UNEP, 2023). No CITES permit was also given as a cause for two other seizure records for bird species not listed on CITES: 2 live specimens of Southern Cassowary *Casuarius casuarius*, and 8 live specimens of Oriental Magpie-robin *Copsychus saularis*. This could be a reporting error of the cause of seizure but may also reflect incorrect application of CITES regulations by customs.

Internal and other seizures (contraband flow not known)

Information was received on a total of 60 seizure records where wildlife commodities were seized internally or, with direction of travel not known, over the period 2012–2022 encompassing a total of ~7,800 specimens of the following commodities: ~7,300 live specimens, 560 dried specimens, three horns and two skins. Live specimens were the most frequently reported specimens in seizure records (51 out of 60 seizure records), as well as being those seized in the highest quantities. A variety of taxa were seized, with 32 taxa/species in one seizure record only, and eight species in more than one (range 2-7). The ten taxa/species reported most frequently in seizure records are outlined in Table 11. Road was most frequently reported as a mode of transport for seized wildlife commodities (43 seizure records), followed by rail (seven) and air (five) , with the remaining seizure records not stating a transport mode.

The species most frequently reported in seizure records was the Steppe Tortoise, with seven seizure records totalling ~6,400 live specimens, all transported by road. The Steppe Tortoise was also one of the species reported seized most frequently on export from Uzbekistan (over 9,200 live specimens in 10 seizure records). As mentioned previously, the Steppe Tortoise were also the top species in (legal) exports from Uzbekistan in CITES Trade Data between 2012 and 2021. The other species most frequently reported in seizure records were Lions *Panthera leo* (six live specimens in four seizure records). Four of the ten most frequently seized species were birds (Table 10), with the most notable seizure amongst these for 143 live specimens of Goldfinches (*Carduelis caniceps* and *Carduelis carduelis*) in three seizure records. Other species seized internally in Uzbekistan and not reported in Table 10 were reported in one seizure record, with quantities of 25 or less specimens.

3.4.2.2 ONLINE RESEARCH FOR REPORTS OF ILLEGAL TRADE

Online research between January and February 2023 of open-source reports of illegal trade incidents identified a total of 42 seizure reports involving ~2,600 specimens, the earliest in 2017 with most in 2020 and beyond. Of the 42 seizure reports, most (24) were internal seizures, followed by seizures on import (10) or on export (8). A total of 26 different species was reported seized with ~1,800 live specimens (69%), ~470 carcasses (18%), ~170 skins (6%) and the remainder involving tails, horns, and carcasses.

Four species identified in more than one seizure in open-source reports were also identified as the most frequently reported species in seizure records from government agencies for wildlife specimens seized on export from Uzbekistan (the Steppe Tortoise, Saiga, and Saker Falcon), import into Uzbekistan (also the Saker Falcon, and the Goitered Gazelle), and internally (the Steppe Tortoise). The Steppe Tortoise was also the species identified as exported from Uzbekistan in the highest quantities in (legal) CITES Trade Data between 2012 and 2021.

The most frequently seized species from open-source reports was the Steppe Tortoise, totalling ~1,600 live specimens in 4 seizures, followed by Steppe Saiga horns, skins and bodies (~720 specimens in 4 seizures) and various reptiles, deer, birds and Brown Bear *Ursus arctos* (Table 11). All were internal seizures with no further information on trade routes available.

The main exporting countries for specimens seized in Uzbekistan during import were reported to be Egypt (83 specimens, mainly crocodiles and chameleons exported by air) and the Russian Federation (27, a combination of lizards by air, and Brown Bear *Ursus arctos* by road) with smaller numbers from Kazakhstan (nine falcons), Kyrgyzstan (five Elk) and UAE (two Saker Falcons). These countries (aside from the Russian Federation) are similar to exporting countries identified in government agency supplied seizure records for wildlife commodities seized on import to Uzbekistan, with Egypt in particular identified as an exporting country in 20 seizure records for various reptile species by the same transport mode of air (Table 10).

Egypt
the main exporting country for specimens seized in Uzbekistan

TABLE 11

Seizures reported between 2017 and 2021 in Uzbekistan, identified through online research conducted from January- February 2023. Bold indicates a species that was identified as most frequently reported seized in Uzbekistan in seizure records from government agencies between 2012 and 2021, and a star a species that was amongst the top legally traded species in Uzbekistan from CITES Trade Data between 2012 and 2021.

SPECIES GROUP	TOTAL NO. SPECIMENS	NUMBER OF SEIZURE RECORDS	MAIN COMMODITY TYPES	CITES STATUS
Steppe Tortoise *Testudo horsfieldii* *	1,561	4	Live specimens	II
Saiga *Saiga tatarica*	724	4	Horns, skins, bodies	II
Crocodile Crocodylidae	111	3	Live specimens	I/II
Saker Falcon *Falco cherrug*	17	3	Live specimens	II
Reptiles Reptilia	35	1	Live specimens	Various species in the Reptilia Class are listed in I/II
Goitered Gazelle *Gazella subgutturosa*	25	2	Bodies	Not listed
Chameleons Chamaeleonidae	20	2	Live specimens	II
Falcons *Falco* sp.	17	2	Live specimens	I/II
Brown Bear *Ursus arctos*	8	2	Live specimens	I/II
Other species	61	18	Live specimens, tails, bodies	
TOTAL	**2,579**	**41**		

Some representative seizures include:

- In June 2017, 601 live Steppe Tortoises were seized by the State Ecology Committee together with the Global Master Group LLC in the foothills of the Jizzakh region. The specimens were released back into suitable habitat.
- In May 2021, Uzbek enforcement officials detected 700 Steppe Tortoises at Umakai road patrol post in the Chirakchi district of Kashkadarya region. The individuals accompanying the shipment were arrested.
- On an unspecified date, Kazakh Border Service Officers detected seven bags weighing a total of 280 kg containing an unknown number of live Steppe Tortoises in a rail freight wagon travelling from Keles, Uzbekistan, to Saryagash, Kazakhstan.

The second most frequent species in seizures was Saiga. A total of 724 Saiga specimens were seized internally comprising 468 horns, 170 skins, 72 horn parts and 14 carcasses. Representative seizures include:

- In July 2016, enforcement officials seized 468 Saiga horns and 72 pieces of horn,

plus 170 skins from a warehouse in Fergana.

- In April 2021, Uzbek police officers detained two individuals in the Turkestan region who were found in possession of 14 Saiga carcasses plus an unknown number of horns and an unregistered hunting rifle. All the specimens and the rifle were seized.

Other interesting seizure reports include the following:

- In April 2019, Customs Officials at Tashkent Airport intercepted a Saudi Arabian national attempting to import two Saker Falcons into Uzbekistan. Customs officials also found bird traps amongst the passenger's luggage.
- In July 2021, Customs Officials at Tashkent Airport intercepted an individual who was attempting to smuggle 35 reptiles, including geckos and lizards, concealed inside cigarette packets to Russia. The officers searched the passenger's luggage and found a further 14 animals (unknown species) preserved in alcohol, 16 lizard tails, one Muskrat skin and tail, and two dead Striped Snakes *Elaphe quadrivirgata*.
- Seizures of 111 live crocodiles took place at Tashkent Airport. In August 2022, 56 juvenile crocodiles were seized from an Uzbeki national who was attempting illegally to import them plus 10 chameleons in personal luggage from Egypt. The origin of the other 55 crocodiles seized at Tashkent Airport was not known.
- Five Elk were detected after authorities inspected a car driven by traders from Kyrgyzstan to Uzbekistan. The horns had already been removed from the deer carcasses found in the vehicle for illegal sale.
- Between 2019 and 2021, a total of 25 Goitered Gazelle carcasses were seized, all of them detected as they were being transported by road.

DISCUSSION

At the Kyrgyzstan-Tajikistan border

This study attempts to give an overview of the recent past and current situation regarding wildlife trade in four countries of Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. It does this through an analysis of the information available on the legal international trade of species listed within CITES and through a separate examination of the data available on illegal wildlife trade in the region. It must be appreciated that there are severe limitations on the data and information available and therefore how comprehensive this analysis can be. Seizure records, in particular, are sourced from a mixture of various agencies and open-source reports. Without evidence of consistent enforcement or reporting effort, these cannot be used to infer trends or overall quantities of wildlife specimens illegally traded but are a useful indication of the presence of various species in illegal trade.

Table 12 summarises the top species identified in legal CITES trade for each country, as well as those species that were identified in seizure records of illegal trade in more than one country. Although the quantities in legal and illegal trade vary between countries and may be relatively low in some cases, this gives some indication of patterns of legal and illegal trade amongst Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan.

For some CITES-listed species, highlighted in bold in Table 12, there is evidence of both legal and illegal trade; for example, the Argali is legally exported from Kyrgyzstan and Tajikistan as trophies, but also identified in seizure records for illegal trade in these countries, as well as in Kazakhstan. For these species, further investigation is needed to understand why legal trade mechanisms are not being utilised in these instances. Other CITES-listed species are not identified in legal exports or imports but are reported in seizure records; this is the case for both Saiga and Snow Leopards. Both species would benefit from prioritised attention of efforts to prevent illegal poaching and trade.

Table 12 also identifies species which are reported in the highest quantities in legal trade, but for which most or all trade is reported by other Parties, with little or none reported by Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. For example, exporters report large quantities of Medicinal Leeches exported to Kazakhstan and Kyrgyzstan, but neither country reports imports of these species. In cases with notable discrepancies such as these, CITES management authorities in exporter and importer countries would benefit from dialogue to ascertain the causes of these discrepancies, and to ensure that CITES Annual Trade Reports are updated accordingly to reflect accurate trade quantities.

TABLE 12

The top taxa identified in the analysis of CITES legal trade data for Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan (e.g amongst the top 3 taxa from parts and derivatives or whole specimens reported by importers or exporters) between 2012 and 2021, and taxa identified in seizure records for more than one country, with global protection and threat status. E= export, I = import, R= re-export, U= unknown trade direction/internal seizures. Taxa in bold are those identified as top species in legal CITES-listed trade that are also identified in seizure records, and an asterix indicates instances of trade discrepancies where all, or a large proportion, of legal trade was reported by other countries with little to none by Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan.

	GLOBAL PROTECTION AND THREAT STATUS		TOP SPECIES REPORTED IN LEGAL CITES TRADE				REPORTED IN SEIZURE RECORDS FOR ILLEGAL TRADE			
TAXON	CITES APPENDIX	IUCN RED LIST	KAZAKHSTAN	KYRGYZSTAN	TAJIKISTAN	UZBEKISTAN	KAZAKHSTAN	KYRGYZSTAN	TAJIKISTAN	UZBEKISTAN
Argali *Ovis ammon*	II	Near Threatened (2020)		Y (E)	Y (E)*		Y (E, U)	Y (I, E)	Y (U)	
MacQueen's Bustard *Chlamydotis macqueeni*	I	Vulnerable (2021)	Y (E, I)			Y (I)				
Ferula sp.	Not listed	-						Y (E)	Y (E, U)	
Fischer's Lovebird *Agapornis fischeri*	II	Near Threatened (2020)				Y (E)				
Goitered Gazelle *Gazella subgutturosa*	Not listed	Vulnerable (2017)					Y (E, U)			Y (U)
Marco Polo Argali *Ovis ammon polii*	II	Not individually assessed (subspecies of *Ovis ammon*)		Y (E)*	Y (E)*				Y (E)	
Medicinal Leech *Hirudo medicinalis*	II	Near Threatened (2013)	Y (I)*	Y (I)*		Y (I)				
Moth Orchids *Phalaenopsis* spp.	II (but exempted under certain conditions)	-	Y (I)*	Y (I)*	Y (I)*	Y (I)*				
Muskrat *Ondatra zibethicus*	Not listed	Least Concern (2016)						Y (U)		Y (E)
Saiga *Saiga tatarica*	II	Critically Endangered (2018)					Y (E, U)	Y (E)		Y (E)
Saker Falcon *Falco cherrug*	II	Endangered (2021)	Y (E)				Y (E, U)	Y (E)		Y (E, I)
Siberian Ibex *Capra sibirica*	III	Near Threatened (2020)	Y (E)*	Y (E)	Y (E)*		Y (U)	Y (I, U)	Y (E)	
Snow Leopard *Panthera uncia*	I	Vulnerable (2017)						Y (E, U)	Y (U)	
Southern Medcinal Leech *Hirudo verbena*	II	Not assessed				Y (I)				
Steppe Tortoise *Testudo horsfieldii*	II	Vulnerable (1996)				Y (E)	Y (E)	Y (E)		
Sturgeon species *Acipenser* spp.	I/II	-	Y (I)	Y (I*, RE)			Y (E, U)			
Tundra Wolf *Canis lupus*	I/II	-							Y (U)	Y (U)

Liquorice roots Glycyrrhiza *spp*

CITES LEGAL TRADE OBSERVATIONS

In the case of legal trade in CITES species, the late reporting of CITES trade data is a hinderance to complete a comprehensive analysis. For example, the USA are a major importer of some of the CITES-listed species exported from the study countries, yet at the time of writing they have not reported trade for 2020 and 2021. As a result, fewer import records for some species in recent years may simply be because the imports that have taken place may not yet be reported to the CITES Secretariat. Furthermore, not all four of the study countries are fully up to date with their own CITES trade data reports, which clearly presents problems for thorough analysis. Tajikistan has not yet submitted its CITES Annual -Legal Trade- Reports in 2021 and 2022 report. The country's 2015 accession to CITES (entering into force in 2016) means data from earlier years are only accessible through importer-reported records. At the time of writing, only Kazakhstan and Kyrgyzstan were fully up to date with their CITES Annual -Legal Trade- Report, and Kazakhstan had not submitted their 2020 and 2021 reports at the time of the CITES legal trade analysis.

Despite this, analysis of the available legal trade data does identify what species are currently reported in trade and the quantities involved. The analysis also identified multiple cases in which importer and exporter records do not tally. There are often legitimate reasons for such discrepancies, including delays in a Party reporting trade, and the use/misuse of different terms or source codes by Parties for the same specimen. Exporter-reported quantities are usually larger than those reported by importers because exporters may report permits issued and not permits used. Some notable discrepancies that did not have a clear cause from those described and that occurred for more than one country in the analysis are outlined below:

1) Importers reporting higher quantities of trophies from mammals than are reportedly exported by Kyrgyzstan (for Marco Polo Argali only), Tajikistan (for Argali, Marco Polo Argali, and Siberian Ibex) and Kazakhstan (for Siberian Ibex).

A review comparing legal trophy trade for 12 CITES-listed species in 11 Asian countries between 2010 and 2019 found that Kyrgyzstan was exporting the second highest quantity of trophy items from the 12 CITES-listed species, and Tajikistan the third highest (Parker et al., 2022). Considering both countries are prominent exporters of CITES-listed trophies, it is particularly important to ascertain the cause of these discrepancies and to ensure that exports reported by both countries are accurate, and within sustainable limits. In recent years, it is thought that Kyrgyzstan has become one of the top destinations for trophy hunting of both Argali and Siberian Ibex (Nordbø et al., 2017), with hunting grounds owned by the government, who can grant the right to conduct hunting to companies to a period of 15 years (Nordbø et al., 2017). Trophy hunting tour operators are mostly based in the capital region and travel to different parts of the country (Parker et al., 2022). There are some concerns that most of the hunting areas

for trophy hunting of Argali in Kyrgyzstan are privatised, with private organisations not providing protection from poaching outside of the hunting season (Blank and Li, 2021).

In Tajikistan, the Committee of Environmental Protection governs trophy hunting, determining quotas and prices of licenses with the help of several ministries (Parker et al., 2022). The benefits of trophy hunting for both livelihoods and conservation in Tajikistan were recently celebrated in a CITES livelihoods case study with a focus on wild goats (Asiatic Ibex *Capra sibirica* and Markhor *Capra falconeri*), with area specific harvest quotas set for trophies from Ibex and Markhor within community conservancies (Karimov, 2019).The case study also referred to 600 Argali sheep (subspecies not specified) protected by community conservancies that rely on trophy hunting for their income but also raised concerns over private hunting companies in Tajikistan. The study recommended trophy import states to require independent population surveys to be carried out for hunted species.

Neither Kyrgyzstan or Tajikistan reported any exports of the Marco Polo Argali between 2012 and 2021, despite importers reporting 190 trophies imported from Kyrgyzstan, and 130 trophies imported from Tajikistan since it became a Party to CITES in 2016. There was a steep rise in importer-reported exports of Marco Polo Argali trophies between 2018 and 2019 from both countries, mostly due to imports reported by the USA, who are yet to report trade data for 2020 and 2021. The Argali was classified as globally Near Threatened on the IUCN Red List in 2020, with poaching amongst the threats listed (Reading et al., 2020). Although the 2020 Red List assessment did not have enough data to assess the Marco Polo Argali subspecies, it stated that populations of Argali *Ovis ammon* in Kyrgyzstan were estimated to number around 17,000 for three subspecies (*Ovis ammon polii, Ovis ammon karelini,* and *Ovis ammon severtzovi*) combined based on official figures from 2017, with numbers very low in the overall mountain landscape where poaching is said to be 'widespread'. The 2020 Red List assessment does not refer to a recent population survey of Marco Polo Argali in Tajikistan but refers to a study published in 2015 in an area where trophy hunting occurs in Tajikistan. It found an increase in numbers compared to previous populations and stated that for this population the number of hunting permits issued (45 a year) had a minimal impact on population growth of Marco Polo Argali (Valdez et al., 2015).

There are additional discrepancies for other trophies from mammals reported exported from Tajikistan and Kazakhstan. For Tajikistan, importers report almost four times the quantities of trophies from Siberian Ibex between 2016 and 2021 (220 compared to 58 reported exported by Tajikistan), and twice as many from Argali (130 compared to 55). Although Kazakhstan was not identified as a prominent exporter of trophies from CITES- listed species amongst Asian countries (Parker et al., 2022), importers report 102 whole specimens from Siberian Ibex imported from Kazakhstan between 2015 and 2021, with most (93) of these for trophies and the remaining skins and skulls, whilst Kazakhstan does not report any exports of specimens from Siberian Ibex.

The causes of non-reporting and under-reporting of trophies from these CITES-listed species from the three countries are not clear from the information available, and it is important that dialogue with key importing countries, such as the USA, is initiated to first clarify accurate export quantities of these species. Once accurate quantities are identified, CITES authorities in Kazakhstan, Kyrgyzstan and Tajikistan are encouraged to demonstrate that non detriment findings for these species have been conducted to inform export quotas within sustainable limits.

2) Azerbaijan reported exporting large quantities of live captive bred Medicinal Leeches to Kazakhstan (~1 million) and Kyrgyzstan (50,000), with no corresponding imports by either country.

It is concerning that neither country has reported any imports of Medicinal Leeches, given the large quantities reported exported by Azerbaijan. At the time of the analysis, Kazakhstan had not yet reported Annual -Legal Trade- reports for the years 2020-2021. However, the reports are now available yet these imports of Medicinal Leeches between

2020-2021 have still not been reported imports. Along with Uzbekistan, these exports would make Kazakhstan in particular a prominent demand country for this species and the second highest importer of Medicinal Leeches globally after the USA, with 17% of imports between 2012–2021. Similar to Uzbekistan, there appears to be a sharp increase of exports of Medicinal Leeches to both Kazakhstan and Kyrgyzstan in recent years, for reasons that are not clear from available literature. Leech breeding first started in Azerbaijan[14] and there are now said to be 11 leech breeding farms in Azerbaijan which reportedly produced 800,000 Medicinal Leeches from the *Hirudo* genus in 2021 (Farzali and Saglam, 2022, unpublished). However, Azerbaijan reports exporting close to 1.5 million live captive bred specimens from *Hirudo medicinalis* globally in 2021. Further clarification is needed as to whether these data on captive breeding facilities in Azerbaijan, which would indicate unreported wild collection to sustain exports, are accurate. Clarification is also needed as to why neither Kazakhstan nor Kyrgyzstan is currently reporting imports of these species.

3) The Netherlands reports large quantities of live specimens mostly from moth orchids hybrids/species, and other plant species, exported to all four countries between 2012 and 2021, with no reported imports of these or any other plants species by the four countries in this time period.

Although artificially propagated moth orchid hybrids are exempt from the convention under certain criteria[15] (related to whether they are recognisable as artificially propagated and various packaging requirements), dialogue between CITES authorities in all four countries and the Netherlands is needed to determine whether the moth orchid hybrid species meet the requirements for exemption, or whether the Netherlands have stricter domestic measures that require importers to report these species regardless. Additionally, and although not outlined in Table 12, there are still large numbers of plant specimens from multiple species not exempted from the Convention regularly reported exported to the four countries between 2012 and 2021, mostly from the Netherlands but also by 15 other countries. No plant species are reported imported by any of the four countries between 2012 and 2021. Conversations with CITES authorities in the four countries are needed to ascertain why imports of plant species are not being reported.

There are further cases where the analysis of legal trade records raises question marks for certain species, and these are further detailed below for each of the four countries.

Kazakhstan

The CITES Appendix I listed MacQueen's Bustard *Chlamydotis macqueeni* has been imported into Kazakhstan in significant numbers; according to the country's own records ~17,300 live birds between 2012–2019. This species was assessed as Vulnerable on the IUCN Red List in 2021, with the primary threat to the species over-exploitation due to hunting and trapping (BirdLife International, 2021a). This trade is however likely explained by work by The International Fund for Houbara Conservation (IFHC), referenced in the 2021 Red List Assessment, which has a goal to produce 35,000 Macqueen's Bustards for re-introduction into the wild each year. The IFHC has facilities in the UAE, Morocco and Kazakhstan, with releases having taken place in countries including Kazakhstan and Uzbekistan (BirdLife International, 2021a).

The birds imported by Kazakhstan were mainly reported as imported for reintroduction or introduction into the wild with smaller numbers for captive breeding, and almost all were reported imported from UAE, which IFHC states has bred close to 300,000 birds in two captive centres (IFHC, 2023). The IFHC currently states that the captive breeding centre in Kazakhstan has bred 15,000 chicks a year since 2021, when the centre reached full capacity, and that Kazakhstan has also released 28,000 birds since 2009 to supplement wild populations (IFHC, 2023). In the most recent year of reported trade for main exporter UAE in 2021, much smaller quantities of ~600 live captive bred specimens are reported exported to Kazakhstan. Although the work of the IFHC may explain the large number of imports of the MacQueen's Bustard into Kazakhstan, a recent case study of a Macqueen's Bustards population

in Uzbekistan found that captive breeding of birds was unlikely to be able to sustain a migratory population, with the researchers recommending trade and exploitation needed of wild specimens to be restricted as a priority (Dolman et al., 2018). Continued monitoring of quantities of imports in of the MacQueen's Bustard is important to determine the success of this captive breeding and release programme in Kazakhstan.

Kyrgyzstan

In addition to the discrepancies outlined previously for exports of trophies from Marco Polo argali, imports of Medicinal Leeches, and imports of plants species, there are anomalies in the reported legal trade of CITES Appendix II listed sturgeon species for Kyrgyzstan (Table 12). Germany reported the direct export of over 54,000 kg of meat/bodies from mostly the Avoz-Black Sea and White Sturgeon to Kyrgyzstan for commercial purposes between 2020 and 2021, yet there is no report of it being imported by Kyrgyzstan. There are also reported exports of 100,000 eggs from the Siberian Sturgeon by Poland in 2018, with no corresponding imports by Kyrgyzstan. Further investigation, in collaboration with CITES authorities in these countries, is important to better understand the cause of these discrepancies.

There is also a clear pattern of trade from Kyrgyzstan re-exporting to Kazakhstan meat from sturgeon species originating from captive bred sources in Mainland China. All species of sturgeon are listed on the IUCN Red List, with 16 of these (including the Avoz-Black Sea Sturgeon, Siberian Sturgeon and Beluga re-exported by Kyrgyzstan) Critically Endangered (IUCN, 2022, Musing et al., 2019). The quantities of over 67,000 kg re-exported by Kyrgyzstan appear to be very high given all the sturgeon meat (and much smaller quantities of caviar) in trade are all reported to be from captive-bred sources for commercial purposes. This raises questions as to whether there are captive breeding facilities operational in Mainland China that can supply the quantities of sturgeon products that appear in trade. This is particularly pertinent given that Kyrgyzstan is only 7th out of 32 global importers of commodities from sturgeon species reported by mass in kg from Mainland China between 2012 and 2021, with top importer Viet Nam (88% of all reported imports) importing ~11.1 million kg. There has previously been concerns raised over mis labelling of wild sourced caviar from sturgeon species as derived from aquaculture (Musing et al., 2019) and anecdotal evidence of poaching of sturgeon species from the Amur river between Russian Federation and Mainland China, thought to be intended for aquaculture operations in one of the two countries (Harris and Shiraishi, 2018).

Tajikistan

The rapid overview analysis of CITES legal trade data between 2012 and 2021 shows that Tajikistan imports the smallest quantities of CITES-listed wild species out of all four countries, however this is not surprising given they became a Party to CITES in 2016, which means that CITES legal trade reports were not required before that year. Despite this, importers report direct exports of close to 9,000 commodities of whole specimens from Tajikistan between 2012 and 2021, making it the second highest exporter of whole specimens out of the four countries after Uzbekistan. Notably, one of the mammal species reported in trade as trophies from Tajikistan, the Marco Polo Argali, was previously chosen as a potential candidate for inclusion in the RST process because of a sharp increase in exports by Kyrgyzstan and Tajikistan in 2018 in comparison to the average quantity exported between 2013–2017 (UNEP-WCMC, 2020). According to importer records, Tajikistan directly exported 56 Marco Polo Argali trophies in 2018, compared to an average of around nine per year between 2013–2017. Since then, importers reported 33 Marco Polo Sheep trophies were directly exported from Tajikistan in 2019, with smaller numbers in 2020 and 2021. Furthermore, though it reportedly took place in 2012, the apparent export, for commercial purposes, of four West African species of reptiles and a scorpion from Tajikistan to Ghana appears highly unusual. This is likely to be a reporting error but could warrant further investigation.

Uzbekistan

In common with Kazakhstan, the CITES Appendix I MacQueen's Bustard is one of the species imported in the highest quantities by Uzbekistan. Numbers imported increased between 2019 and 2021, with an average of around 4,400 live specimens a year. Similar to Kazakhstan, this is likely explained by IFHC's breeding/re-introduction programme. Additionally, the IFHC states that over 10,000 captive bred Macqueen's Bustards have been released into the wild in Uzbekistan since 2015, when Uzbekistan first reported imports of the species. Uzbekistan reported that all the live MacQueen's Bustards were imported from UAE for introduction/re-introduction into the wild between 2015 and 2019. However, there was an unusual import in 2021 when it was claimed over 4,800 live captive bred specimens were directly imported for personal use. Imports of Appendix I species are permitted for personal use but these numbers – particularly from unknown exporters- appear unusually large and apparently reflect the misuse of the "personal" purpose code.

The country's trade in Steppe Tortoises *Testudo horsfieldii* is also of concern, especially as importer-reported data show the country apparently exceeded its own export quotas between 2018–2021 (Figure 10), by up to 22,000 individuals in 2018. There has also been a shift in reported sources since 2015, with increasing proportions reported to be exported from captive born or captive bred sources, and far fewer from wild sources. Since this study was conducted, this species was selected for the RST at AC32 in 2023, due to the high volume of trade and globally threatened status of the Steppe Tortoise, with importers reporting Uzbekistan as the source of all global imports of wild specimens of the species between 2017 and 2021 (CITES, 2023). This process will require that Uzbekistan provide up to date non detriment findings for the Steppe Tortoise to demonstrate that current export levels are sustainable. There have been previous concerns that quotas for the species have increased despite no comprehensive study of the population since 1997 (Smith and Porsch, 2015), with the last IUCN Red List assessment (Vulnerable) for the species published in 1996, over 25 years ago (Tortoise and Freshwater Specialist Group, 1996). With the shift in sources from 2015, it is important to identify if captive breeding facilities in Uzbekistan can produce the large number of species reported exported as captive bred or captive born in recent years.

The apparent massive increase in Medicinal Leech *Hirudo medicinalis* imports into Uzbekistan, which are likely used for medicinal purposes, also appears unusual. From 55,000 live specimens in 2019 to 575,000 in 2021, showing an increase of ~945%, with the main purpose for these imports also changing from captive breeding to for commercial purposes. This raises questions as to whether the captive breeding operations in Uzbekistan failed so they must now be sourced from other countries, and also raises concerns about whether the large increase in numbers being traded may be having a detrimental impact on the species in the wild. As mentioned previously, reported exports of these species to Kazakhstan and Kyrgyzstan have also increased markedly between 2020-2021, with Azerbaijan the exporter for all three countries.

Finally, there are clear questions over the ongoing direct exports of two parrot species: Fischer's Lovebird *Agapornis fischeri* and Malherbe's Parakeet *Cyanoramphus malherbi*. The former is endemic to Tanzania which had a zero-export quota in place in 2019 and had suspensions on trade in wild sourced specimens in 2008 (UNEP, 2023), the latter is endemic to New Zealand and classified as Critically Endangered. The IUCN Red List assessment for Malherbe's Parakeet (BirdLife International, 2018) does not suggest trade is a threat, but the assessment for Fischer's Lovebird does, although it also states the species is bred in captivity for the pet trade (BirdLife International, 2021b). Most recently Fischer's Lovebird was selected as a candidate for the RST process due to be discussed at the AC32 in June 2023 under the 'legal acquisition' criteria, due to no evidence of imports of this species by Uzbekistan to obtain founder stock since the species inclusion in the CITES Appendices in 1987 (CITES Secretariat and UNEP-WCMC, 2023). With all exports reported to be from captive breeding operations, but no imports of either species reported by Uzbekistan, this raises queries as to where the breeding stock for both originated from.

Skull and horns from a Siberian Ibex Capra siberica

ILLEGAL TRADE CONSIDERATIONS

Information on the levels and scale of illegal wildlife trade in the four study countries was harder to source than for legal trade. There are severe constraints placed upon obtaining it, yet the more information that is forthcoming, the better insights that can be made into understanding and interpreting the data and building up a more complete picture of the levels of criminal activity associated with wildlife crime and the impact their activities have on society. Often government agencies have been unable to share their information, both for operational and confidentiality reasons. In some instances, when information was shared it lacked useful details, such as the countries involved in seizures, date of the seizure, unique ID records for seizures, and sometimes the quantity and identity of products seized. Whilst it will take time and effort to build the trust needed to foster an environment where government agencies are willing to share their information on wildlife crime/illegal trade, doing so will enable better coordinated responses to illegal wildlife trade both within and between countries. According to the CITES website, by March 15, 2023, Kazakhstan and Tajikistan have not filed any CITES Annual Illegal Trade Reports between 2017 and 2022, while Kyrgyzstan has only submitted its 2022 report and Uzbekistan has yet to submit its 2021 and 2022 reports.

Access to such information—which would be fully vetted before being made public, would help to enable the countries in Central Asia to learn and appreciate the common challenges they face in addressing wildlife crime/illegal trade and how to find appropriate solutions. Data available from all four countries suggest authorities should be especially vigilant along road networks across borders between the four countries, and additionally into Russian Federation and Mainland China, where much reported illegal trade was reported to occur. However, air transport should not be neglected given the cases of particularly live specimens from species including Saker Falcons, and various reptiles, being smuggled using this mode of transport. Seizure data in the country profiles can be used by authorities in each country to identify commonly reported trade routes and transport modes for target species, but increased enforcement efforts and consistent data gathering are needed to better understand trends for different taxa and commodities.

From the data available in this analysis, it was identified that some species are reported in seizure records for more than one country and could be prioritised in collaborative efforts to tackle illegal trade and harvesting in the region (Table 12). These are outlined below:

ARGALI

Horns from Argali were previously said to be the most expensive trophy in the Central Asian region (Mallon, 2013), and more recently average permit prices for Argali remained amongst the highest for 12 CITES-listed species exported from 11 Asian countries, second only after Markhor (Parker et al., 2022). Most Argali habitat in the Central Asian region is remote and difficult to access, making effective patrolling to prevent illegal trade challenging (Mallon, 2013). High income potential from trophy hunting, corruption, and a lack of effective control are additional risk factors for illegal trade (Mallon, 2013).

Argali were amongst the taxa most frequently reported in Kazakhstan, Kyrgyzstan and Tajikistan, with Tajikistan the only country in which some seizure records were specified to be for the Marco Polo argali subspecies. A mixture of carcasses, horns, skins and skulls were reported in seizure records from the three countries. There was some evidence of smuggling between the four countries, with Kyrgyzstan a destination for some specimens seized on export from Kazakhstan (and vice versa), and some specimens seized in Kyrgyzstan reportedly originating in Tajikistan. The Russian Federation was also identified as both a transit country for specimens exported by road from Kazakhstan, and a destination for specimens exported by air from Tajikistan.

Argali are known to be targeted by subsistence hunting (European Commission, 2019), so it is not clear if items such as carcasses seized internally were intended for export or for domestic use. In Tajikistan, where there is previous anecdotal evidence of subsistence hunting and meat from Argali for sale in restaurants (Mallon, 2013), carcasses and meat were the only commodity type reported in seizure records.

As mentioned previously, trophies from Argali and Marco Polo Argali were also amongst the top exported species from Kyrgyzstan and Tajikistan in (legal) CITES Trade Data between 2012 and 2021, with Kyrgyzstan under reporting exports of the Marco Polo argali, and Tajikistan under reporting both species. Kazakhstan, meanwhile, reports no legal exports of any specimens from Argali species between 2012 and 2021. A 2013, a TRAFFIC report stated there had been no legal hunts of Argali species in Kazakhstan since 2003, although there was evidence that illegal trophy hunts, largely with wealthy consumers from Russian Federation, did occur (Mallon, 2013).

When governed well, trophy hunting can contribute to both conservation and local livelihoods, but it is important that as part of this governance, local communities are granted access to hunting resources as an incentive to refrain from poaching (Mallon, 2013). A recent review of trophy hunting in 11 Asian countries showed that Kyrgyzstan and Tajikistan had mandated some of the lowest shares of revenue from trophy hunting to remain in the local area, which may in some part contribute to motivations for poaching and illegal trade. More research is needed to identify what incentives are needed to reduce illegal trafficking in species such as Argali in all three countries, and to encourage trade via the legal mechanisms available in Kyrgyzstan and Tajikistan.

FERULA

Ferula species, which are not currently listed on CITES but are included in the National Red Book, were amongst the taxa most frequently reported in seizure records from government agencies and in open-source reports of seizures in Tajikistan, totalling more than 11.8 million kg of resin and ~1,100 kg of seeds. A relatively small quantity of 20 seeds were also reportedly seized upon export from Kyrgyzstan (Lavrov, 2018). The news report states that in 2008 there was a ban on harvest on Ferula resin in Tajikistan, which was lifted in 2009, but with harvest only permitted by companies with processing and production facilities in Tajikistan and the export of raw resin still prohibited. Since then, there has been a report of protests amongst harvesters of resin from Ferula in 2019 due to concerns over payments from the companies licensed to process and export the resin in Tajikistan being reduced to 10 dollars per kilogram (Euroasianet, 2019). Information on harvest and trade of Ferula species in Kyrgyzstan was additionally hard to source, although a recent news report referenced another seizure of 300 kg of resin from Ferula in Kyrgyzstan in 2023, and stated

collection of this was prohibited in the country (Kyzy, 2023).

Environmental authorities in Tajikistan and Kyrgyzstan should consider whether further in-depth investigation into the unregulated trade in Ferula species is warranted and what impact it may be having on wild populations. Engagement with private sector companies and governments in both countries may be required to enable harvesters to benefit from the sale of these species if this is deemed to be sustainable, and to enable increased access to legal trade mechanisms for those wanting to harvest Ferula to prevent further illegal trade.

GOITERED GAZELLE

Goitered gazelles were amongst the species reported most frequently in seizure records for Kazakhstan (three seizure records with mainly carcasses and two horns) and were also reported in two seizure records for carcasses being transported by road in Uzbekistan. The intended destination was only known for two horns seized upon export from Kazakhstan to the Russian Federation with the remaining seized internally in both countries. Goitered gazelles were assessed on the IUCN Red List as Vulnerable in 2016, with declines in the population stated to be in part due to poaching, and reference in particular to drastic declines of populations in Kazakhstan (IUCN SSC Antelope Specialist Group, 2017). The IUCN Red List assessment states that populations

are illegal hunted primarily for meat, and to a lesser extent for trophies. It is not clear if the carcasses seized internally in each country, which were the most common commodity reported in seizures, were intended to be sold, or were intended for local consumption as food.

MUSKRAT

Muskrat was the species reported second most frequently in seizure records for export from Uzbekistan (mainly skins), and in one seizure record for a carcass in Kyrgyzstan. This species is not currently listed on CITES and was assessed as Least Concern in 2016 on the IUCN Red List, although the assessment listed trapping for pelts as a threat to the species (Cassola, 2016). The species is native to Canada and the USA but has been introduced in several countries, although not in any of the four countries included in this analysis. Commodities from Uzbekistan were identified as destined for both

Kazakhstan by road, and Russian Federation by air, but no destination was recorded for the carcass seized in Kyrgyzstan.

SAIGA

Saiga was the species most frequently reported in seizure records from government agencies in Kazakhstan and additionally appeared in two seizure records in Kyrgyzstan (a non-range state) and three in Uzbekistan (where Saiga are known to migrate to in the winter). In all countries, horns were the prominent commodity reported in seizures. All four range states of Saiga (Kazakhstan, Mongolia, the Russian Federation and Uzbekistan) implemented hunting bans between 1999 and 2014, so no legal export from these countries has been permitted since, however some non-range states with stocks acquired prior to these bans were able to continue legally trading (Gomez and Krishnasamy, 2019). The Steppe Saiga is listed on CITES Appendix II and has had a zero-export quota for wild specimens exported for commercial purposes since 2019. Aside from small quantities of specimens exported for scientific purposes from Kazakhstan between 2015 and 2018, none of the three countries with seizure records for Saiga have reported legal exports of Saiga in CITES Trade data between 2012 and 2021.

Around 60 seizure records from government agencies recorded a minimum of 10,000 Saiga horns, and other commodities such as skins and bodies. These were reportedly seized upon export (or with intent to export) from Kazakhstan, predominantly transported via road. Intended final destinations from

Kazakhstan were rarely reported for the 60 records, with Mainland China reported in one seizure record as the destination and both the Russian Federation (six seizure records) and Mainland China (one record) as transit countries. The Russian Federation and Mainland China were both reported as final destinations in seizure records from open-source reports of Saiga seized from Kazakhstan, with Mainland China also reported as the destination for over 5,000 horns seized on export from Kyrgyzstan, and Russian Federation for two seizure records encompassing around 150 horns seized on export from Uzbekistan. There was some evidence of illegal trade between the Central Asian countries, with Kazakhstan reported to be a transit country for 2 seizures of ~150 Saiga horns seized on export from Uzbekistan and a destination country for 2 skulls and 2 horns seized on export from Kyrgyzstan.

Saiga was assessed as Critically Endangered on the IUCN Red List in 2018, with uncontrolled

illegal hunting for horns and meat documented to have caused a huge decline in the population (IUCN SSC Antelope Specialist Group, 2018). Despite this, populations at least in some areas (including Kazakhstan) are said to have increased as a result of conservation measures. It is thought the species status will be changed to Endangered in its next IUCN Red List assessment. This is because the current listing is due to a rule by the IUCN that prevents a species moving from a higher to a lower threat category until five years have passed without the higher threat criteria applying. Despite this, the large quantities of Saiga horns identified in seizures in this analysis from all countries, but particularly from Kazakhstan, are concerning.

As mentioned previously, Saiga horn is in demand particularly in Chinese Traditional medicine and has been documented as having a value of over 34,000 euros/kilo, 40 times that of ivory (EU Commission, 2019). A zero-export quota for specimens of Saiga was agreed in CoP18 in 2019 to prevent legal trade between non range states, although some consumer countries (e.g., Mainland China, Japan and Singapore) allow domestic trade (Roberts et al., 2021). There is continued evidence of demand for Saiga products, with a recent study identifying 122 online advertisements for Saiga horn on websites in Russian Federation, thought to be for (illegal) domestic sale (Roberts et al., 2021), and a TRAFFIC report in 2019 raised concerns over trade in Saiga horns in Peninsular Malaysia and recommended stocks of the species and consumption patterns in the country are studied to better understand current quantities of legal stocks available for trade (Gomez and Krishnasamy, 2019). Saiga products are also documented to be consumed in Singapore (Doughty et al., 2019) and Thailand (Gomez et al., 2022).

Whilst demand exists, the species will likely be at continued risk from illegal trade, and continued enforcement efforts, ideally in collaboration with consumer markets, are needed to prevent smuggling of horns and other commodities from Saiga out of Kazakhstan, Kyrgyzstan and Uzbekistan.

SAKER FALCON

The CITES Appendix II Saker Falcon was reported in seizure records for Kazakhstan, Kyrgyzstan and Uzbekistan (Table 12), with additional reports of 27 live falcons (species not identified) seized on import to UAE from Tajikistan. The species was also reported as a top species exported by Kazakhstan in (legal) CITES Trade data.

The Saker Falcon was assessed as Endangered on the IUCN Red List in 2021, with trade of the species for falconry stated to be a significant cause of the population decline and populations resident in all four countries in the analysis (BirdLife International, 2021c). The Saker Falcon is found in 54 countries (Stretesky et al., 2018) and it has been reported that both Kazakhstan and Uzbekistan have experienced some of the largest declines in wild Saker Falcon populations (Kovács et al., 2014).

For both Kazakhstan and Uzbekistan, the Saker Falcon is a species reported most frequently in seizure records from government agencies

and online reports, whilst in Kyrgyzstan it was reported in one seizure record only. In all three countries, almost all seizure records report live specimens, which are smuggled both by air (to countries such as UAE, Qatar and Saudi Arabia) and road (for seizures occurring between the three countries). Intended final destinations for seizures upon export are rarely reported, although the UAE was reported in the seizure record for Kyrgyzstan and for two seizure records from Kazakhstan.

There are indications of illegal trade in Saker Falcons occurring between the three

countries, with one seizure record for export of live specimens from Kazakhstan stated to be transiting to an unknown destination via Kyrgyzstan by road, one from Uzbekistan reporting seized specimens were destined for Kazakhstan, and one seized on import to Uzbekistan said to have been exported from Kazakhstan. Some top exporters of live Saker Falcons to the three countries from CITES (legal) trade data (UAE, Qatar and Saudi Arabia) are also reported as exporters for live specimens seized upon import to Uzbekistan, with UAE and Qatar additionally destinations for specimens seized on export from Kazakhstan.

Given similar trade routes for these species in both legal and illegal trade data, authorities within key importing and exporting countries could benefit from focus on ensuring traders are aware of permit requirements and recording causes of seizures in the Saker Falcon in seizure records to better understand current barriers to the use of existing legal trade mechanisms for this species.

SIBERIAN IBEX

The Siberian Ibex was identified in seizure records for all three countries where it was additionally identified as a top species reported in exports in legal (CITES) trade: Kazakhstan, Kyrgyzstan and Tajikistan. As previously mentioned, both Kazakhstan and Tajikistan under reported quantities of trophies from Siberian Ibex in CITES Trade data in comparison to quantities reported by importers between 2012 and 2021.

There are relatively few seizure records for this species from Kazakhstan and Tajikistan, but it is amongst the species most frequently reported in seizure records from both government agencies and online reports for Kyrgyzstan. Most seizures in all three countries were reported to be internal, but Tajikistan was reported as the origin country for two seizure records of eight horns and four skins seized upon import to Kyrgyzstan, and in one records horns and skins from Tajikistan were intended to be exported to Russian Federation by air.

The Siberian Ibex was assessed by the IUCN as Near Threatened in 2020, but the assessment

did not indicate that trophy hunting was likely to be a major threat contributing to declining populations, pointing out that bans on trophy hunting were likely to remove incentives to prevent poaching and could increase human causes morality of the Siberian Ibex (Reading et al., 2020). Key threats identified in the assessment were local hunting for subsistence, poaching, and competition with livestock. Despite this, it is important to continue to monitor levels of illegal trade in this species in Kazakhstan, Kyrgyzstan and Tajikistan, and to encourage exports via legal trade mechanisms, as well as ensuring these are accurately recorded in CITES Trade data.

SNOW LEOPARD

Snow Leopards were not reported as a top species in legal (CITES) trade between 2012-2021 for any of the countries but were identified in small quantities in seizure records in both Kyrgyzstan and Tajikistan. In both cases, there were no clear indications that specimens from the species were intended to be exported for use in international trade: in Kyrgyzstan, the two Snow Leopards seized were said to be injured, with one seized due to poaching and the other because it was a diseased animal, and in Tajikistan two out of the four seizure records (all of which were for carcasses) stated retaliatory killings resulting from attacks on livestock as a cause of seizures.

Despite this, surveys in a study on Snow Leopard crime in countries including Kyrgyzstan and Tajikistan found that approximately 75% of retaliatory/non target poaching incidents of Snow Leopards in Kyrgyzstan, and 45% in Tajikistan, result in an attempt to sell the animal (Nowell et al., 2016). Snow Leopards were assessed as Vulnerable in 2016 on the IUCN Red List, with threats including retaliatory killings for attacks on livestock, but also for illegal trade in fur, bones and other body parts, and Tajikistan was identified as one of five range states with the highest levels of poaching (McCarthy et al.,

2016). The Red List assessment utilised some findings from a 2016 TRAFFIC report (Nowell et al., 2016) and pointed out that although Kazakhstan reported no seizures of Snow Leopards, there was evidence of poaching and illegal trade in this country. The report states that low seizure levels are likely indicative of either non reporting, or of low enforcement efforts for this species. Poaching levels for this species in Kazakhstan (and other countries) may therefore be greater than are indicated in seizure data gathered in this report.

Based on the data provided, authorities in Tajikistan in particular could benefit from mechanisms to reduce human wildlife conflict resulting from attacks on livestock by Snow Leopards in order to reduce poaching of this species.

STEPPE TORTOISE

Live specimens of the Steppe Tortoise were the top species in legal (CITES) exports from Uzbekistan between 2012-2021 (imported mostly by USA and countries in Europe) but were also identified in seizure records for Kazakhstan, Kyrgyzstan, and Uzbekistan. In Kazakhstan and Uzbekistan, the Steppe Tortoise was identified most frequently in seizure records from reports by government agencies and from online reports, whilst in Kyrgyzstan there was just one seizure record of live specimens intended for export to Mainland China. No legal exports or re-exports of the Steppe Tortoise have been reported by Kazakhstan or Kyrgyzstan between 2012 and 2021.

Of the 13,000 live Steppe Tortoise specimens reported seized in Kazakhstan in open-source data, and around 250 in reports from government agencies, most were reported destined for Russian Federation with the remaining for Uzbekistan. Russian Federation was also reported to be the destination for most seizure records for specimens seized

on export from Uzbekistan, with Kazakhstan reported as a transit country in all these seizure records. For several seizure records in Uzbekistan, final destinations were not known. Russian Federation reports no legal imports of the Steppe Tortoise between 2012-2021 in CITES Trade Data.

As mentioned previously, the Steppe Tortoise from Uzbekistan was selected for the RST at AC32 in 2023 (CITES, 2023); this process focuses on ensuring legal trade is sustainable (backed up by NDFs). Previous studies have highlighted that the species in the wild is threatened by both legal and illegal trade, with concerns that the species may be smuggled through neighbouring countries that are non-Party to CITES or have less stringent environmental/enforcement measures (Smith and Porsch, 2015). The large quantities of this species in both legal and illegal trade from particularly Uzbekistan are concerning, with the data available indicative of illegal trade routes through Kazakhstan and into Russian Federation. It is not clear from the data available if the Russian Federation is a demand country for the species, or if it is being imported with intent to sell, with further research needed to clarify this. Meanwhile, enforcement authorities in Uzbekistan, Kazakhstan, and Russian Federation could benefit from focusing efforts on intercepting illegal trade in Steppe Tortoises between these countries that appears to occur mostly via road or rail.

STEPPE WOLF

The Steppe Wolf was amongst the species reported most frequently in internal seizure records for Tajikistan (21 seizure records with mainly carcasses and two skins) and were also reported in two seizure records for live specimens being transported by road in Uzbekistan. Almost all seizure records for the Steppe Wolf in Tajikistan were linked to retaliatory killings after attacks on livestock, with no external destination reported for any commodities seized in either country, although it seems likely the skins were intended to be sold. The Steppe Wolf was assessed as Least Concern in 2018 on the IUCN Red List, with persecution due to killings of livestock listed as a key cause of the population decline (Boitani

et al., 2018). Similar to the recommendations outlined for Snow Leopards, Tajikistan could benefit from focused efforts to identify best practice mechanisms to reduce livestock attacks that lead to retaliatory killings of Steppe Wolves.

There are further cases where the analysis of illegal trade records raises question marks for certain species, and these are further detailed below for each of the four countries.

Kazakhstan

Whilst reports of quantities are relatively small, the 15 seizure records involving 130 specimens and ~700 kg of specimens, of bodies/caviar from Acipenser species seized on export from Kazakhstan were concerning. Kazakhstan has reported ~6,600 kg of specimens (mostly meat) from Acipenser species directly exported in CITES legal trade data between 2012-2021, with most legal exports reported to be to Georgia (6,300 kg). Seized commodities in contrast are frequently reported destined for the Russian Federation, for which only 100 kg of specimens are reported legally exported in CITES Trade data. It is not clear why these quantities of these CITES-listed species are being exported illegally, rather than via legal trade mechanisms. Most illegal exports of these species to Russian Federation are by road.

Kyrgyzstan

The smuggling of plants, in particular, Ephreda sp. and Aflatun onions Allium aflatunense is of particular concern, with tonnes of both products seized. In particular, the demand for the former in the Russian Federation and South Korea Ephreda spp. should be assessed to determine the dynamics of the trade in this species. Species in this genus have not been assessed on the IUCN Red List, and are not currently listed on CITES, but species of this genus have previously been used for medicinal purposes, and in religious ceremonies (Lee, 2011). They have more recently been used as a source to produce methamphetamine (crystal meth), with products from Ephedra spp. now banned in many countries (Lee, 2011).

Tajikistan

Several taxa reported in seizure records from government agencies in Tajikistan did not report seizures to the species level (e.g., over 49 million kg of fish carcasses, and over 5,000 m3 of tree species). Authorities such as the Ministry of Internal Affairs of Tajikistan are encouraged to record seizures at the level of genus or species, liaising with relevant experts, if necessary, to better understand illegal trade quantities for various species and subsequently better inform conservation actions for those identified as seized in large quantities.

Uzbekistan

There were three species of birds (Rose-ringed parrakeet, Southern Cassowary and Oriental Magpie-robin) reported seized on import to Uzbekistan with cause given as no CITES permit, but all three species are not listed on CITES currently, nor during the period of the seizure data between 2012 and 2021 (UNEP, 2023). If this is not a reporting error, it is not clear why these birds were seized.

RECOMMENDATIONS

Based on the report's findings and observations, the following priority recommendations are proposed to the **authorities of all four countries:**

REPORTING OF LEGAL AND ILLEGAL WILDLIFE TRADE

As a matter of priority, all four countries are encouraged to **complete and submit their CITES Annual Reports**, both those relating to legal and illegal trade.

To enable an accurate understanding of plant species imported into the region, CITES authorities are encouraged to ensure imports of plant species are reported in the CITES Annual Legal and Illegal trade reports. Dialogue with the Netherlands is also needed by all four countries to ascertain the cause in discrepancies of reporting for hybrid moth orchids and to determine if exports of these hybrids from the Netherlands meet requirements for exemption from CITES trade reporting.

When reporting illegal trade, all four countries would benefit from **consistent reporting of dates of seizures** to better identify future trends, and **the assignment of unique ID numbers for seizure records** to enable accurate counts of unique seizure events amongst commodities seized. Currently, **key data on transit and destination countries were missing from many seizure reports** provided by government agencies in this analysis, making it difficult to identify key interception points for illegally traded wildlife commodities; these **should be recorded in future seizure records wherever possible**.

TARGETED ENFORCEMENT ACTION

Road networks appear to be the main method by which contraband wildlife is moved within and between the countries in the Central Asian region. Therefore, enforcement agencies of all four countries should consider the merits of targeted vehicle inspections, with officers receiving prior training to **enable them to identify any prohibited wildlife items encountered and how to search for them.**

BUILDING COOPERATION BETWEEN COUNTRIES TO TACKLE IWT

All four countries would benefit from **building closer ties with each other –and other Parties where relevant- to enhance enforcement effort and build trust and collaboration to help counter the activities of organised criminal groups involved in wildlife trafficking in the region**.

The countries would benefit from **collaboration to protect priority species known to be subjected to high levels of demand and often illegal trade and could start with those identified in seizure records for more than one country in this report**. These include: Argali (including subspecies such as the Marco Polo Argali), *Ferula* species, Goitered Gazelles, Muskrat, Saiga, Saker Falcons, Siberian Ibex, Snow Leopards, Steppe Tortoises and Steppe Wolves.

For some species, such as the Critically Endangered Saiga, collaborating with relevant stakeholders in key domestic consumer countries (e.g., Mainland China, Japan, Singapore) to ensure effective management of stockpile and prevent illegal laundering of specimens through this supply chains may be a useful approach. Consideration could also be given to demand reduction campaigns for products from Saiga horn in these countries.

Cross-border **collaboration with neighbouring countries**, such as, the Russian Federation and Mainland China is also needed. Mechanisms should be set up to enable rapid sharing of any relevant actionable enforcement information between countries in the wider region. This could be through the introduction of a similar platform to EU-TIWX in this region to share data on seizures and mode of smuggling for wildlife seized.

RECOMMENDATIONS

The following additional recommendations are proposed to individual country CITES authorities:

CITES AUTHORITIES OF KAZAKHSTAN

Authorities in **Kazakhstan** are encouraged to update their trade records for exports of Siberian Ibex specimens if the importer reported quantities of ~100 specimens (from mostly trophies) are correct. If these reported imports are believed to be an error, they could liaise with the countries reporting most imports of Siberian Ibex trophies (Spain, USA, and Germany) to determine the cause of these discrepancies. The same approach is recommended to resolve current discrepancies for imports of ~1 million live medicinal leeches reported by exporter Azerbaijan.

Continued monitoring of imports of the MacQueen's Bustard are encouraged in collaboration with relevant stakeholders at IFHC, to determine whether captive breeding facilities in Kazakhstan are now effectively producing sufficient species for the re-introduction programme.

CITES Authorities, in collaboration with other national law enforcement authorities, such as the police, are encouraged to prioritise investigations and enforcement efforts for illegal trade of commodities/specimens particularly from *Acipenser* species, Saiga, Steppe Tortoises, and Saker Falcons, with data in this study as a useful starting point for *modus operandi* and transit/destination countries to collaborate with.

CITES AUTHORITIES OF KYRGYZSTAN

Authorities in **Kyrgyzstan** are encouraged to update their trade records for exports of Marco Polo Argali specimens if the importer reported quantities of ~200 specimens (from mostly trophies) are correct. If these reported imports are believed to be an error, they could liaise with the countries reporting most imports of Marco Polo Argali trophies (predominantly the USA) to determine the cause of these discrepancies. The same approach is recommended to resolve current discrepancies for imports of ~50,000 live medicinal leeches reported by exporter Azerbaijan, over 54,000 kg of meat/bodies from sturgeon species from Germany, and 100,000 eggs from sturgeon species from Poland.

CITES Enforcement Authorities, in collaboration with other law enforcement authorities, such as the police, in **Kyrgyzstan** are encouraged to investigate the smuggling of plants, in particular, *Ephreda* sp. and Aflatun Onions *Allium aflatunense*. These investigations would help to better understand supply chains and demand countries for these species, quantities being illegally harvested, and potential impacts on wild populations.

CITES Authorities, in collaboration with other law enforcement authorities, such as the police, are encouraged to prioritise investigations and enforcement efforts for illegal trade of commodities/specimens particularly from Argali, Saiga and Siberian Ibex, with data in this study as a useful starting point for *modus operandi* and transit/destination countries to collaborate with.

RECOMMENDATIONS

CITES AUTHORITIES OF TAJIKISTAN

Authorities in **Tajikistan** are encouraged to update their trade records for exports of Marco Polo argali specimens if the importer reported quantities of ~130 trophies since they acceded to CITES are correct. If these reported imports are believed to be an error, they should liaise with the countries reporting most imports of Marco Polo Argali trophies (predominantly the USA) to determine the cause of these discrepancies. The same approach would be beneficial to ascertain the cause of under reporting of trophies from Argali and Siberian Ibex by Tajikistan.

Authorities in **Tajikistan** should investigate the nature and drivers of the illegal *Ferula* sp. trade and assess what threat it poses to wild populations of the country's species. Authorities should consider the impact of harvest and export bans for resin from *Ferula* species on communities that may otherwise be able to benefit from the sustainable harvest of these species.

CITES Authorities, in collaboration with other law enforcement authorities, such as the police, are encouraged to prioritise investigations and enforcement efforts to combat illegal trade of Argali, with data in this study as a useful starting point for *modus operandi* and transit/destination countries to collaborate with.

CITES AUTHORITIES OF UZBEKISTAN

Authorities in **Uzbekistan** are encouraged to investigate the origin of captive breeding stocks of Fischer's Lovebird *Agapornis fischeri* and Malherbe's Parakeet *Cyanoramphus malherbi*, and to determine the supply of current exports reported as captive-bred.

Authorities are also encouraged to investigate the cause of the unusually large import of close to 4,000 CITES Appendix I MacQueen's Bustard for personal use in 2021, including clarification of the main exporting country for this record. If this was a reporting error, the authorities would benefit from updating this with the correct purpose code and if it was not, they are encouraged to determine whether the purpose is better defined as commercial -or any other- rather than personal, given the large quantity imported, in which case (if for commercial purposes) the Appendix I listed species must be exported from registered captive breeding facilities.

CITES Scientific Authorities would benefit from funding for an independent census of the Steppe Tortoise population in Uzbekistan, and a review of captive breeding facilities, to ensure export quotas for this species are supported by evidence. It is important that these quotas are adhered to when permits are issued. They may also wish to collaborate with relevant stakeholders such as IUCN Species Specialist groups to encourage an updated Red List Assessment for the Steppe Tortoise. As this species has been selected for the RST following AC32 in June 2023, authorities are encouraged to work with CITES and its Animals Committee to implement any additional recommendations arising from this process.

The Steppe Tortoise would also benefit from being prioritised in efforts to prevent illegal harvest and export by enforcement officers in Uzbekistan, given the large quantities of illegal trade identified in this species alongside concerns of unsustainable legal trade.

CITES Management and Scientific Authorities in Uzbekistan are encouraged to liaise with their counterparts in Azerbaijan to ensure imports of Medicinal Leeches are within sustainable limits for those produced by captive breeding facilities in Azerbaijan.

CITES Authorities, in collaboration with other law enforcement authorities, such as the police, are encouraged to prioritise investigations and enforcement efforts to combat illegal trade of commodities/ specimens particularly from Saiga, Saker Falcons, and Muskrat, with data in this study as a useful starting point for *modus operandi* and transit/destination countries to collaborate with.

Fischer's Lovebird Agapornis fischeri

APPENDICES

APPENDIX 1: NAMES OF INSTITUTIONS IN KAZAKHSTAN INVOLVED IN MAKING WILDLIFE SEIZURES.

NAMES OF THE INSTITUTIONS
Border Service of the National Security Committee of the Republic of Kazakhstan
Financial Monitoring Agency of the Republic of Kazakhstan (Economic Investigation Departments)
Committee of Forestry and Wildlife of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan and Police (all divisions of the Ministry of the Interior)
Police (all divisions of the Ministry of the Interior)
Republican State Enterprise PO "Okhotzooprom"

APPENDIX 2: SEARCH TERMS USED TO IDENTIFY OPEN-SOURCE REPORTS OF ILLEGAL TRADE INCIDENCES AND SEIZURES REPORTED IN KAZAKHSTAN, KYRGYZSTAN, UZBEKISTAN, TAJIKISTAN.

SEARCH TERM	COUNTRIES
GENERIC SEARCH TERMS	Kazakhstan Kyrgyzstan Uzbekistan Tajikistan
Seizures of rare wild animals and their derivatives in...	
Seizures of rare wild plants in...	
Smuggling of wild animals, reptiles, and plants in...	
Poachers found with Red Book animals were detained in...	
Wild animals transferred to a rehabilitation center or zoo in...	
Seizure of rare wild birds in...	
Seizure of derivatives of rare wild animals in...	
SPECIES GROUP SEARCH TERMS	
Seizures of snakes and other rare reptiles in...	
Seizures of the roots of wild plants (licorice root, Arnebia) in...	
Seizure and detentions of bears in...	
COMMODITY/SPECIES TYPE SEARCH TERMS	
Seizures of resin and seeds of Ferula in...	
Seizures of Aflotun onion in...	
Seizures of Ephedra in...	
Seizure of the horns, skin, and meat of mountain sheep (Arkhar, Argali, Arkar, Kachkar) in...	
Seizure of horns of rare wild animals in...	
Seizure of the horns, skin, meat of mountain goats (Siberian Mountain goat, or Siberian goat, Central Asian goat, Tek or Teke) in...	
SPECIES ONLY SEARCH TERMS	
Seizure of Snow leopard (Irbis, Ilbirs) in...	
Seizure of Manul (Pallas cat) in...	
Seizure of Saiga (Margach, Saiga) in...	
Seizure of Golden Eagle in...	
Seizure of Falcons in...	
Seizure of Central Asian (steppe) tortoise in...	

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ENDNOTES

[1] CITES trade data was only available up until the year 2021.
[2] Here understood to include the countries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.
[3] Species that are not necessarily currently threatened but may become so unless they are subject to trade regulation, those that must be subject to regulation in order for trade in other specimens to be brought under effective control and those for which a Party needs the cooperation of other Parties in controlling trade.
[4] https://cites.org/eng/legislation/parties.
[5] The CITES Annual -Legal Trade- Report data are submitted by Parties and made publicly available in the CITES Trade Database: https://trade.cites.org/
[6] The CITES Annual Illegal Trade Report data are submitted by Parties but are held in a database managed by UNODC that is not publicly available.
[7] https://speciesplus.net/
[8] https://www.iucnredlist.org/
[9] Publicly accessible at: https://trade.cites.org/
[10] http://trademapper.co.uk/
[11] https://cites.org/sites/default/files/reports/annual-reports/annual-reports.pdf
[12] In the data provided, seizures involving several species/commodity types are separated and treated as distinct seizure records for each species/commodity combination. The number of unique seizures reported is not available from the data provided but will be lower than the number of seizure records.
[13] See AC32 Doc 15.3 and AC32 Sum.4 (Rev.1)
[14] Note that the species present in Azerbaijan and other Central Asian countries and traded under the name *Hirudo medicinalis* has been recently identified as a separate species Hirudo orientalis, in 2005 (Utevsky and Trontelj, 2005). *Hirudo orientalis* is a synonym for *Hirudo medicinalis* recognised by CITES (UNEP,2023).
[15] See P3 of https://cites.org/eng/app/appendices.php.

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FEBRUARY 2024

WORKING TO ENSURE THAT TRADE IN WILD SPECIES IS LEGAL AND SUSTAINABLE, FOR THE BENEFIT OF THE PLANET AND PEOPLE

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