MONGOLIA

SILENT STEPPE II:

Mongolia's Wildlife Trade Crisis,
Ten Years Later

ZSL LET'S WORK FOR WILDLIFE

la legalatlas

IRIM MONGOLIA Independent Research Institute

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Mongolia's Wildlife Trade Crisis, Ten Years Later

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Preface

In the summer of 2005, a collection of 30 organizations and close to 50 people, led by the Wildlife Conservation Society (WCS) and with financial support from the Environment and Natural Resource Division of the World Bank (WB), undertook the largest and most comprehensive wildlife trade survey ever conducted in Mongolia. The impetus for the effort came from many fronts, but all centered on the suspected increases in hunting and trade as the probable cause for the gradually more obvious decreases in wildlife populations.

Covering every one of the country's 21 Aimags[1] (provinces), researchers queried more than 4,000 individuals and completed another 1,100 market surveys to gather data on a wide variety of wildlife trade related practices and trends. At the same time, the authors gathered hunting data from local governments; traveled to China and Russia to see firsthand what was happening at the border; completed a gap analysis of Mongolia's national and international wildlife trade laws and obligations; and conducted stakeholder meetings with lawyers, judges, police, border control, rangers, biologist; virtually anyone that could offer insight into what was happening, and what needed to be done.

The results, detailed in the 100+ pages of Silent Steppe: the Illegal Wildlife Trade Crisis in Mongolia, documented in numbers, graphs, and images what until then could only be guessed at and described through anecdote. Mongolia's wildlife – unprotected sometimes by law, but certainly in practice – was not only targeted by a large and growing number of hunters and consumers across the country, but also by industries and markets beyond its borders. Species that had been traded in the past were of course still being traded. But with little to no control, trade was happening at volumes and for purposes and markets never before seen. Marmots, always a game meat staple, became the target of a fur market in China. Instead of thousands, the study concluded it was likely being traded in the millions each year.[2] Wolves,

traditionally hunted for many reasons (fur, meat, medicine, livestock protection), had to contend with a new international market with an appetite for traditional medicine and trophies that few knew existed. Trading in a limited number of species for decades,[3] Mongolia had yet to come to terms with the fact that most if not all of its wildlife was a commodity at home and abroad.

The reasons for the surge in take and trade were rooted in a seemingly disconnected event, the fall of the Berlin Wall in 1989. With the end of a political era came the collapse of an economic one, the consequences of which fell especially hard on countries like Mongolia whose economies were entirely nested within the Soviet system. In the first few years, Mongolia's inflation rate stayed in the triple digits, GDP lost as much as 30%,[4] and every sector of the economy suffered from shortages in everything, including the basics of food and clothing. As much as one-third of the country found itself in extreme poverty, and 50% living on less than two dollars per day.[5] For a variety of reasons, this transformational recession continued into the early 2000s.[6] A culture that had always relied on wildlife for medicine, fur, and clothing, turning to this traditional resource was as natural as it was forced by unprecedented circumstance.

And for many, it was also hard to imagine that so much harm could be done in so little time. In the early 90's, standing almost anywhere on the steppes, a mostly untouched sea of grass so large more than a few countries might fit within its borders, was to witness wildlife spectacles few places on earth could still boast. Marmots seemed as common as grasshoppers; white-tailed gazelles roamed the landscape a million strong; red deer grazed in front of apartments a few blocks from Ulaanbaatar's city center; and the rivers, were a fisherman's dream. With an economy in collapse and an open door to trade, this was a resource that simply could not be ignored.

Against this backdrop, it was slowly but increasingly clear that the political and

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[1] Mongolia is divided into 21 Aimags with the capital city, Ulaanbaatar, governed as an independent provincial municipality.

[2] Wingard, J and P. Zahler. (2006) Silent Steppe: The Illegal Wildlife Trade Crisis in Mongolia. Wildlife Conservation Society.

[3] Mongolia officially traded seven wildlife species during the Soviet era, including marmot, red fox, corsac fox, wolf, wild boar, Mongolian gazelle, and red squirrel. Wingard, J and P. Zahler. 2006. p. 17.

[4] CIA World Factbook, Mongolia. January 12, 2017; see also Sindelar, Daisy. December 9, 2009. Mongolian Democracy: From Post-Soviet Success to Post-Transition Struggle. Radio Free Europe/Radio Liberty.

[5] Sindelar (2009).

[6] CIA World Factbook.

economic transition was having a direct and untenable impact on Mongolia's wildlife. What was known, however, was still mostly anecdotal and certainly limited, even if in many instances it came from professional organizations actively involved in wildlife research and conservation. The problem was the study of wildlife trade per se was not a part of anyone's particular mandate, if it was being studied at all for some species. The impetus and objective in 2005 was to break through this knowledge gap; to study wildlife trade in a singular fashion, but also as broadly as possible across species and regions, bringing as many organizations together as would be needed to document what everyone collectively suspected was happening. The result was the Silent Steppe study published in the spring of 2006.

That the study has had a lasting impact is a little surprising, but not entirely. It is not unusual for studies of this kind to fade into a world of grey literature known to a few, but generally leaving little trace of their having been. For fortunate (and unfortunate) reasons, this did not happen with the first Silent Steppe report. Although reported on ahead of publication by New York Times science writer, John Wilford,[7] causing more than the usual amount of interest, its persistence is less a testament to the study and international interest than it is to the value Mongolians place on the magnificent wildlife that inhabits its vast steppes, deserts, and forests. The year Silent Steppe was published, 2006, was still many years before wildlife trade would be understood by the larger international community as a growing crisis of global proportions. Even now, the global IWT conversation tends to focus on species that do not occur in Mongolia (tigers, rhinos and elephants) and on countries far removed from its ambit of trade. Whatever efforts have happened to change the course of wildlife trade in Mongolia since the first Silent Steppe study owe their life force to Mongolia's citizenry and government.

As these efforts continue, and just over a decade since the first Silent Steppe, it is hoped that this new assay of statistics, policies, and practices will again capture the story of wildlife trade; delivering hard facts and figures to inform decisions about the future of managing wildlife trade in Mongolia.

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[7] Wilford, N. 2005. In Mongolia, an Extinction Crisis Looms. The New York Times. Science Section. Available at http://www.nytimes.com/2005/12/06/science/in-mongolia-an-extinction-crisis-looms.html

Foreword

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Mongolia is a country that has undergone rapid transformation during the preceding decades and now sits within a dynamic global community. The nature of today's international marketplace means that understanding Mongolia's role in the international community is more important than ever, with foreign markets now intrinsically linked to Mongolia's domestic practices. This is most certainly the case with the illegal wildlife trade in Mongolia, one of the nation's great challenges, and an issue that can significantly impact a country's economic, environmental, national security and social prosperity.

Mongolia is a nation with a proud environmental protection heritage working to conserve diverse iconic landscapes from vast grassland steppes to the rolling dunes of the Great Gobi Desert. Bogdkhan Uul, south of Ulaanbaatar is the world's oldest legally protected nature reserve. Today, however, the species that occupy these landscapes are becoming increasingly threatened by the illegal wildlife trade. In Mongolia, this is of concern for the variety of ecosystems that depend upon these ecologically important species, and the Mongolian people whose livelihoods have depended upon them for generations.

Improving knowledge and our understanding of the illegal wildlife trade is vital to combatting its occurrence. In Mongolia, our understanding of the illegal wildlife trade has improved dramatically, and a concept that few would have imagined impacting Mongolia's species, is now a priority for many of Mongolia's institutions who work to halt its occurrence. The Mongolian public too, are becoming increasingly aware of the impacts that over-hunting and illicit trade has on many of its iconic species with many local communities dedicating to ensuring the sustainable management of the surrounding landscape that they live within. In today's ever-evolving international landscape, it is vital to continue ever-improving our understanding so that national and international organizations are capable of rapidly adapting and targeting the key drivers of illegal poaching, and the trade of illicit products.

The Government of Mongolia and the Ministry of Environment and Tourism are striving to promote Mongolia's green and sustainable development, ensuring the sustainable use of its natural resources in the protection of its flora and fauna. Domestically in Mongolia, progress has been made to revise national legislation and improve enforcement capacity to protect species vulnerable to over-hunting and illegal hunting for illicit trade. Likewise, in 2016 Mongolia joined global leaders in Hanoi, Vietnam to confirm Mongolia's international commitment to eradicating the illegal trade in wildlife. The Mongolian Government attended the 2018 London Conference on Illegal Wildlife Trade, ensuring Mongolia's long-term international role to halting its occurrence.

In light of the progress that has been made, there is still work to be done in eradicating the illegal trade in wildlife Mongolia.

Specifically, it is important to ensure enforcement of regulations by all member states and for Mongolia to implement its obligations, adopted during the 18th Meeting of the Conference of the Parties (COP 18) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that took place in Geneva in 2019. In particular, it is appropriate to give high priority to tackle illegal online wildlife trade via social network.

As with all complicated, and highly inter-connected activities, the international community must work together to fight the international drivers of this market, ensure institutions are strong domestically to police and stop its local occurrence, and raise awareness of the impact of illicit trade to the public to support grassroots conservation. In aiding these efforts the continued acquisition of knowledge and understanding of the current marketplace is critical to ensure effective execution.

In a time when global, and Mongolia's biodiversity is facing immense pressure, the international community must rally together, to conserve our natural heritage, so that future generations will be able to live alongside wildlife that our forward-thinking Mongolian ancestors protected for modern Mongolians to appreciate today.

Let the environmental protection deeds prosper

Specifically, it is essential to ensure enforcement of regulations by all member states and for Mongolia to implement its obligations, adopted during the 18th Meeting of the Conference of the Parties (COP 18) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that took place in Geneva in 2019. A specific priority needs to be given to tackling illegal wildlife trade via the internet and social media.

Foreword

Philip Malone

Her Majesty's Ambassador to Mongolia

The illegal wildlife trade is now recognised as one of the world's most pressing threats to global biodiversity. On a vast scale, it also places human livelihoods at risk and fuels global crime. Asia has been at the centre of discussion around the illegal wildlife trade and is key to tackling it.

Mongolia, with its breath-taking landscapes and diverse fauna, is also at risk. Poaching is often occurring at unsustainable levels, threatening the long-term existence of many of Mongolia's iconic species. The livelihoods of those who still depend on the land are also at stake. Correspondingly, the Mongolian government and international community have been working actively to disrupt and stop this illegal trade to preserve Mongolia's natural heritage and the cultural identities of rural communities.

The United Kingdom has been at the forefront of funding and leading initiatives in these areas. The Department for Environment, Food and Rural Affairs (DEFRA), through the Illegal Wildlife Trade Challenge Fund, has granted over £14 million in funding to 47 projects globally including Mongolia.

The illegal wildlife trade is dynamic and complex. Ensuring an accurate and robust understanding is critical to combatting it effectively. In Mongolia, a country of vast resource wealth and a rapidly developing economy, a relevant and up-to-date knowledge of the illegal wildlife trade is vital to ensure Mongolia's natural resources are managed sustainably. The government of Mongolia has been working collaboratively with international governments and NGOs to stop poaching, not only in Mongolia, but also internationally, by preventing the illicit transit of wildlife products across its borders. The Silent Steppe II Report represents a fine example of this collaborative, concerted and international effort, shedding light on Mongolia's place in the illegal wildlife trade and its role in stopping it.

This report compiles the largest, most comprehensive and the first longitudinal study of the illegal wildlife trade in Mongolia. In the decade since the first report on this since 2006, the illegal wildlife trade has unquestionably evolved. The compilation and analysis of comprehensive and accurate data will provide the impetus and direction required for forward-thinking leaders and decision-makers to develop Mongolia's capacity to combat the illegal wildlife trade, ensuring the protection of some of the world's most iconic landscapes and wildlife.

Acronyms

ASEAN	Association of Southeast Asian Nations
ASEANWEN	ASEAN Wildlife Enforcement Network
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DEFRA	Department for Environment, Food, and Rural Affairs
DFID	Department for International Development
ESFL	Endangered Species Foreign Trade Law; shorthand reference to the …
IRIM	Independent Research Institute of Mongolia
IWT	Illegal Wildlife Trade
IB-NAS	Institute of Biology-National Academy of Sciences
MNET	Mongolian Ministry of Nature, Environment and Tourism
MNT	Mongolian Tögrög
SLAWEN	Snow Leopard and Wildlife Enforcement Network
TCM	Traditional Chinese Medicine[8]
TM	Traditional Medicine
UB	Ulaanbaatar
USD	Dollars of the United States of America
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund
WB	World Bank
ZSL	Zoological Society of London

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[8] Traditional medicine practices are sometimes generically referred to as Traditional Chinese Medicine or TCM, despite their not necessarily being associated with China. This report, however, uses this term only in reference to medicinal practices found in China and that were documented as playing a role in illicit wildlife trade in Mongolia. Traditional medicine uses for Mongolia's wildlife are otherwise more properly referred to simply as traditional medicine or TM.

Transcriptions

This report uses a number of transcribed Mongolian terms, many of which have two or three alternative spellings in English. As with every non-Latin script, there is a problem rendering it into Roman alphabetical characters that involves a choice between two methods: transcription and transliteration. Transcription is the conversion of the characters of one language to the characters of another language with the hope of approximating the pronunciation of the target language. The goal is help readers at least guess at how the word might be pronounced. In transliteration, each character of the source language is assigned to a different unique character of the target language and a literal inversion of the word is produced.

In 2012, the Mongolian government issued a revised version of its official transliteration standard for the Romanization of its alphabet.[9]

However, it has not been universally followed by all those writing in English about Mongolian affairs; hence, the multiple versions for individual words. To some extent, there are practical and understandable reasons for this. One of them is pronunciation. Pure transliteration standards, like the one adopted by Mongolia, are not intended to consider possible alterations to spelling to account for pronunciation. While the standard is useful, even necessary, its mechanical application can result in spellings that confuse readers of English. For example, the word "Бага" (the term for the smallest administrative unit in Mongolia), should be transliterated as 'Baga.' However, as the last 'a' is essentially silent when pronounced, it is often transcribed into English simply as 'Bag,' and the versioning of words continues.

It is not the intent of this report to wade into the world of linguistics, but a choice had to be made. The text in general follows MNS 5217:2012, but with a few minor alterations for pronunciation.

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[9] "Монгол кирил үсгийн латин хөрвүүлгийн шинэ стандарт батлагдлаа" [New latinization standard for Mongolian cyrillic script approved]. *18 February 2012* (in Mongolian). GoGo.mn. Retrieved 16 January February 2017

Credits

In 2015, ZSL was a recipient of the DEFRA IWT Challenge Fund and tasked with implementing a sequel to the first Silent Steppe report. This work was managed by Gitanjali Bhattacharya, ZSL Programme Manager for South and Central Asia and Nathan Conaboy, ZSL Coordinator of the Mongolian Programme. Legal Atlas, whose Legal Director was the lead author on the original Silent Steppe, was asked to reprise that nationwide survey. This new study uses (and improves) the survey methods and data collected in the first Silent Steppe study, and further investigates the current trends in IWT in Mongolia. In a major departure from the 2005 study, the team included a locally-based, social survey research partner, the Independent Research Institute of Mongolia (IRIM), one of Mongolia's leading national organizations in the areas of research, monitoring and evaluation, training, advocacy and consulting.

The results of this collaborative effort can be found in the following pages, including a comprehensive review of Mongolia's existing wildlife-related laws and a list of recommendations for action. Before thanking all of those involved in this report, we would like to take the somewhat unusual step of thanking someone instrumental in the direction and sponsorship of the first effort – Tony Whitten, who at the time was the person within the Natural Resources Department of the World Bank responsible for funding the first Silent Steppe report. It is with tremendous sadness that we learned of Tony's passing earlier this year. This work would indeed never have happened without him. We are greatly indebted and can only hope that study adds to his extraordinary legacy. We would also like to thank Peter Zahler – then the Asia Regional Director at WCS and now the Vice President of Conservation Initiatives at the Woodland Park Zoo in Seattle, Washington. Peter's consummate editing skills and knowledge of wildlife, Central Asia, and Mongolia made the first report not only a success, but a joy to work on.

From here, we thank the contributing authors on the present report, Amanda Rude and Abigail Houle, from the Legal Atlas team. They deserve special mention for their extensive research and diligence in gathering and analyzing information that was sometimes challenging to obtain and not always accessible in a language they are familiar with. If this report has merit, it is in large part theirs. We also thank the ZSL's biologists, Nathan Conaboy and Munkhjargal, without whom we would have been lost in many of the particulars. The ZSL experts provided invaluable support gathering and decoding species information, and waded through government documents (police records, custom reports, hunting quotas) to help tell this story in ways the surveys never could. We also owe a debt of gratitude to many that contributed to the successful completion of the market and household surveys. It was an absolute pleasure to work dedicated, knowledgeable and professional team at IRIM, including Project Consultants, Bold Ts, and Batsugar, as well as Survey Staff: Sukhbaatar O., Uchralt B., Bayarsaikhan J., Undrakh, Taivanjargal B., Purev-Ochir T., Erdenejargal, Tserenbayamba, Chintushig, Tserendorj E., Sukhbaatar O., Erdenesaikhan L., Gerelchuluun, Baya Oyuntuya, Sonormaa, Delgerjargal, Gerelbayar, Bat. Oyuntuya, Monkhtuya, and Byambademberel.

As with the first Silent Steppe, we again thank all of the respondents to the survey as well as those that shared their time and expertise in separate interviews to answer questions about the larger context for wildlife trade in Mongolia. For the entire study, we did our best to eliminate unnecessary lines of inquiry that we learned from the first effort, but it still took time and more importantly, a willingness to contribute. It is this willingness that makes it possible to understand practices and trends that most often remain hidden as they are scattered across the landscape, within communities, offices, and ultimately the lives of individuals.

Executive Summary

Introduction

Mongolia's Wildlife Trade Crisis Continues

Global estimates of illegal wildlife trade (IWT) are anywhere between USD $15 billion and USD $150 billion annually. Research from around the world tells us that IWT is 1) driven by rising prices that grow as species become scarcer, spurring even more illegal trade; 2) controlled by professional criminal networks; 3) facilitated by corruption; 4) supported by advances in logistics and communications; and 5) fueled by armed groups that use IWT as source of financing.

In 2005, the first Silent Steppe report told us that Mongolia had a share in this crisis. Wildlife trade was no longer just a part of the cultural fabric; it was also big business with annual trade for some species counted in the tens of thousands, even millions of specimens. Estimated trade values ran into the tens of millions of dollars.

In 2016, the second Silent Steppe report tells us that the crisis continues. There may be fewer people willing to openly discuss their wildlife trade activities, but the overall number of people harvesting and trading is similar. Total harvests are less than they were in 2005, but this may have more to do with reduced wildlife populations than anything else. Illegal trade, however, continues; the species most heavily targeted 10 years ago are still the primary targets today; and dispersed criminal networks using a variety of illegal methods and an 'on-demand' supply model are a major part of Mongolia's IWT problem.

Increased Enforcement Impacts Research Design

Ten years earlier, the research team was responding to a situation that was still only hinted at and that seemed predominantly local, even a little innocent. Enforcement was present, but still minimal and trade was highly visible. Talking to hunters and traders, taking pictures, and openly recording observations were possible in many instances without concern for safety or the worry that interviewees would deliberately hide information.

In 2016, the research team confirmed initial suspicions that IWT was affecting domestic markets as much as international markets; that the intervening years had seen increased enforcement and awareness of potential liability; and that obtaining information was going to be more difficult even at the household level, let alone in the markets and trade centers.

With all of these limitations, this version of the Silent Steppe report is still the first cross-sectional study on wildlife trade in Mongolia, and brings with it the opportunity to develop a unique historical perspective on the many parts that constitute wildlife trade in Mongolia's post-Soviet era.

Silent Steppe II Expands Scope

This second Silent Steppe report goes further than its predecessor in understanding IWT in Mongolia. It documents what has happened in the intervening years to species in trade, to the laws designed to address the problem, to the entities responsible for their implementation, and in the courts handling wildlife trade cases. Finally, it provides recommendations to bring illicit trade under control.

Multiple Innovations Improve Research

The 2016 version incorporates many innovations beginning with a more holistic approach, going beyond take and trade data, to collect information on wildlife trade logistics, economics, legal frameworks and institutional architecture.

The survey calendar was also adjusted to match hunting seasons and improve accuracy; sample methods were refined while still maintaining the same size; and qualitative and quantitative research instruments were better tailored to target audiences

Finally, the 2016 edition benefited from a professional field survey team and the use of survey software for data collection and processing. Throughout the report, an intentional effort has been made to visualize information and results to facilitate comprehension.

Research Methods

Research Begins By Identifying Knowledge Gaps

The overall research approach was guided by 70 research questions that targeted knowledge gaps, embodied research goals, and set the foundation for the remaining research effort. A total of 53 different sources of information were then identified to provide answers and data to the research questions. The list included public and private entities, as well as academic institutions.

Research took the form of interviews, data acquisition from management and enforcement entities, and online research into related publications and

IWT e-commerce. In short, all major wildlife stakeholders and sectors in Mongolia were approached.

Specialized Research Team

The 2016 research team was smaller than the one used in 2005, with the same core team conducting the entire survey effort from design through data collection and analysis. Along with expertise in biology, team members brought experience in the areas of law and legal development, economics, international trade, business promotion, research, survey design and statistics, and data visualization.

Three different entities were involved including the Zoological Society of London, Legal Atlas, and Independent Research Institute in Mongolia. The Zoological Society of London, acted as the lead organization, while Legal Atlas performed as the lead investigating and analysis team and the Independent research Institute of Mongolia brought the field survey capacity across the country.

Survey Periods

A total of 14 months were invested in the project to make this report possible (March 2016 to April 2017). The first two months were focused on reviewing the baseline study to distill strategic recommendations for the 2016 editions and prepare all research methods. The household survey was conducted between May and August 2016. The market survey followed from August to December 2016. In parallel, in depth interviews with stakeholders were conducted in Ulaanbaatar during June and July. The drafting of sections of the report also began at this time, with the support of desk research. In the final stages, key international and national

experts were invited to review and comment on results, building recommendations through a participatory process.

Diversification of Research Instruments Key to Approach

The diversification and tailoring of survey instruments was a key strategy, in particular given the anticipated reluctance of hunters to participate. The household survey therefore included a primary survey and an observational sheet to systematically document anecdotal information. Market survey used separate instruments for each market segment, including, a Retail Shop Survey, Traditional Medicine Survey, Tourism Agency Survey, Restaurant Survey, and an Observational Sheet, a Price Report, and a Key Informant Structured Interview Guide. Finally, stakeholder's opinions were captured using seven different semi-structured Stakeholder Questionnaires.

Preserving and Amending 2005 Approach

As Silent Steppe II is the first full cross-sectional view of wildlife trade in Mongolia since 2005, the strategy from its conception was to preserve as much as possible of the original approach while overcoming some of its shortcomings. This report replicated two important aspects of the household sampling design and data collection, although some changes were introduced in the 2016 iteration. The sample size 4,070 was maintained and the array of techniques used to identify households to be surveyed was again a combination of strata, linear intersects, and random methods. The household survey areas were set at 44, including

39 soums across the country and 5 districts in the capital.

For markets, 20 survey areas were established taking into account two relevant trade criteria: 1) the location of border crossing points with China and Russia and 2) the location of outdoor wildlife markets. After selecting areas, estimations of the population for each market segment (i.e. tourism agencies, restaurants, shops, etc.) were conducted. Based on these results, a target of 850 observations was established. This represented 250 fewer observations than obtained in 2005 (with 1,100 market surveys), however the segmentation of both the population surveyed and the refined research instruments compensated for the fewer number of observations, providing a larger set of valid data to analyze.

Data Collection

Data collection was conducted in three different sprints. In the first, a single international wildlife trade expert conducted 27 in depth interviews with stakeholders from May to June 2016. In a second sprint (concurrent with first), a total of 25 trained surveyors completed 4,070 household surveys and 46 observational sheets over a period of 29 days. The final sprint took place in the fall, during which time a team of 9 surveyors implemented all surveys targeting each market segment. In total, 5,013 observations were captured through the three research sprints, with an estimated investment in data collection time of 1,564 hours.

The process for assuring data quality was dramatically improved through the use of a dedicated quality assurance team and basic information technologies (e.g., the use of survey software and mobile devices; closed menu choices and pre-defined question flows in the questionnaires; automatic

recording of interviews; and geo-location of surveys). The combination of tools provided a strong foundation for tracking all data and reducing the possibility of mistakes and fake respondents. As a result, few instruments (less than 10 instruments or 0.2% of the total) from the entire sample were invalidated.

The Bigger Picture

International Trade is the Primary Driver in Mongolia's IWT

Mongolia does not generate all of the demand for its own wildlife; nor is it a major destination for wildlife products from other countries. It is, however, a part of global and regional trade flows that to some extent explain Mongolia's role in, and vulnerability to largely hidden wildlife trade markets. In brief, sandwiched between two major economies (Russia and China) and far from any ports, Mongolia finds its foreign trade dominated by these two neighbors, their markets, and political interests.

The increase in wealth and incomes of the middle class in Mongolia's southern neighbor, China, have created a seemingly inexhaustible demand for wildlife products pushing illegal trafficking to new levels. The most common species found in IWT include wolves, bear (gallbladders and bile), red deer (blood antlers), and musk deer (glands). In addition to these, furs from polecats, marmot, and other Mongolian species are sold to China to supply the apparel industry.

With Russia, the story has almost completely changed compared to former times. In the Soviet era, Mongolia was predominantly an exporter of

wildlife to Russia, albeit in a more controlled manner than is now happening with China. Today, Mongolia is principally an importer from Russia. Although exports of animals from Mongolia have remained almost the same, imports from Russia have risen dramatically, going from less than USD 0.5 million 1996 to almost USD 9 million in 2015. Official exports of fur from Mongolia have dropped to just 5% of their 1996 trade values, while imports from Russia increased 30-fold over the same period.

Mongolia is a Transit Country

One unresolved question from the 2005 Silent Steppe report was whether Mongolia was also a transit country for illegally traded wildlife. This survey found that Mongolia's status as a transit country is beginning to emerge and it is now a clearly documented part of its wildlife trade problem. Mongolia may not be a major transit route at this point, but it does have transportation infrastructure (in particular, the direct railroad and highway that runs north-south through Mongolia from Russia) already known as a route for other forms of illicit trafficking including drugs and people. The survey was able to document some cases of wildlife specimens harvested in third countries, such as lion, Dalmatian pelican, and saiga being transported through Mongolia to China. Until its most recent amendment in September 2016, the Criminal Code did not criminalize illegal trade or possession of wildlife species not sourced in Mongolia. The 'gap' created by this loophole resulted in 'transit' cases not being properly documented or prosecuted, and even dropped by the courts for lack of jurisdiction, a situation that has been now corrected.

CITES Trade Is Indicator of a Larger Problem

While CITES trade volumes for some species and regions are in the order of thousands and millions, trade in Mongolian species are in the order of dozens or, in limited cases, hundreds (e.g., wolves) or thousands (e.g., falcons). The low volumes, however, should not be mistaken for low value either in economic, or more importantly, in ecological terms. The species that occur in Mongolia inhabit an arid landscape where the ones that thrive in large numbers tend to be insects and rodents. As a result, hunting and trade quotas in Mongolia generally need to be small to ensure the continued survival of the species.

On average, the official numbers for aggregated CITES exports of wildlife come very close to, if not exceed, the total that Mongolia's wildlife managers believe are necessary. In all cases, illicit trade volumes are surpassing these limits by orders of magnitude. Just a few cases and enforcement records are enough to demonstrate that illicit exports are substantially higher than the licit trade represented by the official numbers (in some instances many times more).

Wolf trade illustrates this well. According to records provided by the Customs Agency, wolves have been one of the top species seized in illegal trade at the border for several years. In 2009, permitted wolf exports were 56 including all trade terms (17 skins, 15 trophies, 2 live, 20 specimen and 2 skulls). That same year, however, wolf seizures reported by Customs were six times that amount, at 312 frozen wolf carcasses. Seizures represent an unknown, but likely small percentage of actual illicit trade.

CITES Trade Indicates Mongolia Is Also a Consumer Country

Mongolia is steadily becoming a consumer country of foreign wildlife. In the first ten years after joining CITES (1996), import permits were barely significant. Since 2006, however, numbers have steadily risen and are now three times their former numbers. Accompanying the increases in demand for foreign wildlife is a concomitant increase in the number of source countries, going from 24 to 43 in the last decade. Among the top trade partners are United States, Colombia, Thailand, India, China, and Vietnam.

CITES import records also indicate that live specimen trade is the single most important category for Mongolia. In the past, this trade was almost entirely cacti. From 2006 to 2015, trade in live specimens more than doubles, but switches almost entirely to live sturgeon. The relatively early maturity of Siberian sturgeon and its freshwater lifecycle, make it the most common species found in aquaculture. Rumored, but not confirmed in this survey, is an effort to establish a fish farm for sturgeon in Mongolia.

Saker Falcon, Wolf, and Argali Top CITES Trade Species

Exports, however, are still strong and play a role for several critical species. Among the top three exported species are wolves, Saker falcons, and argali.

Over the years, gray wolf permits have represented approximately one third of the total CITES export permits making it the top export species based solely on permit totals (291 permits for a total of 2,700 wolves and wolf parts).

Falcons, however, are traded in far greater numbers. Used in falconry, eight species are exported by Mongolia under CITES. Of these eight, by far the most common is the Saker falcon with 24,748 specimens exported from 1996-2015, constituting 97% of all CITES specimens exported by Mongolia.

Argali is also among the top three, with almost all exports associated with trophy hunting. Similar to gray wolf exports, argali permits comprise roughly one third of total trade (263 from 1996-2015) in most years, making it the second most frequently exported species based on permit totals. The total number of animals traded is also similar to gray wolf numbers, with records documenting 1,322 trophies and another roughly thousand specimens traded for a total of 2,369.

Increased International Trade Challenges Mongolia's Efforts to Control IWT

Increases in international trade bring easier or more fluid avenues for both legal and illegal trade. With millions of shipments going through ports around the world every day, less and less is being inspected. This happens in all ports as they become busier and is already occurring in the ports of Mongolia.

Increases in the country's foreign trade has been substantial over the last two decades, going from USD 0.75 Billion in 1996 to USD 8 Billion in 2015. Dominated by exports of raw minerals and imports of industrial products, this trade has a direct footprint in the number and frequency of freights crossing Mongolia's borders every day. On the southern border with China, empty 100-200 ton trucks enter the country heading toward mining operations and cross back fully loaded, in many cases with sealed containers – seals placed on-site by mining operation inspectors without the opportunity for custom officers to conduct proper inspections. It is precisely in this type of vehicle, carrying coal and minerals that several customs inspections have uncovered hidden wildlife specimens as traders attempt to illegally cross the border.

Increased trade and shipping are straining already understaffed and underfunded customhouses and border offices. In particular, adequate imaging equipment to conduct routine inspections of these heavy vehicles is not in place.

Adding to this, the relaxation on inspections and cargo scans in free trade zones, in an effort speed up trade, simplify trafficking. After approving Free Trade Zone legislation in 2002, Mongolia signed an agreement with China in 2015 that led to breaking ground of the first FTZ, next to the Zamiin-Uud border point, the number one customs area by volume for Mongolia and one where wildlife traders are known to be located. Although completion is not expected until 2018, there are concerns about its future impact in wildlife trade.

Border Security Concerns Overlap with IWT

Mongolia's international border with Russia and China is 8,252 km long and has long been a security concern. Testifying to this, Mongolia is one of the few countries in world that has almost entirely enclosed its borders in fencing. In addition, at least one source claims that between 300-350 border patrol units operate at all times.

Despite the fencing and border staffing, it is still true that Mongolia's borders are exceptionally open and difficult to control. Except for its far western border, defined by the Altai Mountains, there are few natural features that significantly impede crossing

at any point. Its entire southern border with China is either grassland or desert, and with much of its northeastern border with Russia also grassland, much of it can be usually traversed by jeep. With these long, mostly deserted borders to both the north and the south, traffickers are not restricted in their movements and, once they have navigated fencing, they can move contraband with relative ease and little risk of detection, an inevitable result of a vast landscape that is difficult to monitor.

Patrolling Vast Spaces is a Major Challenge

In Mongolia, park rangers are responsible for controlling 265,000 km2 – or roughly 17% - of the country's territory. Divided into 75 different individual protected areas, these spaces are also located in some of the remotest regions, covering largely uninhabited mountains and deserts. Added to this is the need to monitor increasing activities along the country's 10,409 km of major rivers and 13,418 km2 of lakes, as pressure on aquatic resources has risen sharply in recent years. In sum, few places on earth have so much territory to cover with as few people and resources as does Mongolia.

Iconic national parks such as Toson Huslai or Khuvsgul have just 6 and 15 rangers in service, with each person responsible for an average of 783 km2 and 559 km2. At the perspective of the aimag level, it is even more difficult. In Selenge aimag, 28 rangers are expected to cover its 41,000 Km2, while in Bayan-Olgii, 30 rangers have responsibility for 45,700 km2. The average for these two comes to a surveillance requirement of around 1,500 Km2 per ranger; clearly insufficient staffing levels and a daunting task by any definition.

Reports from enforcement personnel at literally all levels concerning insufficient resources (rangers, inspectors, customs officials, and police) are ubiquitous. With limited resources, salaries are unfortunately low and basic equipment (uniforms and binoculars) in some cases is old or unusable.

The Threat of Violence Impedes Efforts by Rangers

Rangers are not only challenged by the size of the areas they must patrol, but by the threat of violence. In many countries around the world, rangers often find themselves on the frontlines in the battle against poachers. It is estimated that around 10,000 rangers worldwide have been murdered while on duty in the last ten years, 80% by poachers and militia groups.

Violence, however, is not a common threat to rangers in Mongolia compared to other countries. No stories of violence were collected during the survey. Instead, there were many stories of encounters between armed groups of illegal hunters and rangers where conflict was avoided by both sides. If it was not the poachers escaping using modern vehicles, then it was the rangers that were inevitably forced to retreat for their own safety.

Organized Crime a Significant Factor in Mongolia's IWT

Highly lucrative and illegal businesses are necessary for international organized crime networks to exist and flourish. These networks typically involve a relatively high number of people, operate with sophisticated equipment, invest in expensive logistics and self-protection structures, and frequently use military equipment. They also require complex international monetary transactions to pay regular bribes and secure their supply chains. It does not matter whether the products are drugs, wildlife, counterfeit products, people, or other.

Organized crime targeting Mongolia's wildlife centers around a few highly profitable endangered species (e.g., red deer, musk, bear, saiga and wolf), but also a few fur bearing species used in the apparel industry (e.g., marmot, corsac fox, and red fox) where the profit is in the volume. Methods include on-demand hunting requests to local poachers, the use of specially equipped, fast vehicles, and an array of illegal hunting methods including night lighting, automatic weapons, intentional vehicle-wildlife collisions, and car chasing. Drones have also been identified by the police as being used by criminal organizations to geo-locate wildlife. Enforcement officials talked about 12 different criminal networks being the object of undercover investigations during recent years in Mongolia, with an estimated value of their illegal wildlife operations of 15 million USD.

Tackling the Network and not the Individuals

Wildlife crimes are effectively smuggling schemes, sharing the same logistics and financial methods used by traffickers of weapons, drugs, people, and diamonds. Wildlife investigators in some jurisdictions use techniques similar to those used in narcotics enforcement, in particular, controlled deliveries of contraband, followed by anticipatory warrants. These techniques are used when authorities detect freight with illicit products and allow, under strict surveillance, the delivery of the freight to its final destination. This allows them to identify a larger portion of the network beyond the seller or the transporter.

Testifying to the need for such techniques in Mongolia (explicitly part of the investigative powers of Mongolia's Customs Authority), this survey revealed stories of Mongolian women living in poverty being used to cross the border with small amounts of illegal wildlife hidden in candy and biscuit wrappers and personal bags. In these cases, the target of enforcement actions focused on the women (known as 'mules' in the world of smuggling) and never reached those that manage the illicit network.

Institutional Landscape

Mongolia Rebuilding Capacity to Fight IWT

Over the past several years, management and enforcement agencies in Mongolia have been the recipients of a steady, if not yet complete, effort to rebuild. Some notable efforts in the last 10-15 years have been the reorganization among existing inspection and enforcement agencies on environmental crimes, including illicit wildlife trade. Up to 15 different governmental units across the legislative, executive and judiciary branches are today involved in setting, implementing and enforcing wildlife legislation.

Many Bodies 'Manage' Mongolia's IWT, But Capacity is Still Lacking

The Parliament's Environmental Standing Committee has been instrumental in the drafting of three new wildlife related laws, including a revised Criminal Code, a new Law on Infringements, and a revised a revised Law on Fauna. The Committee should also be credited for the specific wildlife provisions included in other fundamental laws enhancing wildlife management, such as the Tax Law (2008), Medicines & Medical Devices Law (2010), Criminal Procedure Code (2015).

The Office of the President also bears mentioning in the context of illegal wildlife trade as Presidential decrees have been issued in the past to impose hunting bans for wolves and marmots. The use of a Presidential Decree has particular importance, if for no other reason than the level of the issuing office. Its value in combatting illicit trade may be therefore in its ability to raise awareness more than anything else.

Within the Ministry of Environment, the Department of Natural Resource Management is Mongolia's primary body responsible for developing the implementing regulations for wildlife, as well as directing the on-the-ground management of wildlife, including the principal responsibility for most of the country's protected areas, hunting and fishing regimes, legal trade in CITES species, and combatting illegal wildlife trade. In this last responsibility, it must be noted that the Ministry is purely an administrative body, and not an implementation or enforcement authority. The Department itself does not in fact have field operations. On-the-ground management is lead by other bodies. Key activities of the Department are the review of the lists of species protection status (today including 31 Very Rare species and 76 Rare), the calculation of the Ecological Value of species, used to determine the restoration values of illegal take, and the setting of annual hunting quotas.

The Director of this department is also the CITES Management Authority. Understaffed and underfunded, its role has been limited and their reporting on CITES obligations as well as the general ability to leverage all legal and technical opportunities the convention offers could be improved.

The CITES Scientific Authority similarly could improve the fulfillment of its role in making non-detriment findings (NDFs). Mongolia has no standard NDF procedures and has not published in recent years any of the evidence accepted by CITES as the basis for NDFs, such as studies on species distribution, population status, population trends, or threats.

Local governments at the Aimag and Soum level are also principal actors in Mongolia's efforts to manage hunting and fishing resources within their territory. The legal mandate of local government officials in aimags and soums includes close coordination with the Ministry of Environment on issues such as population surveys wildlife conservation, public awareness campaigns, as well as the general implementation of the Law on Fauna (e.g., quotas, and bans). A total of 69 hunting regions have been established and all have hunting management at the local level. Within these, soums have the ultimate authority to issue hunting permits pursuant for the approved quota for their region. Since 2012, funds from hunting permits and trophy hunting no longer go to state budget controlled by the Ministry of Finance, but to the soum governor's budget. This incentive is seen as a positive development for combatting illicit wildlife trade as local governments in theory now have a vested interest in maintaining the resource.

IWT Enforcement Bodies Need More Support

Similar to wildlife management, enforcement is also a shared responsibility, involving eight different government agencies that overlap in their powers and authority to detect and

suspend; to search and seize; and to investigate and enforce.

The General Agency for Specialized Inspection (GASI) concentrates all governmental inspection powers. It has two units relevant to the management of the wildlife trade: the Environmental Control Office, with close to 700 inspectors and rangers in the field monitoring hunting and other environmental permits, and the Customs Inspection Office, inspecting CITES permits (and others) at border crossing points.

Formally part of the Ministry of Justice, the Police are the prime investigative and enforcement authority for all crimes in Mongolia, including illegal hunting and illegal wildlife trade. In 2010, the Police established an Eco-Crimes Division, a positive new development for Mongolia's fight against the illegal trade in wildlife since the first Silent Steppe report. The Eco-Crimes Division is specifically tasked with environmental crimes, offering the opportunity to accumulate the expertise and practices necessary to fight specialized crimes. Although the Division's attention is presently concentrated mostly on mining cases, 15% of their caseload involves illegal wildlife take and trade incidents.

Staffing and resources of the division have shown a downward trend in the years since it was formed. Initially staffed with 30 officials when created in 2010, this has dropped to just 12 officials in 2016, a level of manpower insufficient to cover all of the Eco-Crimes cases they currently receive, much less the wildlife cases. In the last three years, the Police investigated 168 criminal cases of illegal hunting, sending to court 112 (67%) of these and confiscating more than 8,000 wildlife specimens.

Tips about illegal hunting are sometimes received from citizens because the law includes a reward of 15% for informers.

While the system has certainly experienced some success, there remain concerns about its application with respect to protecting the identity of informants and ensuring that they receive rewards as intended. Key informants relate that this is having a potentially negative impact on the number of people willing to report wildlife crimes.

Another development has been the creation of mobile anti-poaching units (MAPUs), which currently operate in the West, East, and Center of the country. MAPUs are joint units involving customs, GISA, police, and rangers that collaborate on IWT. MAPUs are intended to address an important gap in fighting wildlife crime: the lack of regular and immediate information exchange between enforcement agencies. As a practical matter, it also removes the disruption in enforcement activities caused when soum and protected area rangers operate alone. Although MAPUs have seen some success, the lack of direct integration in routine government activities raises concerns for its continued operations.

International wildlife trade enforcement begins at the border where customs officials conduct inspections on permits, other paperwork such transport bills, or vehicles certifications, and products to determine the legality of trade. For that reason, customs are set to play a very prominent role in CITES enforcement worldwide. Mongolia Custom General Administration is today part of the larger Customs and Tax Authority (CTA), overseeing at the same time the Mongolia Tax Administration. This explains why enforcement of import and export duties is a priority concern. In 2011, Mongolia Customs collected over MNT 3 trillion (USD 1.3 billion) in customs duties; accounting for 40% of all state revenue and 6% of the GDP. Exports of minerals and imports of oil, vehicles and construction and mining equipment are the primary

sources of customs revenue and consequently attract most of the attention. As much as 90% of the export and import commodities cross through Altanbulag (Selenge), Sukhbaatar, and Zamiin-Uud ports, and most of the Customs operational resources are dedicated to these same ports.

Customs reports only three criminal cases of wildlife smuggling detected nationwide in 2014; six in 2015; and seven in the first five months of 2016. All cases, except one, are related to trade with China, a border that officers confirm concentrates more than 90% of border problems. The species and products trafficked are consistent with the Eco-Crimes Division reports and include Mongolian gazelle (horns), gray wolf (whole carcasses and skins), marmot (skins), bear (paws; fresh and dried bile), red deer (blood antlers, genitals and female tails), Dalmatian pelican (beaks), Corsac and Red fox (skins).

Customs manages also a Detector Dog Unit that reported 310 cases of attempted illegal wildlife trade in the last three years alone (80% of which were illegal skins). This number is almost twenty times larger than the criminal cases investigated for the same period, but includes both criminal and administrative cases. The data provided does not indicate how many cases were handled as administrative infractions and therefore not reported to the Police for investigation.

In 2000, after a long period of reorganization of the intelligence apparatus during the post-Soviet era, Mongolia established a modern General Intelligence Agency (GIA) to support the enforcement of more than 25 different types of laws and regulations related to national security and crime, including wildlife crime. GIA is therefore another key enforcement body relevant to illicit international wildlife trade. GIA agents gather intelligence on money

laundering operations, human trafficking, firearms trafficking, corruption, and smuggling through Mongolia's borders

The General Authority for Border Protection (GABP) holds the mandate to enforce the law within a 15 km wide buffer zone that stretches the entire 8,252 km perimeter of the country, defining an area of 123,780 km2. Its primary mission is to prevent the entry of terrorists and terrorist weapons into the country, the deterrence of illegal immigrants and the prohibition of trafficking of illegal substances across the nation's borders. According to GABP, 3 million persons and 1.5 million vehicles cross Mongolia's borders on an annual basis.

Corruption Plagues Efforts to Combat IWT

Both management and enforcement are impacted by corruption in Mongolia. With a score of 36 and ranking 103 out of 180 on Transparency International's 2017 Corruption Index, Mongolia is firmly within the lower ranked countries along with its neighbors China (41) and Russia (29). This ranking has not changed significantly in the past 5 years, suggesting that anti-corruption efforts will require a long-term effort.

A survey in Mongolia independent from this Silent Steppe report put some numbers behind this finding that 31% of businesses expect to give gifts to officials to 'get things done'; 10% of trading companies encounter corruption in the course of their work; 7% percent of the individuals surveyed paid a bribe in the three months prior to the survey; and Mongolian citizens generally perceive customs officials to be corrupt.

The Silent Steppe survey collected many personal testimonies of collusion, bribes, and embezzlement connected illicit wildlife trade. Among the unverified practices described by interviewees are smugglers

colluding with customs officials to avoid being examined at the border, environmental inspectors imposing fines without documentation and not reporting the money collected, government officials issuing hunting permits to friends and family in exchange for the meat obtained, and bribing ranger to 'look the other way'.

On a positive note, the legal environment surrounding corruption is improving and some high-level corruption cases have been uncovered. Mongolia is not a party to the OECD Convention on Combating Bribery, but it has ratified the United Nations Convention against Corruption. It also addresses corruption in two national laws; the Criminal Code (2016) and the Anti-Corruption Law (2006). The Criminal Code of Mongolia forbids the abuse of functions, money laundering and active and passive bribes of officials and providers. Punishment includes imprisonment for up to ten years as well as fines. The Anti-Corruption Law establishes the Independent Agency Against Corruption (IAAC) as the principal agency responsible for investigating corruption cases. The IAAC has the power to monitor for corruption and conduct investigations, including customs, border officials, and rangers.

IWT Legal Framework

Multi-Faceted Approach to Combatting IWT

Supporting the institutional improvements of the last decade have been several legal developments significantly enhancing the normative framework to manage wildlife and fight illegality. In addition

to the creation of a new CITES implementation law in 2002 and revisions to the Law on Fauna in 2012, there have been new legal developments in a new Law on Infringements in 2015 and the Criminal Code in 2016. Not including the multiple hunting restrictions and bans issued over the years, the current framework of laws that apply to wildlife trade includes 20 major laws and regulations, as well as periodically issued hunting bans and quotas.

Concerning the management of wildlife take, Mongolia has two resource-related laws of particular importance; the Law on Special Protected Areas; and the Law on Fauna. The Law on Fauna acts as a core legal instrument in the framework, and the umbrella for many others that define, inter alia, the status of species, hunting quotas and bans, finances, and permitting processes. The Law on Special Protected Areas is a place-based approach that prohibits hunting and fishing in certain zones.

For the management of wildlife trade, another five laws are considered relevant. Belonging to this group are three laws regulating domestic trade including the Advertisement Law, the Medicine and Medical Devices Law, and the Tax Law. Another two laws regulate international trade, including the Customs Tariffs and Tax Law and the Law on Foreign Trade of Endangered Species, implementing Mongolia's CITES trade obligations.

The framework is completed with another five laws relevant to wildlife crime: the Criminal Code, the Criminal Procedure Code, the new Law on Infringements, and two additional laws that may be useful, but which have no express relation to the wildlife crime; the Anti-Corruption and the Anti-Money Laundering Law. Neither of these specifically mention wildlife or wildlife trade in any article. Instead, they focus on the specific money

laundering or corrupt act. In this sense, they take an 'all crimes' approach and could be used regardless of the underlying or related crime. As attested to by key informants, wildlife trade is an element of both money laundering and corruption in Mongolia.

Major Improvements in Penalties and Criminal Sanctions

Among the more important legal developments is the creation of a new Law on Infringements in 2015, replacing the 1992 Law on Administrative Penalties. This law is intended to consolidate all administrative fines that in the past were found in up to 220 separate pieces of legislation. It includes one dedicated chapter covering violations of environmental law with subsections on violations of the Laws on Fauna, Special Protected Areas, and International Trade in Endangered Species. Other chapters cover IWT-related legislation also identified in this framework including Laws on Customs, Advertising, Anti-Corruption, and Anti-Money Laundering. With this crosscutting change, Mongolia has not only improved the consistency and transparency of its administrative penalty system, but also simultaneously increased the coverage and applicable fines across the wildlife trade value chain.

The next most important development is the substantial revision of the format and content of the Criminal Code. Whereas in the past, effectively only two articles were used in connection with wildlife crime with questionable coverage, the current version explicitly addresses wildlife trade in a comprehensive fashion similar to the Law on Infringements, increasing the level of fines and prison sentences, as well as establishing explicit liability for legal entities. Neither of these laws was in effect for the period

of the survey and therefore much remains to be seen, but the improvements in the letter of the law are clear.

Between the Criminal Code and the Law on Infringements, this gap analysis identified 77 separate types of acts (e.g., illicit sale, purchase, storage, etc.) considered wildlife offenses. Each act that could be independently prosecuted was identified and then organized according to the major areas they covered. Most of the offenses are related to illegal harvest (27 offenses) and to illegal trade (26). The remaining offenses are connected to firearms (15) organized crime (6) and other miscellaneous issues (3). Combined, they cover a much greater range of the value chain associated with wildlife trade than the previous laws, including penalties for the illegal sale, purchase, preparation, use, collection, transportation, storage, import, and export.

Associated penalties include compensation for damage caused based on the ecological value of the species, a differentiated fine scheme for individuals, for legal entities, community service, and detention and imprisonment time.

Fines range from USD 4,700-23,500 for Rare species and USD 8,700-34,700 for Very Rare species. Even at the lower end, fines are greater than the known market value of any of Mongolia's Very Rare or Rare listed species, effectively denying traders the benefit of the illegal activity.

Prison sentences range from 1-5 years for Rare species, and 2-8 years for Very Rare species classifying Mongolia's criminal penalty system for take and trade in listed species as a 'serious offense.'

Gap Analysis Indicates Areas for Continuing Reform

Despite a number of improvements, the gap analysis points to a few areas for future legal reforms.

The Criminal Code, for example, touches on almost the entire trade chain, but leaves a few critical gaps.

There is, for example no longer an explicit mention of organized crime in relation to illicit wildlife trade. Instead, the law creates a generic category that imposes increased prison sentences (5-12 years) for smuggling of 'prohibited or restricted goods' as part of an organized crime group. No other illegal wildlife trade act connected to organized crime is covered. Given the frequent disclosure of 'on demand' hunting networks, this is a significant gap.

Similarly, there is no longer any liability for legal entities in relation to illicit wildlife trade. Like organized crime, liability for legal entities is a key concern, particularly in light of the reported synergies between trading companies and wildlife trade. The updated version of the Criminal Code, initially passed in 2015, held legal entities criminally liable for trade in Rare and Very Rare species. In 2017, however, this provision was deleted from the law.

The list of prohibited acts applicable to game animals does not cover the entire trade chain. It identifies only their illegal:

- sale,
- purchase, and
- use.

Missing from the list of trade chain offenses are-

- preparation,
- collection,
- possession,
- transportation, and
- storage.

The wording of the law also makes it unclear whether export is included and to which species the penalties for smuggling might apply. Instead of expressly penalizing the export of any species without the appropriate permit, the Law on Infringements penalizes the smuggling of 'prohibited' or 'restricted' goods. Pursuant to the Law on Customs, Tariffs and Taxes, wildlife constitute 'goods' and require permits issued by the Ministry of Environment. It is not clear from these texts whether the Ministry of Environment actually requires or issues export licenses for all wildlife.

For Very Rare and Rare species, there are no criminal penalties associated with illegal possession, medicinal trade, or the domestication of wildlife. Related to this transportation, storage, and processing are criminalized, but not otherwise regulated. In other words, what might constitute legal forms for these has no foundation. With no definition of legality, there can be no finding of 'illegality.'

The Law on Infringements does not specifically refer to the violation of hunting bans. Instead, it applies fines for hunting at 'other prohibited times.' The assumption is that this applies to bans, as they are generally time limited, but there is no explicit reference.

For quotas, the only mention is the violation of hunting and trapping limits as established in a contract. The law does not apply a penalty for limits not associated with contracts and there is no mention of violations with respect to fishing.

Prosecuting Illegal Wildlife Trade

IWT is a Minor Part of the Prosecutors Office

The Prosecutors Office of Mongolia is the independent authority within the judiciary tasked with this end of the enforcement process. With around 700 prosecutors covering 39 jurisdictions, the Prosecutors Office has been handling close to 20,000 cases a year for the past decade. Less than 1% of those cases are crimes against the environment and an even smaller proportion of them, specific wildlife cases. It is reasonable to assume that a similarly small proportion of resources (in terms of staff and hours assigned, dedicated investigative budget, specialized training, etc.) is being dedicated to their prosecution.

Problems Begin with Divisions Between Inspections and Investigations

Wildlife criminal cases begin in the field with the involvement of enforcement personnel. Commonly this involves an inspection or stop by rangers, customs officials, or border patrol agents. Those incidents suspected of constituting a wildlife crime are referred to the Eco-Crimes Police. The police then initiate an investigation of the incident and collect evidence according to established criminal procedures. If evidence is considered sufficient, the police then make an inquiry to the Prosecutors Office, which can request further investigations and finally determine if the case has adequate grounds to be brought to trial. At this point, prosecutors represent the state

and present the case at trail in one of the ordinary courts, which act as the courts of first instance for wildlife related criminal cases. Prosecution is thus a multi-stepped process involving several entities before a court is in a position to issue a sentence for a wildlife crime.

Prosecutors decide whether to prosecute or drop the case based on the quality of the evidence that other agencies have put in their hands. This passing of the inspection, investigation, and prosecuting authority from one agency places a premium on the quality of each stage of the enforcement process.

This in turn has direct implications for the successful use of criminal laws both to penalize wildlife crime and impose sentences capable of deterring future crimes. Those first on the scene of a suspected crime are in the best position to protect and document the scene; to preserve physical evidence, as well as collect and submit evidence for scientific examination.

Lack of Evidentiary Protocols Jeopardizes IWT Cases

Physical evidence of a crime is a vital part of a criminal case. Illegal wildlife take and trade cases require presenting tangible proof of the illegal behavior in the form of wildlife specimens (e.g., live animals, parts, derivatives), guns, vehicles, documents, and more. When such evidence has not been secured and properly preserved along a secure chain of custody, defendants can easily challenge their validity and authenticity in court. Lacking irrefutable evidence, a prosecutors' ability to secure convictions is compromised.

In Mongolia, the Criminal Procedures Code falls short of providing specifications on the methods that should be used by law enforcement personnel when

collecting, storing, preserving, and handling evidence. As a result, wildlife cases sometimes begin with shortcomings related to the presentation of evidence for which no remedy will be available once it lands in the Prosecutor's hands or in the court.

Exacerbating matters, Mongolia lacks official evidence storage facilities, forcing an ad hoc approach to the handling of evidence that may include multiple arrangements as explained by interviewees, such as simply returning the specimens to the illegal fishermen, the sale of seized items, the disposal of perishable forms of evidence, returning wildlife to nature even if wounded, etc. As a result, evidence is not always available at the time of trial, seriously affecting the ability to successfully prosecute.

Conviction Rates and Compliance are Generally Low

For the decade 2005-2014, the conviction rate was 43%. This is the portion of the total criminal offenders with open cases for investigation in the Prosecutors Office (19,927 for the decade, averaging close to 2,000 a year) that were finally convicted by a court and a sentence applied (8,248 individuals, or close to 800/annum).

The enforcement of court judgments is another critical factor when reviewing conviction information related to wildlife cases. A conviction is not the same as compliance with sentencing and the gap that exists is not trivial. For the decade 2004-2014, the national average of implementation of judicial decisions was around 70%. Connected to this indicator is the proportion of the assessment of economic damage that is finally restituted (to both public and private entities). For the period 2005-2016, the ratio of assessed damage to actual

restitution was on average 3:1, or just 36% of the assessed damages were in fact paid. In aggregate numbers for the decade 2005-2016, the amount of assessed damages effectively restituted came only to USD 348 million out of an initial assessment of USD 953 million made during investigations. In essence, the difference of around USD 600 million in unpaid damages is the real opportunity cost of not having in place evidentiary protocols, equipment, and infrastructure for proper criminal prosecution.

IWT Cases Are Still a Minor Focus

Over the last decade, environmental criminal cases represented an insignificant portion of total criminal cases; approximately 2,500 out of 250,000 cases or 1%, or 1 in 100. The amount of wildlife crime cases is even smaller at just 15% of that 1%, or 1.5 cases per 1,000. Although this survey did not have access to national statistics on wildlife crime prosecution, estimates offered by the Police Eco-Crimes Division indicate that only 15% of their cases are related to wildlife, with mining cases dominating most of their attention and resources. Information on wildlife crime cases from 17 of the 21 aimags provided by the Prosecutors Office supports the same estimate. It shows that for the decade 2007-2016 the total wildlife cases investigated were as low as 263 (220 for illegal hunting plus 43 for wildlife smuggling), which would represent 11% of the environmental cases for the same period. The survey did not have access to data from the UB Prosecutors Office for the 3-year period from 2013-2015. Staff from that office, nevertheless, were able to confirm that wildlife crimes represented an insignificant part of their caseload compared to the total prosecuting effort, with only 17 wildlife cases out

of 8,000 total criminal cases. Around 65% of the cases made it to court, while the remaining 35% percent were dropped by the Prosecutors Office, due to inadequate evidence. For the 17 out of 21 aimags for which information was available, only 142 cases involving illegal wildlife take and 27 involving illegal wildlife trade (more precisely 'smuggling) made it to court. No information was available on sentencing and sentence implementation for those wildlife cases.

Multiple Weaknesses Make IWT a Low-Risk, High Reward Crime

In conclusion, the prosecution of wildlife crime during the last decade is limited. In the field, enforcement personnel in hunting areas lack operational capacity and investigative powers; while customs officials seem to give priority to the smuggling of taxable items such as tobacco and alcohol; and the Eco-crimes Division of the Police mostly target mining crimes, which implicate the government's collection of mining royalties. As a result, a relatively tiny number of wildlife crimes were detected, which, due to a myriad of problems (e.g., structural, procedural, and logistical problems in evidence collection and handling, the lack of expert capacity to care for seized wildlife, inadequate forensic testing, insufficient coordination between domestic and foreign enforcement authorities), have all translated into an even lower number of cases being brought to court with many offenders potentially escaping justice. Even where court sentences were firm, prison sentences were usually appealed under the Amnesty Law, and economic penalties were likely not paid in full as hinted at by the damage payment ratios of the court system in general.

The end result of this is that

illegal hunting and illegal trade in Mongolia are still today, unfortunately, a low risk activity with a low likelihood of being caught or suffering either financial or criminal penalties. While the most recent legal reforms are increasing penalties and explicitly criminalizing more wildlife related activities, bringing hope that conviction rates will increase, more improvement is needed.

Wildlife Take 2015

The Big Shift – Hunting to Fishing

More than a decade ago, the combination of relaxed controls on weapons, cheap ammunition, and sparse enforcement helped fuel a wildlife harvesting spree of unequaled proportions. In 2005, over 30% of men in the ages 15-65 claimed to hunt or fish, a percentage that extrapolated to a quarter million hunters. In 2015, the estimate of hunters and fishers is roughly the same at 247,504 (25%), but their willingness to admit to this and the percentage of fishers in the total has changed dramatically.

Even considering the potential biases of underestimation of hunters due to low self-reporting and greater reporting of fishing due to less sensitivity, there is a still a clear shift from hunting to fishing. That hunters have more years of experience (on average 12 years) compared to those that fish (8 years) is one indicator. A more telling indicator is the percentage of hunters and fishers with less than 5 years of experience: hunters, 38%; and fishers, 68%. In other words, more people have entered the world of wildlife take as fishers in recent years than as hunters. Hunters are also 'growing older.' In 2005, hunter age quartiles showed 44% of all hunters were between the ages of 15 and 28,

a percentage that has dropped to 30% in 2015. The bulk of the hunting population (41%) is now between the ages of 31 and 50. Finally, mammals and birds are targeted by 58% of those that take wildlife, but fish, by 82%. In 2005, fishers were around 10%.

If in 2005 the survey recorded only 4 out of 34 species being taken as fish (12%), the proportion ten years later increased to 46%, with at least 11 different fish species being harvested, including seven that were not reported in the past (Altai osman, Amur catfish, Artic grayling, common and grass carps and whitefish). That fish are now more widely found within Mongolia's wildlife take and trade regime is actually an incredible shift that has as yet unstudied implications. It is also not quite in the conscience of Mongolia's policy makers. The new Law on Infringements and Criminal Code, for example, only have a few provisions that expressly penalize illegal fishing (see Chapter 4) compared to the detail directed at hunting and trapping crimes.

Species Not Discussed by Hunters Shows Awareness of Illegality

Household Survey reports 24 different species being harvested against the 34 informed in 2005. Species not mentioned by hunters include Very Rare and Rare species such as snow leopard, brown bear, musk deer, Altai snowcock, or Asiatic wild ass. They do however, appear as being hunted and traded in criminal police records.

Most of these same species were also listed as Very Rare and Rare in 2005, meaning that the primary change is not their legal status, but the level of enforcement. That specifically those species are the ones not mentioned by hunters during the survey is not an accident or a function of the survey method, but further confirmation of the

awareness of illegality among the population.

Lower Harvests, but Intensity Continues

At first glance, the survey shows a significant decrease in Mongolia's wildlife harvest and trade activity since 2005. Estimated Harvest were 4.4 million specimens for that year (based on 12 species), while the current survey estimates a national harvest of 2.4 million specimens (with data from 18 species). Extrapolating survey data in 2015 to estimate harvest at the national level is significantly more challenging than it was in 2005 given the much smaller number of individuals that claimed to hunt and the subsequently smaller number that reported harvests.

Among the top harvested species are, from higher to lower based on estimated annual take: Siberian marmot (849,764), lenok (216,890), river perch (192,075), Northern pike (96,782), and gray wolf (17,000, not corrected for underreporting).

The list of the most targeted mammals remains similar to those listed in 2005, with a few minor changes and include in order of estimated take 1) Siberian marmot, 2) gray wolf, 3) altai marmot (38,000), 4) corsac fox (19,000), 5) wild boar (9,000), 6) roe deer (8,000), 7) Mongolian Gazelle (6,000) and 8) red fox (4,000).

Siberian marmot and gray wolf are still clearly the preferred species with at least 44% of the hunter respondents taking marmots (121,000 hunters), and 16% hunting wolves (44,000 hunters). Average take per hunter for both species is down compared to 2005, but total estimated take volumes still suggest significant levels of illegal hunting far exceeding quotas by many orders of magnitude. In the case of the wolf, these levels are still likely too high given population

estimates. The lowest estimated take in 2015 for wolf comes to 17,000, which is at odds with total population estimates of between 10,000-20,000. That both the 2005 survey and this survey obtain similar average take levels, however, suggests that detailed wolf population studies are needed to understand populations and identify scientifically sound off-take levels. The current official hunting quota of 20 per year is certainly being exceeded by hunters and probably by as much as 1,000 times the permitted take.

The survey shows that harvesting activity is spread across the year, with the summer and fall being the two more active seasons, with 17 and 20 species respectively. Winter is the next most active season with 14 species; followed by the spring with 12 species targeted. Volumes drop substantially in spring, but in all seasons, there is always a percentage of hunters and fishermen engaged in some level of wildlife take. When compared to the open and closed seasons as established in the Law on Fauna, it is clear that poaching is essentially constant through the year. Out of season hunting affects, for example, roe deer (permitted in Fall, hunted all 4 seasons); corsac fox (permitted late Fall through the winter, hunted all 4 seasons); Siberian and Altai marmot (permitted late summer through the Fall, hunted during 3 seasons); and Taimen (permitted summer and fall, taken in all 4 seasons).

The Other Big Shift – Guns to Cars

In 2015, only 58% of the hunters claimed to own a firearm, compared to 96% in 2005. Increased seizures, restrictions on gun permits, and difficulties with the legal purchase of ammunition at the local level partially explain the decrease. However, this survey also documents a disturbing trend in the use of illegal and highly destructive hunting methods that not many years ago were rare or even unheard of. Among them are intentional vehicle-wildlife collisions and the use of cars to run animals to exhaustion. This describes a transition in take methods where motor vehicles may now be overtaking firearms as the most common hunting method, as per some enforcer's opinions.

Ownership of traps among hunters increased from 8% in 2005 to 21% in the current survey. Corroborating this result is the increase in the import of traps identified by a Mongolian Customs official.

Concerning methods and equipment used for fishing, survey results indicate the overwhelming ownership of rods (74%) compared to handmade equipment (15%), and nets (13). Household fishing is primarily based on imported modern rods that are accessible in country in specialized fishing stores.

Household Wildlife Trade

No One is Talking about Household Sales of Wildlife

Contrary to the results in 2005, households in 2015 rarely declared selling any of the wildlife they harvested. Self-reporting of purchases (described in a separate section), however, tells an entirely different story, as do observations in markets, restaurants, and retail shops.

While the sales data obtained during the survey are presented here, it is clear that the enforcement environment has had an impact on respondents involved at this end of the trade chain. The entire volume of fish take, for example, was claimed as household consumption only. For mammals, only 4% of the marmots (Siberian marmot) and 10% of wolfs skins were reported as sold. Using these percentages over the estimated number of specimens taken nationally in a year, household wildlife sales would extrapolate to just 15,431 marmots and 4,422 wolfs for 2015. Total sales for households as self-reported by respondents barely reached half a million dollars. Using prices provided by the survey, the 15,431 marmots estimated as total annual take for Mongolia would result in an aggregated national household income of around USD 216,000, while the 4,422 wolves would result in around USD 280,000 additional income derived from trade in skins.

Household Purchases Tell Another Story

The results for household purchases of wildlife present a substantially different perspective of wildlife trade at the household level. Where hunters only claimed to have sold two species (wolf and marmot), households reported purchasing a total of 35 different species. In general, the participation of households in wildlife purchases appears to be active, with almost 175,000 households or 20% of the total engaged in purchasing wildlife.

The survey also shows that the percentage of households purchasing wildlife increases as household purchase power does. While only 11% of the poorest households buy wildlife, this rises to 34% for the wealthiest households.

Food consumption is the most common use of wildlife, with animals being purchased whole or by the kilo for meat, in both raw and processed forms (i.e. cooked marmots, smoked fish). Purchase of skins or furs and oil are the next most common trade commodity.

Purchases of internal organs such as bile, brains, stomachs, or livers appear in the survey only for three species (gray wolf, European badger and brown bear). Taimen, a catch-and-release-only species, was reported purchased during 2015, both for its meat and for its oil.

The top five mammals being purchased are marmots, gray wolf, Mongolian gazelle, roe deer and wild boar. The top five fish species are whitefish, lenok, carp, perch, and taimen. Extrapolation of wildlife household purchases come close to USD 4 million, which is roughly eight times the estimated household wildlife sales (USD 0.5 million).

IWT in Restaurants

The significance of fish harvesting and purchases in the Household survey triggered further inquiries into fish consumption in Mongolia in the context of the Market survey, a country where meat and milk products have always been the dominant source of protein. Although no one claimed to sell the fish they caught in the household survey, the fact that locally caught fish are found on the market and in restaurants was visible in 2005 and even more present in 2015.

At 42% of the total sample, traditional Mongolian restaurants are the top cuisine style category that includes fish on the menu. The next highest cuisine style is Korean (30%), followed by Chinese, Italian, and European (all at 17%). Even though foreigners represent a vanishingly small percentage of Mongolia's residents (0.6%), they are nonetheless a large portion of those ordering fish in restaurants.

Restaurants source up to 37 different fish species, with only nine of them being native to Mongolia, including the Artic whitefish, Artic grayling, taimen, lenok, perch, Altai osman, pike, common carp and grass carp. Only four species though seem to be more commonly used (whitefish, salmon, taimen and tuna), while the rest appear in 1% to 5% of the restaurants.

Analysis of purchase seasonality reveals that local markets offer fish across all seasons and restaurants are able to source their local fish all year round. Only Arctic grayling and Altai osman appear to be restricted in the market to the spring, and Arctic grayling again to the fall. As most native fish procured by restaurants are reportedly frozen, it is possible that the seasons of sale do not align with catches and this is thus not an accurate indicator of out of season fishing.

Finally, for native species restaurant suppliers are mostly wholesalers (67% of the purchases), with the percentage of purchases directly from fishermen relatively low (15%) and similar to the percentage coming from retail traders (17%).

In spite of being listed as 'Rare' and legally regulated as a catch-and-release only species, taimen continue to be part of the menu in Mongolia. In 2005, the survey documented its presence in markets and restaurants, without being able to provide estimates. In 2015, 9% of the restaurants surveyed reported serving it on the menu. Criminal penalties now apply to its illegal catch and trade ranging between 1 to 5 years incarceration and administrative penalties starting at USD 4,500. As reported in the 2005 survey, taimen do not breed until the age of 6 or 7 and have long lifespans of 30 years or more. As a result, they are extremely vulnerable to overfishing.

The aggregated trade value of the restaurants surveyed was USD 337,000 a year. It is not possible to extrapolate this survey data to the entire population of restaurants, since neither the total number of restaurants operating in Mongolia nor the number of restaurants that sell fish were available. Official statistics estimate the 2015 total annual revenue for the sector at MNT 205.5 billion or around USD 90 million. These levels of income suggest that fish related business could be several times more than the survey results.

Traditional Medicine

Mongolian Traditional Medicine Hospitals rely primarily on herbal preparations for their treatments, with wildlife playing a distinct, but minor role by comparison. The survey identified six species of fauna as the most commonly used.

Brown bear oil and brown bear bile are used to treat joint pain, chronic diseases, inflammations, skin burns, and stomach problems. Respondents mentioned unanimously the client preference for the Mongolian origin of brown bear products, but affordable Russian TM products seem to be common on the market.

The use of Eurasian badger oil to treat skin burns, stomach ulcers, and colon inflammations were mentioned.

Marmot oil is being used in cases of stomach ulcers and joint problems (arthritis pain and bone calcification).

Red fox lung was mentioned to treat lung problems.

Respondents from UB identified gray wolf meat as a product commonly used in UB for preventing diseases and also for treating cold and lung inflammation.

Also in UB, musk deer products (testicles and wombs) were mentioned as used in the capital, although not so commonly. Musk deer products are also used for preventing diseases

and boosting the immune system, and for the treatment of neurological diseases, paralysis, and inflammatory processes.

Retail Shops

A sample of 106 retail shops provided an estimated annual income generated only of the self-reported 'bestselling' Mongolian wildlife products at $600,000. Most of the shops visited trade in a variety of products in the order of dozens and, in some cases hundreds of products. The survey was also restricted to UB and eight aimags. The true value of wildlife trade at retail shops is certainly more and could be many times the estimated figure.

Wildlife Is Common in Mongolia's Retail Shops

Clothing and shoe products represented by far the most important category of wildlife product found during the survey. Just over half (54%) of the shops claimed that wildlife-based apparel is their best selling commodity. This category also represents 83% of the estimated total revenue for all wildlife-based products in the retail market. Clothing articles reported include hats, coats, jackets, and boots. The most commonly used wildlife for these products are wolf, sable, reindeer, and badger. With the exception of two product types (crocodile skin boots and snake skin shoes), all of the wildlife in this market segment occurs in Mongolia. In most cases, stores claim sourcing wildlife locally, but in some stores also stocked imported apparel from China and Russia, in particular fox and sable fur products.

The next most common top seller category is jewelry, with 40% of the sample self-reporting jewelry products as bestsellers.

As a function of overall revenue generation, it runs a distant second behind clothing and shoes, at just 8% of the total estimated revenue. Unlike clothing, however, all products reported by retail shops include wildlife sourced exclusively in Mongolia. In order of the frequency of observations, they include items containing gray wolf canines and ankles, vulture claws, wild boar canines, bear canines, and saker falcon claws.

Already reported in the Restaurant survey, fish is another important wildlife trade segment in Mongolia's retail shops. Just under one third (28%) of the shops surveyed sell fish. Overall revenue, however, is just 2% of the combined sales results. Of the 13 species identified in the shops, eight of them are sourced in Mongolia, The only species with a clear prevalence above all others is locally sourced lenok.

Not as common as other market segments, nonetheless 16% of the stores report TM products as top selling items. This portion of the survey found some of the same species and products revealed in the survey for TM hospitals (e.g., bear oil). Similar to the TM Hospital survey, the actual species and sources were not always known (e.g., in some instances only 'fish', 'bird', and 'bear' are mentioned). Species specifically identified include red deer, Altai snowcock, and Eurasian badger.

Gifts and souvenirs constitute another category for wildlife products with 13% of the stores surveyed claiming this as a best seller. Total sales volumes, however could not be estimated as no information was offered for three of the four Mongolia sourced products. Of note in this market segment is the open sale of wildlife listed as Very Rare and Rare, including snow leopard and argali.

Outdoor Markets

Wildlife Trade No Longer as Visible, but Still Accessible

Two facts were clear during the visits to outdoor wildlife markets. The first is that law enforcement has succeeded in putting some degree of pressure on traders and has pushed wildlife trade to the black market, but not completely out of sight. Traders did not usually offer their products openly. On some occasions, a limited amount of product –one or two- were hidden in black bags with traders affirming that more were available in a different location, if the buyer was interested. On other occasions, secret shoppers were invited to visit homes or private spaces close to the market to see the complete product offer. Secrecy was the norm, but learning about products and finding offers was still relatively easy.

On Demand Trade Has Become a Standard

The second fact is that wildlife trade in Mongolia is an 'on demand' enterprise. Mystery shoppers were asked repeatedly about the amount of product they wanted to purchase. Many traders insisted on the fact they could get any amount requested, including wolf, red fox, sable, and marmot. In one instance, surveyors were able to engage in some follow-up by calling a phone number provided to one of the mystery buyers, which put them in contact with a dealer in Zamiin-Uud. This trader explained that he could request others to hunt any amount and variety of fur on demand. This on demand trade was also captured in some

formal retail shops in UB. These interactions were the closest the survey team came to the organized criminal networks discussed in Chapter 5.

Wildlife Products and Prices

Wherever possible, surveyors inquired about prices of wildlife products on offer. The results show similarities in commodity types, but significant variability in prices that seemed to be tied generally to location, season, size and quality of the item on offer. The degree of variability, however, is also typical of an informal economy operating mostly in secret; with little connection between markets, and minimal standardization in the offer. Estimates are difficult in these circumstances, but results are nonetheless instructive.

Trading in whole animals is common in Mongolia's outdoor markets, with national average prices estimated at $85 for wolf, $52 for Altai snowcock, $28 for the Mongolian gazelle, $17 for marmot, $11 for black-tailed gazelle, $9 for Eurasian badger and $6 for white-tailed gazelle. Many fish species were also found being traded whole, at lower prices ranging from USD 1 for an Artic Grayling to USD 6 for a Pike. No taimen was found for sale in the outdoor markets.

Meat from both mammals and fish is also traded by the kilo, with the highest prices for the wild boar meat at USD 6/Kg and the lowest for the Mongolian gazelle at USD 1/Kg.

Up to five different fur products sold by the piece were found, including wolf pelts at USD 300 on average, fox furs at USD 100, rabbit furs at USD 80, sable furs at USD 60, and marmot furs at the lowest cost of only USD 3 per piece.

Antlers are traded both by the entire antler and by the piece. The price analysis may be distorted by this fact. Reindeer antlers were the more expensive at USD 90/piece, closely followed by Saiga antelope antlers at USD 75/piece. Much cheaper were the Mongolian gazelle antlers at USD10/piece, and Deer antler at just USD 7/piece and USD 1/piece for blood antler.

Extracts and oils were identified from five different native species including deer oil (USD 47/100ml), marmot oil (USD 13/ml), brown bear oil (USD 10/ml), Eurasian badger oil (USD 6/100ml) and fish oil, the cheapest of all at USD 5/ml on average.

E-Commerce

The Internet is being predominantly used for online advertising of wildlife products more than for direct e-commerce in wildlife. During the survey, two different sites containing 40 wildlife-related ads were identified including www.unegui.mn, a popular Mongolian site for classified ads, and the global social media site Facebook.

The five most common advertised species were marmot, wolf, deer, bear, and badger. Across the entire survey from Household to Market to Enforcement, Mongolia's gray wolf is one of the most common species harvested and traded. The online market is no different, with more advertisements and more parts offered than for any other species. In the case of the marmot, another common species seen across the survey, one single ad offered 300 marmot ankle bones in a single ad.

The most valuable product, however, was not among those species. It was a pair of Dalmatian pelican beaks offered for MNT 3.5 million or USD 1,500. This is a Very Rare species and thus a restricted product that makes this online advertisement illegal. The most recent legal reform imposes more stringent penalties on the advertising of wildlife, with criminal penalties applicable for trade in listed species.

Trophy Hunting

Collecting data for trophy hunting proved to be a more challenging task than any other activity in the survey. Only two hunting companies agreed to share information with the survey, while the remaining companies refused to participate. This does not allow for any estimation or extrapolation and results serve only illustrative purposes.

The first agency is based in UB and is exclusively dedicated to organizing fishing trips in Khuvsgul aimag. They reported hosting around 40 foreigners in 2015 from the USA, UK, Russia, Japan, and France. Together, their clients took 12 taimen, 250 Artic grayling, and 250 lenok. The agency takes care of fishing permits for foreigners.

The other agency is based in Bayan-Ulgii aimag and organizes big mammals hunting trips within this aimag. They target Argali, Ibex and Red Deer and specialize in international visitors from Spanish-speaking countries (Spain and Latin America). The six hunters they hosted in 2015 harvested 6 Argali, and 2 Red Deer, being unsuccessful at Ibex. The agency provides a wide range of services including facilitation of gun permits and hunting permits (based on quotas obtained from the agency), taxidermy, disposal of remaining animal parts in local markets, and management of CITES permits to export the trophies.

CHAPTER I

Introduction

The Setting

In 2005, illicit wildlife trade was already a global problem, but it was not mainstream, and remained a topic for specialists. Articles surfaced in a variety of journals and publications, but they did not grace the front pages or regularly populate major newspapers. In 2017, it is fair to say that this topic is reaching a global audience and is having an impact. Major newspapers run wildlife trade stories in their main pages,[10] not just tucked away in the science section. Numerous online news outlets are fully dedicated to tracking and reporting on illegal wildlife trade.[11] Governments have taken notice of the multiple implications of this uncontrolled and illicit trade on their resources, economies, cultures, even the security of their countries. Many have established departments, special investigative units, and other programs with the sole focus of combatting illegal wildlife trade.[12] Testimony to this can be found in the fact that in 2016, the

Convention on International Trade in Endangered Species (CITES) saw its largest conference of member states ever, owing unquestionably to a growing level of awareness among those states. There are also a growing number of regional and international initiatives aimed at supporting capacity development, forensics expertise, and the exchange of critical, enforcement related information across borders.[13] Many of them are adopting legal mechanisms to improve their ability to enforce and prosecute illicit trade as a serious crime.[14]

The uptick in attention is certainly a recognition that the problem is getting worse, driven in some instances by unlikely economic impulses such as pure speculation in trade.[15] However, we should be careful not to label it as new. In 2001, some estimates placed illegal wildlife trade as the second highest illicit trade following illegal drug trade, with annual volumes in excess of US\$5 billion globally.[16] In 2016, at least one source lists it as the fourth largest form of illicit trade (after drugs, counterfeiting, and human trafficking),[17] not because it has diminished, but because other forms of illicit trade are also growing and being studied more carefully. Today, these estimates have risen to anything between USD \$15 billion and USD \$150 billion annually, depending on the source and method of assessment.[18]

These are of course just estimates. Doing so accurately is exceptionally difficult for legal trade, let alone for something as clandestine

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[10] For example, the New York Times has run articles in some of its various sections, including Business Day (Ron Nixon and Coral Davenport. October 5, 2015. "Environmentalists Praise Wildlife Measures in Trans-Pacific Wildlife Pact"); World News (Ron Nixon. December 22, 2015. "U.S. Pours Millions into Fighting Poachers in South Africa" and Bettina Wassener. March 12, 2013. "No Species is Safe from Burgeoning Wildlife Trade"); and the Opinion section (Tristan McConnell. October 29, 2015. "The Ivory-Funded Terrorism Myth"). Available on www.nytimes.com. Likewise, the Wall Street Journal recently ran an article about wildlife trade in China in its World News section: Chun Han Wong. December 31, 2016. "China to Shut Down Ivory Trade by End of 2017." Available on www.wsj.com.

[11] www.wildlifetradetracker.org, healthmap.org/wildlifetrade/, and poachtracker.oxpeckers.org/ are several examples.

[12] Examples of this include: Kenya, which established its Kenya Wildlife Service (KWS) in 1989 to enforce Kenya's wildlife laws (see UN Chronicle Vol. LI No. 2 2014, available at https://unchronicle.un.org/article/fighting-wildlife-trade-kenya); Thailand, which implemented a training program for airport personnel on how to identify and handle commonly traded protected species (see Voice of America. November 2, 2009. "Thailand calls for Wildlife Trade Enforcement." Available at http://www.voanews.com/a/a-13-2009-03-09-voa34-68635822/407764.html; and the U.S., which issued a National Strategy for Combating Wildlife Trafficking in 2014, which includes a wildlife trafficking task force comprised of 17 different federal agencies. See https://www.state.gov/e/oes/ecw/wlt/. The U.K.'s Department for Environment, Food and Rural Affairs set up the global Illegal Wildlife Trade Challenge Fund aimed at reducing global IWT by providing funding to practical projects around the world.

[13] The ASEAN Wildlife Enforcement Network (ASEANWEN) and the more focused Snow Leopard and Wildlife Enforcement Network (SLAWEN) are two examples of this.

[14] Kenya, for example, adopted an entire law in 2013, the Wildlife Conservation and Management Act, with wildlife trade as a central focus.

[15] Yufang, G., K. Stoner, A. Leed, S. Clark. Rhino horn trade in China: An analysis of the art and antiques market. Biological Conservation, Volume 201, September 2016, Pages 343-347.

[16] Jagodinski G. 2001. "Region 3 News. e Federal Wildlife Officer." Federal Wildlife Officers Association, Inc. 15 (1) (Winter).

[17] UNEP-INTERPOL Report: Value of Environmental Crime Up 26%. June 2016.

[18] For example, UNEP Year Book 2014 (Emerging Issues Update: Illegal Trade in Wildlife. Available at http://www.unep.org/yearbook/2014/PDF/chapt4.pdf) estimates the illegal wildlife trade's annual worth at between US\$50-150 billion, whereas UNEP's illegal Trade in Wildlife Factsheet from May 2016, available at http://www.unep.org/documents/itw/ITW_fact_sheet.pdf, estimates the international illegal wildlife trade as being worth between US\$15-20 billion. TRAFFIC estimates the trade at between US\$24.8–40 billion (see http://www.traffic.org/trade/).

as illegal wildlife trade. However, the real story hidden behind these numbers is not that illicit trade is worse than 15 years earlier, but that it is *also* being uncovered. We are beginning to grasp the real dimensions of wildlife trade at local and global scales, although we are probably still far from the truth. While most of the attention focuses on illicit trade in iconic species such as elephants and rhinos, we are learning about other species that are similarly being driven to the edge of extinction by our seemingly insatiable appetite for wildlife. Owl eggs in Kenya, for example, trade for as much as $3,800 each, or roughly $89/gram, which makes them more than twice as valuable as rhino horn ($35/gram)[19] and eighty times more valuable than ivory ($1.10/gram).[20] At these prices, owl populations in Kenya have little chance of avoiding collapse. The study that documents these prices notes that a particular population of owls had not produced a single chick in two years.[21] The list of lesser-known species in trade is already very long and more than likely incomplete.

But one thing is clear from all of this – no matter how it is measured; we are facing a crisis. Species impacted by trade have been wiped out in many of their home ranges, and in some instances, are moving ever closer to extinction.[22] Populations of pangolin in China's Guangdong and Hunan provinces, for example, have plummeted an estimated 90% since 2000 and are likely extinct in three other provinces (Hainan, Henan, and Jiangsu).[23]

The causes and effects of this crisis are far reaching. As noted in the first Silent Steppe report, rapid declines and loss of wildlife can have unintended, large-scale effects on non-target species, including predators, competitors, symbiotes (species with close ecological relationships, e.g., species that utilize marmot burrows for dens), and even vegetation composition. In Mongolia, as in other countries, there is still little research into the ecological roles performed by targeted species.

While it should have been obvious even many years ago, there is no denying that today this trade is:

- stimulated by the accelerated growth of human populations and the unsustainable lifestyle of millions of consumers that assign to wildlife curative powers and social status;

- driven by rising prices that only grow as species become scarcer – creating a perverse incentive to invest in and go after the few that remain;[24]

- controlled by professional, connected and adaptive criminal networks that feed a growing appetite for what were previously inaccessible products;[25]

- facilitated by corruption as common and widespread as it is difficult to control;[26] and

- supported by advances in logistics and communications that shorten the distance between poachers and buyers, making it possible to trade on a truly global scale.[27]

- Fueled by conflict and armed groups, that find a financing source in wildlife trafficking.

The first Silent Steppe report told us that Mongolia had a share in this crisis. Wildlife trade was no longer just a part of the cultural fabric; it was also big business with annual trade for some species counted in the tens of thousands, even millions of specimens.[28] Trade was not just

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[19] Odaga, D. (2016) Where an Owl Egg Is Worth More Than Ivory or Rhino Horn, Explorers Journal on October 4, 2016 – citing cost of ivory in China in November 2015. Citing rhino horn prices in Vietnam in September of 2016.

[20] Id. Citing cost of ivory in China in November 2015.

[21] Id.

[22] IUCN lists a total of 5,157 species as Critically Endangered Species, a category that precedes Extinction. The IUCN Red List of Threatened Species. Version 2017-1. <www.iucnredlist.org>. Downloaded on 23 May 2017

[23] Block, B. (2017) Illegal Pangolin Trade Threatens Rare Species. WorldWatch Institute, Eye on Earth online news service.

[24] This concept is discussed with respect to the ivory trade in Africa in this blog article from Brookings: Kimenyi, Mwangi S. March 6, 2015. "The Dilemma of Destroying Ivory as an Anti-Poaching Strategy." As ivory becomes more scarce as a result of the government destroying seized ivory stockpiles, prices for ivory rise and incentivize increased poaching. The issue is also discussed in: Plumer, Brad. November 6, 2013. *Washington Post.* Wonkblog. "The Grisly Eonomics of Elephant Poaching."

[25] See Steyn, Paul. May 26, 2015. *National Geographic.* "As Animal Poaching Surges, Organized Crime Plays Bigger Role." Available at news.nationalgeographic.com.

[26] UNODC. 2016. *World Wildlife Crime Report: Trafficking in Protected Species.* United Nations, New York. Also for example, see Fernquest, Jon. March 5, 2013. *Bangkok Post.* "Rhino Horn Smuggling: Caught on Suvarnabhumi Video." Available at http://www.bangkokpost.com/learning/ learning-news/338953/rhino-horn-smuggling-caught-on-suvarnabhumi-video.

[27] The internet provides an international marketplace for sale of illegal wildlife and wildlife parts that is difficult to regulate. See Hastie, Jo and Tania McCrea-Steele. 2014. "Wanted- Dead or Alive: Exposing Online Wildlife Trade." International Fund for Animal Welfare. Available at www. ifaw.org.

[28] Wingard and Zahler, (2006).

seasonal and local, but increasingly sustained, professional, and international. Estimated trade values ran into the tens of millions of dollars, and even then, these estimates were probably substantially undervalued. While the full picture may never be known, all indications are that the vast majority of this trade went south to China, either for direct consumption (e.g., wolves) or for further processing and sale to other markets (e.g., marmot for processing into fur coats). Organized crime was certainly a part of the equation then, but still relatively hidden. The 2005 team's introduction to Mongolia's wildlife trade with China was, to everyone's surprise, made possible through meetings with individuals involved in organized crime. In short, Mongolia was just one more supplier in a global store already liquidating faster than anyone suspected.

All of this meant that the setting for the 2016 survey was different and that wildlife trade would likely be more difficult to survey than anything experienced in 2005. Ten years earlier, the research team was responding to a situation that was still only hinted at and that seemed predominantly local, even a little innocent. Enforcement was present, but still minimal, and trade, highly visible. Talking to hunters and traders, taking pictures, and openly recording observations were possible in many instances without concern for safety or the worry that interviewees would deliberately hide information. In 2016, the research team started with the expectation that illicit trade was as much for international markets as domestic ones, that the intervening years had seen increased enforcement and awareness of potential liability, and that obtaining information would be more difficult even at the household level, let alone in the markets and trade centers.

The approach in this study is therefore directed at least in part by methods that were unnecessary before, among them the Unmatched Count Technique (UCT) (described in Chapter II Methods). UCT is a specialized questioning technique designed to improve estimates when sensitive and/or incriminating questions are expected to influence the likelihood of respondents answering questions truthfully. The study also included simpler methods, such as eliminating 'on location' recording of observations or direct questioning, relying instead on key informants in offsite interviews. These and other changes detailed in Chapter II proved essential as much in the implementation of the survey as in the analysis of results.

On the positive side and equally important to the setting is the number of subsequent wildlife studies that have been conducted in Mongolia since the original 2005 survey. The 2016 study has been able to use these studies as critical input into the necessary effort of improving survey methodology. Among these studies are:

- A 2007-2008 survey of the raw materials and food markets in Ulaanbatar by WCS for a report to the World Bank, to determine species traded and enforcement activities employed;[29]

- A 2007 market survey conducted by a research group as part of a larger study on wolf mortality in the Gobi for conservation purposes;[30]

- Student-led observational surveys of Ulaanbaatar-area markets from December 2008-January 2009, as preparation for implementation of multi-agency illegal wildlife trade market patrols;[31]

- Nationwide population surveys of mountain and steppe ungulates for conservation programs conducted by MNET in collaboration with WWF in October 2009;[32]

- A national population survey of saker falcons by MNET in collaboration with The Institute of Biology- National Academy of Sciences (IB-NAS) to determine sustainable harvest levels for CITES complience;[33]

- A recent report by TRAFFIC, published in 2016, on the snow leopard trade using market surveys in several countries including Mongolia.[34]

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[29] See Parkinson, Andrew M., Odonchimeg Nyamtseren, Tuvshinjargal D., Amanda Fine. May 2008. "World Bank FLEG Ulaanbatar Wildlife Trade Survey: Wildlife Conservation Society Report." Wildlife Conservation Society.

[30] See Kaczensky, Petra, Namtar Enksaikhan, Oyunsaikhan Ganbaatar, and Chris Walzer. 2008. *Wildlife Biology*. 14(4). "The Great Gobi B Strictly Protected Area in Mongolia- Refuge or Sink for Wolves *Canis Lupus* in the Gobi."

[31] See Wildlife Conservation Society. March 31, 2009. "Protecting Mongolia's Wildlife through Wildlife Trade Law Enforcement."

[32] See "Summary of Reports and Other Documents, Delivered to the World Bank Mongolia Office During Preparation and Implementation of Mongolia Ungulate Surveys, which was Supported by the NEMO II Project." Available via documents.worldbank.org.

[33] See Convention on International Trade in Endangered Species of Wild Fauna and Flora. "Programme for the Conservation and Sustainable Use of *Falco Cherrug* in Mongolia." 25th Meeting of the Animals Committee. Geneva, Switzerland. 18-22 July 2011. Available via www. cites.org.

[34] See Nowell, Kristin, Juan Li, Mikhail Paltsyn, and Rishi Kumar Sharma. October 2016. "An Ounce of Prevention: Snow Leopard Crime Revisited." TRAFFIC.

A Cross-Sectional Study

Surveys have long been a common tool for monitoring wildlife resources, and trade related surveys increasingly so. In the past ten or more years, surveys of one type or another have been conducted by a growing number of organizations tracking everything from trade in live animals as pets (birds,[35] reptiles,[36] tropical fish[37]), to wildlife products sold for medicinal purposes (rhino horn,[38] tiger bone[39]) and aesthetic values (elephant ivory,[40] red ivory[41]), and for food (pangolin, turtles).[42] This emerging body of data and analysis has done more than just document change; it has painted an increasingly clear picture of the trade crisis and raised awareness across the globe, bringing wildlife trade into focus among global leaders (e.g., the coalition "United for Wildlife" unites the global leading wildlife charities and was created by The Royal Foundation of The Duke and Duchess of

Cambridge and Prince Harry. Some of their global ambassadors include sport champions such as tennis player Andy Murray, or cyclist Chris Froome).

However, cross-sectional wildlife trade surveys as extensive as the one recorded in this report are fairly rare. One major reason for this is the time they take. These studies are designed to repeat the same observations over long periods of time, often over decades, with the goal of tracking changes and understanding patterns that emerge. Making sure that resources are dedicated and available for these periods runs up against typically short funding cycles, limited financial capacity, and the changing attention of politics. Another major challenge is having an agreed upon method that results in the same observations, by tracking individuals or groups with the same characteristics and collecting the same information in the same way.

The practical realities of illegal wildlife trade make any kind of survey difficult to conduct. In some instances, the clandestine nature of trade reduces surveys to little more than anecdotal observations, with informants reporting on what they see, but far from collecting a uniform set of data in a standardized and comparable way.[43] Another reality is that even if trade is open, it is still not easy to observe. Trade typically begins in the remote, mostly inaccessible locations where wildlife is found. Some of it is in small quantities and can be easily concealed. It can also take a myriad of forms, and change hands in a wide variety of markets, both formal and informal. In this survey, and in a country like Mongolia that is not high in species diversity, researchers nonetheless recorded as many as 32 species actively being traded in everything from isolated collection points and trade markets, to restaurants, individual homes, tourist and jewelry shops, and across borders. In more tropical climes, the number of species in trade can reach into the thousands[44] and include many more trade points

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[35] Chow, A., S. Cheung, and P. Yip. *Human-Wildlife Interactions* 8(1). Spring 2014. "Wildlife Markets in South China." 108-112. Accessed via www.berrymaninstitute.org.

[36] Id.

[37] The following paper discusses the results of a survey of Costa Rican households to determine the incidence and types of wildlife trade, including fish, kept as pets: Drews, Carlos. *Society and Animals* 9:2. 2001. Wild Animals and Other Pets Kept in Costa Rican Households: Incidence, Species, and Numbers. Koninklijke Brill NV, Leiden, 2001.

[38] This article discusses a 2012 market survey conducted in China to determine rhino horn consumption and awareness: Vallianas, Christina. 2014. "Rhino Horn Demand." WildAid. Available from www.wildaid.org. TRAFFIC conducted an earlier survey in Chinese markets related to the sale of tiger bone and rhinoceros horn: TRAFFIC. May 1997. "Rhinoceros Horn and Tiger Bone in China: An Investigation of Trade Since the 1993 Ban."

[39] TRAFFIC. May 1997. "Rhinoceros Horn and Tiger Bone in China: An Investigation of Trade Since the 1993 Ban."

[40] See Vallianos, Christina. "Ivory Demand in China 2012-2014." WildAid. Available via awf.org. See also: TRAFFIC. July 3, 2014. "Market Survey Finds Disturbing Increase in Thai Ivory Market." Available at www.traffic.org.

[41] See Jenkins, Anna, Neil Bridgland, Rachel Hembery, Ulrich Malessa, James Hewitt, and Chen Hin Keong. Chatham House Workshop: Tackling the Trade in Illegal Precious Woods. April 23-24, 2012. Background Paper 1: "Precious Woods: Exploitation of the Finest Timber." TRAFFIC. Accessed via illegal-logging.info. (The paper refers to red ivory as "pink ivory," a different name for the same wood.)

[42] Chow, et al. 2014.

[43] This concept is discussed, for example, in the following study on Chinese trade in tiger products, which employed market surveys: Gratwicke, Brian, Judy Mills, Adam Dutton, Grace Gabriel, Barney Long, John Seidensticker, Belinda Wright, Wang You, and Li Zhang. July 2, 2008. *Plos One.* 3(7). "Attitudes Toward Consumption and Conservation of Tigers in China."

[44] Numbers for species traded illegally are difficult to obtain. However, Vietnam, for example, is home to an estimated 21,017 species of plants and 11,458 species of animals. Of these, 6,000 species of plants are used for food, medicine, and other uses; 130 insect species were documented as being traded as part of a 2004 study, and 147 other terrestrial animal species are legally traded. The CITES Scientific Authority of Vietnam. 2008. "Report on the Review of Vietnam's Wildlife Trade Policy."

and forms. In sum, although parts of it may be seen, the bulk of trade can easily remain out of sight, even if no one is trying to hide it.

Challenges aside, cross-sectional studies have tremendous advantages and should be supported as a regular effort. There really is no substitute for their temporal perspective and the data they provide to document patterns and changes. As this study shows, trade can sometimes shift dramatically, making yesterday's approaches to the problem obsolete and ineffective. In 2005, Mongolia's wildlife trade crisis appeared to be primarily focused on mammals, and many of the efforts that followed focused on this problem set. It has now shifted at least in part, and perhaps substantially to the country's freshwater fish.

Cross-sectional studies also provide some flexibility that can allow the focus of the study to be adapted and improved over time. The 2016 study took advantage of this to adjust questions and approaches from the 2005 surveys. For the household survey, this meant that in 2016 the socio-economic questions (education, income and property assets) could be aligned with national census data and incorporated into closed-ended questions to ensure consistency in the responses and their comparability with national data. In addition, all questions that had low or irregular response levels in 2005 could be discarded, and in particular, questions requiring responses about quantities by weight (e.g., number of kilos of meat per hunted animal, which is not typically referred to by kilo weight within rural families). For the market survey, a review of the 2005 data revealed the difficulties faced when attempting to fit diverse market realities into a single market survey instrument (e.g., shops in UB vs. open wildlife markets outside the city). In 2016, this experience allowed the survey team to design new instruments tailored to the market segments (e.g., restaurants, retail shops, tourism agencies, traditional medicine shops, etc.).

Finally, it is possible to learn more about cause and effect relationships through cross-sectional studies, with it possible to draw connections more easily. More data over longer periods of time allows for more accurate results. For example, the effects of a decade of enforcement in Mongolia can be seen today in the level of awareness, the number of seizures and the fines being paid. All of these have increased substantially from 2005. But it can also be seen in the transition from one resource to another. Where hunting dominated the wildlife trade market a decade ago, the evidence is now showing a clear shift to fishing.

Finally, this cross-sectional study is helping document the impact of increased enforcement on trade visibility and the practices used to hide it; e.g., moving illicit trade at night, selecting unpatrolled borders, improved logistics and communication, use of drones, and more.

As the first cross-sectional study on wildlife trade in Mongolia, it brings with it the opportunity to develop a unique historical perspective on the many parts that constitute wildlife trade in Mongolia's post-Soviet era. But it still has its limitations. What these are and how they have potentially impacted the results are stated in Chapter II detailing the methods.

Objectives and Approach

This second Silent Steppe report aims to go further than its predecessor in characterizing and understanding wildlife trade in Mongolia. It is also to document what has happened in Mongolia in the intervening 10 years to the species in trade, to the laws designed to address the problem, to the departments responsible for their implementation, and in the courts handling wildlife trade cases. Finally, it is to detail the practical efforts and concrete steps still required to bring illicit trade under control.

Beyond revisions to the methods described in Chapter II, a number of overarching considerations and innovations guided this effort. These were born out of the strategic planning process that inaugurated the study with an in-depth discussion around the opportunities to improve the 2005 study. In this initial step, the core research team assessed the 2005 survey instruments and data in detail, the questions that worked, and those that did not. All stages of the process, from the setting of the research goals, to the final evaluation, passing through the design of the field work calendar, surveyor's profiles, data analysis, public outreach, and any additional stages were reviewed, analyzed, and evaluated. As a result, the team identified 20 strategic recommendations for the 2016 edition. Rather than go into details, the strategic recommendations were phrased as guiding principles for the development of the 2016 survey. This section presents a selection of those recommendations; specifically, the recommendations describing key improvements and innovations over the study's predecessor.

A MORE HOLISTIC APPROACH TO SURVEYING WILDLIFE TRADE

The first improvement is the more holistic approach of the 2016 report. Looking back at 2005, one of the lessons learned is that some areas, in particular the review of the legal architecture and institutional ecosystem, needed not just a more concerted effort, but a systematic approach designed to solicit information across a broader spectrum of actors. In 2005, the focus was principally on take and trade. The goal in 2016 was to understand not just what was happening, but to place greater emphasis on the mechanisms that either hindered or facilitated illicit trade, as well as the practical realities of combatting it.

As a result, from its conception, this report has intended to gather more targeted information about the system that surrounds wildlife trade. Beyond the improvements within the household and market surveys, the final set of research tools included additional, tailored instruments and lines of inquiry for multiple sectors, including:

- a comparative, gap analysis method for legal assessments that included the review and comparison to other countries;
- more detailed questions specific to enforcement personnel, operations, and capacity;
- data requests and interview formats for Customs officials;
- mapping of border areas and the identification of suspected high trade areas;
- more questions specific to transportation and logistics to document trade movement;
- a new line of inquiry into public opinion towards the need for, and efficacy of enforcement;
- additional review of global trends to support the analysis and comparison of Mongolia's role in international wildlife trade;
- deeper inquiry into the economics of illicit trade, including an understanding of administrative costs, related fines, and market prices for illicit goods.

Some of these improvements resulted in separate instruments (e.g., semi-structured interview sheets; prioritized lines of inquiry, etc.). In some instances, the results were incorporated into more than one instrument, including the market and household surveys, key informant interviews, and desk research instructions.

MATCHING WILDLIFE TRADE CYCLES

In the 2005 survey, all interviews were conducted in the summer. As the majority of hunting in Mongolia occurs in the fall, this likely had some impact on the household surveys, but a clear

impact on the market survey.[45] As designed, the household survey relied entirely on respondent recall and did not attempt to collect observable hunting statistics. However, for the market survey, enforcement even 10 years ago was enough that adjustments had to be made mid-survey to rely more on direct observations than originally planned. Direct observations of markets during the summer season were necessarily limited and certainly missed some forms of trade, and species traded. In 2016, all indications were that enforcement had increased and that direct observation might be the only viable method to gather certain types of data.

Regardless of the increase in enforcement, it seemed clear that shifting the timing of the market survey to the fall would increase chances for direct observation and generally capture better and more accurate information. This resulted in two major adjustments to the 2016 survey design:

First, the market surveys were rescheduled to begin in September overlapping with a portion of almost all fishing seasons, as well as a substantial part of the hunting season for many mammals and birds. Fishing seasons are substantially longer and were therefore not the primary concern in establishing market survey dates. In contrast, hunting seasons for birds and mammals are usually more restricted, and were consequently the determining factor. While the survey's timing overlapped for most species, it did not encompass 11 game species hunted for their fur.[46] To this extent, some bias is liked introduced into the observations.

To supplement the market survey data, the market survey field teams were tasked with collecting anecdotal hunting information when travelling outside Ulaanbaatar. The collection of this information was standardized through the use of observation sheets. Teams registered any actual hunting activity they observed, including pictures, information, and quotes from hunters. Given the nature of illicit hunting and the increased level of enforcement, this effort was subject to safety and security guidelines. The use and implementation of the observation sheets was part of the formal training for market surveys conducted in the fall of 2016.

TAILORING SURVEY INSTRUMENTS TO SEPARATE TASKS

The 2005 report relied on only two formal research instruments, household surveys and market surveys. The lack of tailored instruments for the different market segments as well as the institutional and legal reviews resulted in knowledge gaps. To resolve this oversight, the 2016 effort assembled a set of twelve research instruments to better engage each segment. This included a combination of:

○ quantitative information (surveys with closed-ended responses);

○ instruments to collect direct observations by surveyors (prices, stories, and pictures in systematic ways); and

○ instruments to collect qualitative information (semi-structured interviews).

In total, the set of research instruments included five (5) quantitative surveys (households, restaurants, TCM hospitals and users, tourism agencies, and retail shops), one (1) observational sheet to capture opportunistic stories and pictures, one (1) price report (to be applied in markets and online), and five (5) semi-structured interviews (targeting key informants in general, and for management authorities, for environmental authorities, for scientific authorities, and NGO/international agencies). In combination, these project specific instruments provide a more robust foundation for the planned study.

REFINED SAMPLING METHODS

The 2016 proposal equaled the same number of surveys completed in 2005 – 4,010 household surveys and 1,110 market surveys. However, survey methods were refined to avoid problems associated with under/oversampling, as well as improving the cost and efficiency of completing such a large survey effort. The 2005 survey implemented a simple random sampling method in urban areas and a line-intercept sampling method in rural areas. Distances, timing, and coordination constraints resulted in at least

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[45] Of the 26 mammals listed in the Mongolian Law on Fauna (2012), most have seasons that begin and end between the months of September and December, with some ending in early February.

[46] The following species have hunting seasons that begin November 20th and end on February 11th: Sable, Beech marten, American mink, Lynx, Wolverine, Red fox, Corsac fox, Eurasian red squirrel, Siberian weasel, Steppe polecat, Least weasel, Stoat or Ermine, Pallas's cat, Artic or mountain hare, Tolai hare, Long-tailed ground squirrel

five regions being under-sampled. The 2016 survey implemented several sampling changes, including a geographic stratification of the sampling. For the first time, these surveys now include statistical techniques designed to account for potential underreporting of sensitive behavior, as is the case with illegal hunting. As a result of specific questions developed on the Unmatched Count Technique, this report is now able to provide an estimation of how far survey results likely deviate due to deliberate underreporting by respondents.

A PROFESSIONAL SURVEY TEAM

A significant improvement over the prior survey is the integration of a professional organization, IRIM, to participate in the development and implementation of the field research tools. The 2005 survey was essentially a combined effort involving staff from different organizations, many with expertise in wildlife surveys, but not necessarily with significant experience in social surveying. There were also geographic limitations that meant not all staff were capable of attending training sessions simultaneously. Trainings were therefore disbursed and could not be observed to ensure quality.

IRIM is specialized in conducting surveys using teams of experienced researchers, standards and protocols that eliminate common problems, as well as issues more specific to the implementation of surveys in Mongolia (e.g., timing to avoid elections, how to sample nomadic areas, etc.). Their involvement included all logistics, sampling design, data quality control, internal auditing systems to verify responses, and English translations. IRIM's partnership made it possible to critically review the 2005 survey and incorporate improvements by, for example eliminating unnecessary questions, improving the delivery of questions, verifying results, detecting field errors, and more. These improvements contributed to greater efficiency in the overall process, resulting in fewer errors, and more accurate, robust results.

TAPPING INTO NEW ICT OPPORTUNITIES

Advances in technology over the last decade have made it possible to refine and improve

the 2016 study. In 2005, researchers needed to print and reprint sufficient numbers of multi-sheet surveys before heading to the field, where they were recorded with pen and paper during potentially challenging weather. Two members of the team dedicated their entire time to re-entering all 5,000+ interview results by hand into Microsoft Excel. Given the potential for inevitable errors in this type data entry process, this method also required additional time intensive reviews.

There is no fair comparison to the situation in 2016. ICT advances facilitated research design and development, implementation procedures, and data entry approaches that were not available to a simple field team 10+ years earlier. First, it was possible to engage experts in five different locations thanks to the ability to collaborate online, something unthinkable in 2005 when all resources needed to be located in Mongolia. Second, the report profited from the revolution that survey software has brought to the field of research. Gains include: i) integration of training with the survey, ii) the opportunity to adjust questions on-the-go, iii) improving the speed and accuracy in data entry, iv) real time results, and v) the integration of statistical analysis.

Tablets were used as the platform to input data, providing access to important digital services. These included GPS systems (to geo-locate and later map each interview); built-in cameras (to capture images associated with an interview location and respondent); and voice recorders (to record statements or comments of the interviewers in their own words and conduct data quality reviews). An additional advantage of mobile devices is the minimization of surveyor errors. With previous systems, surveyors could potentially complete surveys dishonestly at home without visiting the survey area or actually interviewing a respondent. Because mobile technology records the exact location and time of the survey, the risk of false results was minimized.[47] Additionally, training was integrated with surveying, with surveyors capable of accessing explanations to the questions if they needed to refresh how to ask or how to enter data in any particular scenario. Another benefit included the opportunity to make corrections during the survey (although most errors were corrected during the pilot). If a mistake had been detected (for example an option of "Other" is missing and necessary in a

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[47] In the 2005 survey, one team was dismissed and their data deleted for this reason.

multiple-choice question), the correction can be made in real time and surveyors have immediate access to the corrected version of the survey. The entire process of compiling paper questionnaires and entering data is avoided since surveying software includes check control capabilities to detect and limit errors in the field. Finally, when survey results are transmitted, administrators can immediately access all tabulated results. It can detect errors to correct and also provides preliminary result reports. These technological advances resulted in immense improvements on the 2005 survey, making the data collection process smoother, faster, and more reliable.

ADDING DATA VISUALIZATION

The first report included non-text elements such as maps, pictures, graphics, and tables. The current report takes a step forward in the field of data visualization. In an attempt to enhance reader comprehension and understanding of the significant quantity and variety of data gathered and analyzed, a strong emphasis has been placed on improved visualization. A visual expert supported the report drafting process by creating illustrations to better represent complex interactions contained in the results.

NESTING THE SURVEY IN A GLOBAL CONTEXT

Finally, this report has also been adapted to view Mongolia's experiences through a global lens. In 2005-06, the international elements of the trade were certainly not ignored, but the global dimensions were only touched on tangentially. The team completed limited surveys across the border in China and Russia, but the focus was always tied to Mongolia's challenges as a source country. As our understanding of the international scale of wildlife trade has grown, it is only logical for this report to draw those connections wherever possible. Strategic recommendations cited the opportunity to review Mongolia's progress in its implementation of CITES against other countries, as well as its membership and implementation of other wildlife related treaties such as the United Nations Convention Against Transnational Organized Crime (UNTOC) and the United Nations Convention Against Corruption (UNCAC). Understanding Mongolia's legal framework can certainly be advanced by reference to international best practices, as

well as the experience of countries in similar situations, comparing systems, practices, and specific legal content. Beyond this, it was also the intent to make this report accessible to other countries and investigators facing similar issues, particularly in the Central Asia region with similar species, trade, and enforcement challenges.

Methods

Introduction

This chapter describes the variety of methods used to organize the research and analysis. Following the different stages of the investigation, it presents the original research questions that were formulated to guide the entire process; the tools and instruments designed for data collection and validation; and the design of the sampling and the field data collection process. It also describes how the research team was formulated, trained and how roles were distributed. Finally, it outlines the quality control process to ensure clean and reliable data for analysis.

It has been organized into the following seven sub-sections:

- Research Questions - identifying eight areas of wildlife trade for inquiry, including 1) wildlife conservation, 2) take and trade, 3) legal and institutional frameworks related to wildlife trade, 4) markets, 5) enforcement, 6) public awareness, and 7) the generic socio-economic context of Mongolia.

- Sources of Information – an extensive list of sources that could be targeted by research efforts in addition to the primary household and market surveys.

- Research Team – describing the members of the research team, their qualification and participation in the various research and survey tasks.

- Research Calendar – outlining the dates and associated levels of effort for each of the survey and research tasks.

- Research Instruments – a section describing the 13 research instruments used to implement the household and market surveys, as well as the desk research.

- Sampling Design – separate, detailed descriptions of the sampling design for the household and market surveys.

- Data Collection and Analysis – discussing all methods and practices used to collect data in the field for the household and market surveys.

This part of the report is significantly longer than the first Silent Steppe report. The entire process, including the contents of all questionnaires, sampling methods, and data analysis are discussed. The intent is to comprehensively describe all aspects of the survey methods, instruments, and analysis to support its replication and adaptation in other areas.

The foundation for the development of all methods and instruments described was the strategic recommendation to maintain the 2005 methods, unless circumstances demanded (e.g., increasing enforcement making certain survey methods no longer viable), or improvements could be introduced without deviating entirely from the prior survey approach (e.g., use of technology to track survey results geographically, elimination of unnecessary or confusing questions). Initial planning sessions and the team's anecdotal reports made it clear that several adjustments would be necessary if the 2016 survey were to obtain a comparable or better level of information. Changes have been highlighted in Chapter I and are discussed in this Chapter as necessary.

The proceeding chapters discuss the global context surrounding Mongolia's trade (Chapter III); an analysis of the institutional and legal framework (Chapter IV); and key results from the surveys (Chapter V), and finally recommendations for priority actions to combat illicit wildlife trade in Mongolia (Chapter VI).

Research Questions

BRONZE AGE
STONE-CARVED HUNTING SCENE
Uvurkhangai (3.000 BC)
Museum of Natural History of Mongolia

The initial step in defining the methods for the 2016 report was the identification of eight areas considered fundamental to understanding wildlife trade. These included 1) wildlife conservation, 2) take, 3) trade, 4) legal frameworks related to wildlife trade, 5) enforcement, 6) markets, 7) public awareness, and 8) the underlying socio-economic context of Mongolia. Each category was defined as follows:

1. **Conservation** – a series of questions exploring the known status of species, their main threats, the hunting quotas, as well as the existence of funding, programs and initiatives to support conservation efforts; e.g., community-based wildlife management, wildlife surveys.

2. **Take** – questions directed specifically at hunting practices and any changes observed in the last 10 years, including numbers and profile of hunters, preferred species, volumes taken, seasons, reasons for hunting, etc.

3. **Trade** – questions exploring the existence, mechanics, volumes and values of wildlife trade, along with questions related with the role of hunting as an income source at the household level and with CITES-permitted wildlife trade from and to Mongolia

4. **Legal Frameworks** – questions related to the current status and evolution of Mongolia's legal framework governing wildlife trade, its national legislation to implement CITES, as well as the effectiveness of the legal framework in tackling illegal wildlife trade.

5. **Enforcement** – a line of inquiry into the institutions, their mandates, capacities, and practices to understand the types of monitoring, enforcement, and prosecution of illicit wildlife trade.

6. **Market** – this line of questioning was concerned with larger aspects of the market; e.g., the existence and differences between domestic and international markets and their overall composition (i.e., traditional medicine, game meats, fish, etc.)

7. **Public Awareness** – questions directed at the presence of wildlife trade in news items, as well as the general public's understanding of wildlife, related laws, and liabilities associated with poaching and illicit trade. This also included public opinion of anti-poaching enforcement measures.

8. **Socio-Economic Context** – the final set of questions was concerned with changes in Mongolia's overall economic context and demographics in the last decade as potential underlying factors in wildlife trade.

For the eight categories, the team formulated a total of 70 research questions (see Annex I). This list was intended to guide the design of the research tools, ensuring that all inquiries would be included in at least one or more of the research instruments. It also guided desk research, including the collection of resource materials. It was understood that success in answering these questions would depend on the availability of the information, the willingness of those interviewed, the ability to acquire certain types of information in a timely manner, as well as the quantity and quality of the information provided.

Sources of Information

Once the research questions were defined, the survey team prepared a table of potential sources to direct information gathering efforts. The goal was to complement the core data collected by households and traders with the opinions, statistics, and publications of other relevant stakeholders.

The final list of potential sources came to 53, covering the institutional environment and included management, trade, and enforcement related agencies, national and international NGOs, academia, international and national finance institutions, and the private sector. In the end, inputs were collected from a total of 36 of the 53 identified sources (marked in blue in Table 2), including almost all institutional and enforcement bodies, all targeted civil society groups, as well as several national and international NGOs.

Unfortunately, the inability to coordinate the collection of information from Aimag and Soum officials meant an important source of information was missed. As hunting is a locally managed activity, it provides an ideal basis for data collection. The ability to assess at this level is critical to an accurate understanding of local practices that in turn can provide a more solid understanding of national trends.

While some sources were missed in this process, the amount of information gathered was nonetheless substantial. An organized approach to key informant and stakeholder interviews was essential. This approach provided important validation of survey results, including explanations that helped better understand and, in some instances, directly support results presented in this report. These additional sources can be found throughout the report and are cited accordingly.

Table 1. Sources of Information

	SILENT STEPPE II — Sources of Information	
GoM Management Authorities	1 Ministry of Environment 2 Ministry of Finance 3 Ministry of Foreign Affairs 4 Ministry of Tourism 5 Customs Agency 6 State/Local Game Agencies 7 Soum/Aimag Governments 8 National Statistical Office	
GoM Enforcement Authorities	9 Anti-Poaching Patrol Units 10 Central Police, Eco Crime Unit 11 Independent Authority Againts Corruption 12 Ministy of Justice, Prosecutors Office 13 State Specialized Inspection Agency 14 Customs Authority 15 State Border Defense Agency	
NATIONAL NGO's	16 WWF Mongolia 17 WCS Mongolia 18 Taimen Trust 19 Snow Leopard Trust	
Academia	20 Institute of General and Experimental Biology 21 Mongolian National University 22 New York University Law School 23 ZSL Institute of Biology 24 University of Oxford	
Civil Society & Private Sector	25 Hunting & Fishing Associations 26 Hunting & Fishing Outfitters 27 Tourism Companies 28 Mining Companies 29 Traditional Medicine Associations / Hospitals 30 Households 31 Wildlife Markets 32 Restaurants Selling Wildlife 33 Retail Shops Selling Wildlife 34 Legal Associations	
International NGOs	35 UNEP 36 IUCN 37 ZSL 38 TRAFFIC 39 The Nature Conservancy 40 EarthWatch Institute 41 Global Environment Facility 42 Saiga Conservation Alliance 43 Panthera 44 Fauna & Flora International	
International Aid and Financial Institutions	45 WORLD BANK 46 EBRD 47 KfW 48 USAID 49 UK AID & DEFRA 50 GIZ	
Foreign Governments	51 China's Customs Authority 52 Russia's Customs Authority	
Treaties	53 CITES	

Research Team

In 2005, the desire for the wildlife trade survey to cover the entire country, representing a vast geographic area, required the necessary participation of several organizations. Staff members from more than 30 organizations supported the effort at different research stages, resulting in some degree of inevitable discontinuity. For the most part, this included the division of the training and some of the validation efforts, as well data input and review.

The 2016 team was smaller than the team used in 2005, but its core members conducted the entire survey from the design through to the data collection and analysis. The 2016 team also included more relevant specialist expertise than 2005. Along with biological expertise, team members brought experience in the areas of law and legal development, economics, international trade, business promotion, research, survey design and statistics, and data visualization. This resulted in a more robust research design and implementation, with all staff coordinated in the effort, coherent in the process, with steps implemented uniformly and evaluated by the members, and documented following consistent standards and methods.

The parties involved and their respective roles were as follows:

○ The **Zoological Society of London**, acted as the lead organization, and was involved in all aspects of the project from strategic planning through all phases of implementation. This team included Mongolian Projects Coordinator and Co-Project Lead, Nathan Conaboy (general management, co-authorship, and document review), Munkhjargal Myagmar (conservation biologist and technical specialist), Gombobaatar Sundev (document review), and South and Central Asian Programme Manager and Co-Project Lead, Gitanjali Bhattacharya (co-author and editor).

○ **Legal Atlas**, as the lead investigation and analysis team, included James Wingard (research design, legal analysis, and report drafting) Maria Pascual (research

design, statistics and data analysis, data visualization, report drafting, and project management), Amanda Rude (field interviews, desk research, and report drafting) and Abigail Houle (legal analysis, desk research, and report drafting).

○ **IRIM**, as the field survey team including 25+ surveyors under the leadership of Dolgion Aldar (Executive Director), Batsugar Tsedendamba (Operations Director), Bold Tsevegdorj (Consultant), Nyamkhorol Sainbat (Research Manager) and Batsaikhan Ulziibuyan (Senior Researcher). IRIM participated in all stages of survey implementation, including design, training of surveyors, validation of research instruments, survey logistics, data collection and data cleaning, and reporting.

The following graphic illustrates the participation of each of the organizations and their role as the lead for the various tasks:

Figure 1. Research Team & Tasks

Concentrated training of those implementing the various parts of the survey and research was critical to the survey's success. As in 2005, training focused on initial sessions during which lead surveyors were trained and then tasked with training the remaining survey team. Training was divided into two sessions coinciding with the Household survey in May and Market surveys in September. All training of trainers was conducted in UB by combined team of experts from ZSL and Legal Atlas.

For the Household survey, a total of five facilitators participated during three days (May 13-14, 16) training seven facilitators from IRIM's core team. Subsequent training was conducted with the remaining members of the survey teams from May 18-19, including the participation of eight facilitators from IRIM and 24 surveyor candidates.

A similar format was used for the Market Survey, with four facilitators from Legal Atlas and ZSL – again training seven trainers from IRIM's core team. Four trainers from IRIM then conducted the training of the rest of the market survey team. Given the number of instruments and variability in the market, training was divided into three separate sessions. The first session focused on Key Informant Interviews and Price Reports; the second on market surveys of restaurants, travel agencies, retail shops, and traditional medicine shops. In a final session, all surveyors were trained in the use of the Observation Sheet.

For both surveys, additional candidates were trained than required for two reasons – firstly, to eliminate candidates from the survey team that did not appear capable of conducting the survey and second, to have backup surveyors available if required. All candidates were tested and evaluated after the training sessions to determine suitability for participation. For the Household Survey, a total of 31 people received training, but only 20 actually participated in the data collection. In the Market Survey, from the initial 11 trainees, ten participated in its implementation.

Unlike the 2005 survey, the follow-on sessions to train all survey team members was accomplished through the observation and input from those involved in the research design and primary training. This allowed the principal team to assess the results of the entire training program.

Research Calendar

The 2016 survey, including data analysis and report writing took 12 months to complete. This is roughly the same as the time taken in 2005. However, there were major differences in the research calendar reflecting a core recommendation from the strategic assessment – that each of the three survey types (household, market, and stakeholder surveys) be divided into separate efforts with individual development and implementation calendars. There were three primary reasons for this:

- **To better track the wildlife trade markets in Mongolia.** In the 2005 survey, all interviews were conducted in the summer. This had a clear impact on the market survey as the majority of hunting occurs seasonally in the fall. Direct observations of markets during the summer season were necessarily limited and therefore missed some forms of trade and species that were hunted. Adjustments were therefore made to the 2016 survey design to schedule market surveys to begin in September.

- **To better accommodate other, potentially competing events.** The annual Naadam festival takes place each summer (July) in Mongolia, and has a predictable impact on most people's availability. Adjusting the stakeholder survey calendar to avoid this event was crucial to ensure interviewee availability. Furthermore, the national parliamentary elections were also scheduled for June 29th 2016. IRIM predicted that elections would have a negative impact on the willingness of the general public to participate in the survey, given the increased number of surveys commonly conducted ahead of the elections. As a result the household survey calendar was adjusted to start in May and finish before the end of June to account for these events.

- **To facilitate focused training and efforts specific to the survey type.** For the market surveys, field teams, in addition to gathering targeted market data, were also trained to collect anecdotal hunting information through key informant interviews and observation sheets. For the stakeholder surveys, an entirely separate team was assigned and equipped with instruments tailored to the source and the needs of a semi-structured interview.

Compared to 2005, the 2016 survey invested significantly more time in developing a refined research and analysis calendar. The survey effort itself was spread over more months (3 months in 2005, compared to 4 months in 2016); although the final analysis, drafting, and publication of the report were completed in a similar length of time.

Figure 2. Research Calendar
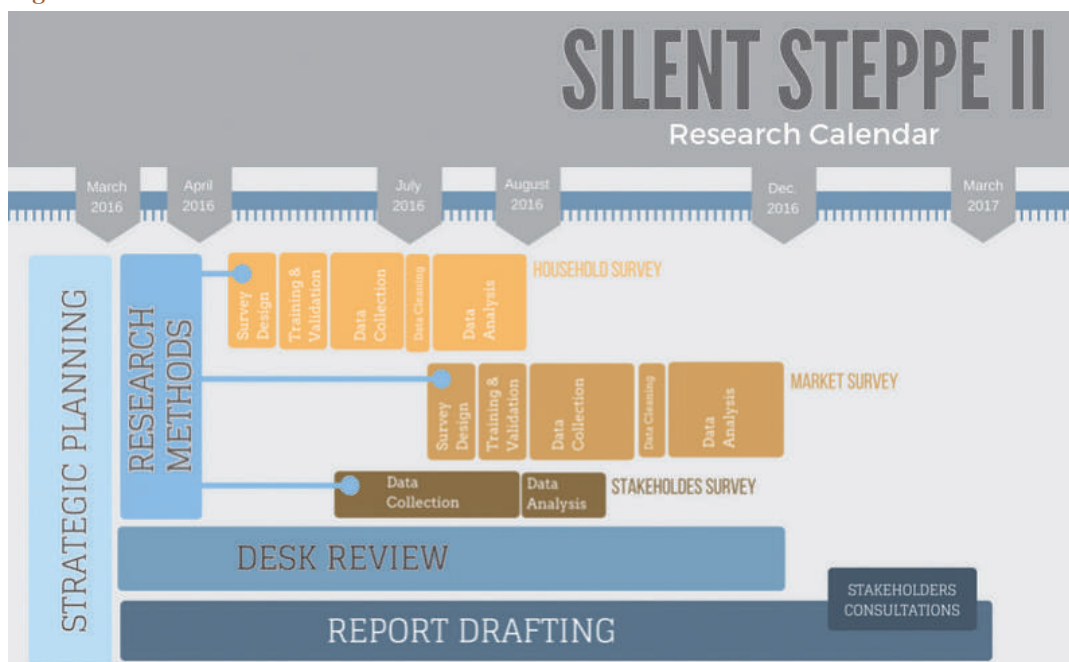
Research Instruments

One of the major lessons from the 2005 survey was the need to diversify and improve the set of research tools. This section describes the reasons behind this need and includes detailed descriptions of each instrument. Descriptions have been organized under the three major survey types – household, market, and stakeholder surveys. There were three primary reasons that lead to the diversification of research instruments.

○ **Tailoring for different market segments.** This was notable for the market surveys. In 2005, the survey tried to capture all market data using a single 'market survey' sheet. This proved to be cumbersome and resulted in missed opportunities to better describe the different types of markets and the wildlife trade practices that are unique to them.

○ **Respondent reluctance.** Although enforcement had some impact on the 2005 survey, there was no real comparison to conditions in 2016. A new and palpably more stringent enforcement environment meant that respondents in all surveys, not just the market survey, were less receptive. The biggest impact on survey design was in the household survey. Respondent reluctance required the use of a different survey technique – the unmatched count technique or UCT; a specialized survey method employed when sensitive questions are likely to result in lower than expected response rates.

○ **Expected importance of anecdotal information.** In 2016, the chances that the standard surveys (household and market) would result in incomplete information was higher. It was therefore expected that key informant and other stakeholder interviews would play a significant role in the final analysis. To support this increased effort, specialized instruments were designed to ensure that targeted information was consistently sought during each of these interviews.

For the 2016 survey, the research team designed a set of 13 research instruments to better facilitate the accurate and standardized collection of the various types of qualitative and quantitative information targeted. Figure 3 organizes each of the survey instruments according to the three types of survey targets – households, stakeholders, and markets. Figure 4, on the following page, lists all 13 instruments and provides details on the sample size, instrument type, survey duration time, and the specific individuals or sectors targeted. The sections that follow provide more information on the content and application of each instrument.

Figure 3. Survey Instruments by Type

SILENT STEPPE II
Research Instruments

HOUSEHOLDS
1 Household Survey
2 Observation Sheet

STAKEHOLDERS
3 Management Authorities Interview
4 Enforcement Authorities Interview
5 Scientific Authorities Interview
6 NGOs Interview
7 Academia Interview

MARKETS
8 Price Report
  Observation Sheet
9 Tourism Companies Survey
10 Traditional Medicine Survey
11 Restaurants Survey
12 Retail Shops Survey
13 Key Informants Interview

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Figure 4. Research Instruments

SILENT STEPPE II
Research Instruments

		Sample Size	Instrument Type	Time Duration	Hunters & Fishermen	Government	Enforcement Authorities	Academia	Businesses & Markets	Civil Society
1	Household Survey	4,010	📋	20"	🏹🐟					
2	Observation Sheet	50	👁	5"	🏹🐟		👮			
3	Price Report	300	👁	5"					$	
–	Observation Sheet	100	👁	5"	👥🐟		👮		$	
4	Tourism Companies Survey	50	📋	15"					$	
5	Traditional Medicine Survey	30	📋	15"					$	
6	Restaurants Survey	100	📋	15"					$	
7	Retail Shops Survey	120	📋	15"					$	
8	Key Informant Interview	150	💬	30"	🏹🐟	🏢	👮	🧠	$	👥
9	Management Authority Interview	5	💬	90"		🏢				
10	Enforcement Authority Interview	10	💬	90"			👮			
11	Scientific Authority Interview	1	💬	90"				🧠		
12	Civil Society Interview	10	💬	90"						👥
13	Academia Interview	4	💬	90"				🧠		

Instrument Development

For the development of each instrument, the research team undertook several steps to assess the 2005 instruments and results, making recommended changes, and organizing the results by survey type. Among the tasks completed during this phase are the following:

○ **Cleaning Question Sets.** For the household and market surveys, all questions from 2005 and the corresponding results were reviewed in detail to identify:

- low response rates - e.g., for some questions only a handful of the respondents answered, and it was not expected this would change in 2016,

- unusable responses - e.g., when asking about weights of meat, response rates were high, but were so inconsistent that they did not produce reliable information, and

- poor accuracy in responses – e.g., in some instances, the questions were confusing and resulted in responses that were inconsistent with the expected response.

○ **Allocating Questions Among Instruments.** Each instrument was assessed for its ability to return usable responses to the initial set of research questions. These initial questions were then distributed among the instruments to ensure this 'best fit' was implemented throughout the survey instruments.

○ **Controlled Menu Choices.** For the household and market surveys, the use of digital platforms made it possible to develop menu choices for responses and thereby avoid open-ended questions. This reduced data entry mistakes, and improved data collection efficiency as surveyors were not required to write down responses. Options for answers came from three sources: 1) the experience of the team on the topic (e.g., the list of species in trade); 2) the most common answers reported in 2005 (e.g., vehicle types); and 3) the Mongolian national socio-economic census (e.g., responses for education level or household income level).

Instrument Validation

Validation of the household and market survey instruments (instruments #1 to #8) was conducted immediately after both training sessions in May and August. No validation was conducted for the stakeholder instruments (#9 to #13). A total of 239 surveys were conducted to test the comprehension, delivery, ease of use, potential for confusion, as well as the adequacy of the menu choices. This amount included 139 Household Surveys, 10 Observation Sheets, 5 Price Reports, 15 Tourism Company Surveys, 10 Traditional Medicine Surveys, 10 Restaurants Surveys, 40 Retail Shop Surveys and 10 Key Informant Interviews. As a result, minor adjustments were implemented in the survey where necessary. For each of the eight survey types involved, the following additional steps were implemented for validation:

○ **Face Validity** – each instrument was evaluated by the staff at ZSL and Legal Atlas and again compared to the initial set of Research Questions to assess whether the instruments as designed would capture targeted information.

○ **Translations** – In a second stage, the questions were translated into Mongolian and reviewed by IRIM staff; first, to ensure that translations were correct; and later, to evaluate the questions for embedded errors that might cause confusion among the respondents.

○ **Pilot Test** – After all questions had been reviewed for face validity and translated, a pilot test was run with a limited number of respondents in two locations, including both urban and rural settings. All trained surveyors were involved and used the same system that would be used during the actual survey.

○ **Focus Group Discussion** – Using the automatic reports generated by the data input program, all surveyors that had participated in the pilot discussed all aspects of the survey, including the ease of use of menu items, difficulties delivering any questions, issues with data entry, etc.

○ **Revisions** – Only minor changes to the survey were necessary to adjust the formulation of some questions and the data entry process dictated by the programming of the handheld data entry survey tool.

Instruments Targeting Households

Two instruments were used for research at the household level: the Household Survey and the Observation Sheet. The survey contains the majority of the questions from the 2005 survey incorporating the changes previously indicated, one of the most significant being the introduction of UCT questions (explained on pg. 11). Both the Observation Sheet and the UCT questions are new to the 2016 survey, created in response to the heightened enforcement surrounding wildlife trade, the associated risk that respondents would not fully disclose information, and the need to rely on anecdotal information and key informants. Each instrument is described in the following sections. Copies of the instruments can be found in the Annex to this report.

HOUSEHOLD SURVEY

The Household Survey acted as a principal instrument in the 2005 survey and, while it was coupled with a number of additional survey instruments, it remained the focal point in 2016. The reason for this is the well-documented role Mongolia plays as a source country for its domestic consumption of wildlife, as well as its participation in international wildlife trade. In this context, households and the individuals within them are a major part of the trade chain, acting both as suppliers and consumers. Households and individuals, although part of the same unit surveyed, are actually different target populations. Including them within a single survey has implications when defining a unique sample size (that has to be based in the larger population) and when realizing inference of results (that has to be based in both populations).

Drawing upon the 2005 results, the 2016 household survey was directed explicitly at households and individuals over 15 years old. A total of 21 questions were divided into four major areas covering take, trade, use, and purchase (see Annex II).

Questions addressed to HOUSEHOLD units were intended to capture the socio-economic characteristics that might underlie trade, including the size of the household, income sources, and assets. Concerning use and trade, the survey contained specific questions on species, parts, uses, amounts, and prices to help understand what parts of wildlife were being used by the household and what part(s) sold, along with information on any other wildlife species that were being purchased at the market.

Questions addressed to INDIVIDUALS included two sections; the first was general and directed at all respondents. It recorded age, gender, residency, and other traits suspected of playing a role, including education, knowledge of wildlife and related laws. The first set of questions also included questions to capture perceptions on the status of wildlife populations in Mongolia compared with that of the past 5 and 10 years; as well as the respondent's opinion on the ability of the government to combat wildlife crime. A list of nine governmental measures (covering education, legal, economic, and enforcement measures) was presented to respondents asking for their opinion on the ability of each measure to improve conservation of Mongolia's wildlife.

The second section of the survey was asked only if respondents confirmed that they fished or hunted during the 2015 season. If confirmed, the survey inquired about species targeted, amounts, and hunting and harvesting locations in the previous year, as well as hunting experience, ownership of hunting/fishing equipment, and techniques used.

UNMATCHED COUNT TECHNIQUE (UCT)

Underreporting of illegal and sensitive behaviors in surveys is an age-old problem that makes accurate estimates of the prevalence of such behavior difficult.[48] The UCT[49] is a survey method designed to improve the number of true responses to sensitive, uncomfortable, or self-incriminating questions.[50] Although it is still being studied and improved upon, it is widely used, and its effectiveness in eliciting truthful responses in these circumstances is commonly reported.[51] The success of the method is based on its ability to ensure the anonymity of the respondent and their response.

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[48] Coutts, E. and B. Jann (2008). Sensitive Questions in Online Surveys: Experimental Results for the Randomized Response Technique (RRT) and the Unmatched Count Technique (UCT). ETH Zurich Sociology Working Paper No. 3

[49] Also known as: the list experiment, list count technique, unmatched block design, block total response.

[50] Raghavarao, D. and W. T. Federer (1979). Block Total Response as an Alternative to the Randomized Response Method in Surveys. Journal of the Royal Statistical Society, Series B. 41 (1): 40–45.

[51] E.g., Tsuchiya, Hirai, and Ono 2007; Holbrook and Krosnick 2010; Coutts and Jann 2011.

The analysis section describes how this anonymity is achieved, but in brief, respondents are randomly divided into case and control groups.[52] Both groups are presented a list of items or statements and are requested to provide the number of statements that are 'true' for them. However, only a numeric response is obtained, not which of the statements is 'true'. The control group is asked to respond to a shorter list of statements, all of which are morally neutral, and to which respondents will likely respond without difficulty. The case group has one additional statement in the list; the sensitive behavior the survey is interested in capturing. The fact that they do not have to reveal which questions they have included in their numeric response results in a greater number of truthful answers to the sensitive question. The differing number of statements in the list (e.g., 3 items in the control group and 4 items in the case group) makes it possible to mathematically estimate the number of people that may have included the sensitive item in their numeric answer.[53] The method has been used to survey in a variety of contexts from racial prejudice,[54] to drug use,[55] and more recently for wildlife trade.[56]

Figure 5. UCT Question #1; Illegal Method

Because it was suspected that the current enforcement environment would result in respondent reluctance to self-report hunting and trade activities, the 2016 survey includes three UCT questions. The survey team did not have time to test this assumption empirically, but felt confident in its estimation based on the fact that the selected UCT questions were potentially legally incriminating. Other project efforts and interviews with stakeholders conducted prior to the current survey indicated high degrees of reluctance among target populations to openly and truthfully answer these types of questions.

Figure 6. UCT Question #2; Illegal Equipment

For each set of UCT questions, the team created a set of menu choices or items (ji) that respondents could count to answer with a number ranging from 0 to 'j', where 'j' is the total number of menu items listed for the particular question set (j = Σji). 'Control' items included both high and low prevalence statements[57] to reduce the chance that a respondent would agree with all or none of the questions.[58] In such cases, the sensitive question loses the protection afforded by the others, reducing the likelihood of truthful responses.[59] Although, it is also considered good design to have negatively associated statements[60] to reduce the variability of answers, the control set was not designed with this in mind. The short season available for the household surveys as dictated by the upcoming elections, reduced the opportunity to separately develop and test for negative associations. In future efforts, this should be introduced as it increases statistical efficiency, reducing the overall number

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[52] This division was also internal, with respondents not knowing what group were they being allocated. Survey software was automatically assigning respondents to case or control group based on their odd or even order.

[53] Although several approaches are being applied to conduct this estimation, this research uses the most commonly used method: a simple difference-in-means estimator.

[54] Kuklinski, J. H., Cobb, M. D., & Gilens, M. (1997). Racial attitudes and the "new South". Journal of Politics, 59(2), 323-349.

[55] Droitcour, Judith, et al. "The Item Count Technique as a Method of Indirect Questioning: A Review of Its Development and a Case Study Application" in Measurement Errors in Surveys, by Paul P. Biemer et al. New York: John Wiley & Sons, Inc., 1991, pp. 185-210

[56] Hinsley, A., A. Nuno, M. Ridout, F. St John, and D. Roberts (2016). Estimating the Extent of CITES Noncompliance among Traders and End-Consumers; Lessons from the Global Orchid Trade. Conservation Letters, October 2016, 00(0), 1–8.

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[57] Statements to which a high or low percentage of the population is expected to respond in the affirmative.

[58] Glynn, A.N. (2013). What can we learn with statistical truth serum? Design and analysis of the list experiment. Public Opin. Quart., 77(S1), 159-172.

[59] Hinsley et al, 2016; Droitcour et al. 1991.

[60] Negatively associated statements are those that are not likely to result in individuals that do both. In other words, a person that buys health food regularly is unlikely to eat fast food regularly and vice versa.

of surveys needed to achieve reliable results.61

UCT questions #1 and #2 were implemented together with the primary Household Survey. These tested for two types of illicit hunting behaviors suspected of being widely practiced: shooting from vehicles and night lighting.

As these questions were only administered to those who stated that they hunted in the previous year, they did not account for the bias created by reluctance to self-report this initial fact.

The first results of the household survey in the summer showed a clear and abrupt decrease in the number of respondents that claimed to hunt. Whereas in 2005 almost 30% of the male population over 15 years of age reported hunting in the previous year, in 2016 this number dropped to just 8%.62 Anecdotal information being collected at the same time on the field, however, suggested that this result was a significant underrepresentation of reality.

For that reason, a third UCT question was administered during the fall, this time targeting hunting participation. Taking advantage of the regular surveying activities conducted by IRIM, this extra UCT question was included in an unrelated, national survey in September 2016. The sample size for this unrelated survey was 1,500, randomly selected at the national level, and with a respondent profile including men and women over 16 years of age. As it matched the respondent profile and remit of the wildlife trade survey, it presented a useful opportunity to undertake an additional examination of household survey results on hunting prevalence.

Figure 7. UCT Question #3; Hunting Prevalence
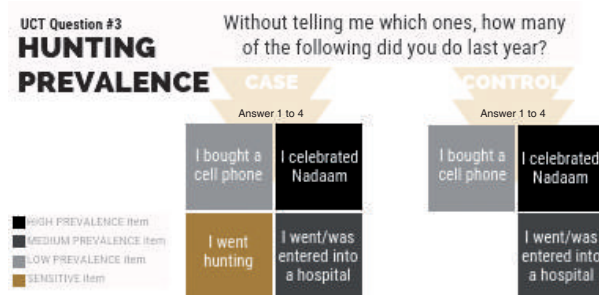
OBSERVATION SHEETS

An Observation Sheet (see Annex III section) was designed to allow the survey team to collect qualitative information at the same time that

formal surveys were taking place. The level of effort for each interview varied from a few minutes (if no interaction ensued), to as much as 30 minutes. The same instrument was used in both the household and market surveys.

The goal was to gather additional anecdotal evidence to provide background information, personal stories, and images to be used as examples of activities targeted in the survey. All surveyors were trained to identify potential wildlife trade related circumstances, including unplanned encounters with rangers during their drives across the countryside, talking with fishermen near rivers and lakes, and engaging individuals in discussion about openly displayed furs or other wildlife products whether in public or private settings.

The sheets were designed to capture small stories and the form –in the electronic version- had the capacity to upload up to five (5) images and associated soft-copy documents, to record dates and places, and to enter a brief story (less than 200 words) describing the scene witnessed or discussed with the respondent.

Instruments Targeting Markets

Early in the process of designing the 2016 market survey methods, recommendations were made that the 2005 surveys be fully revisited. While the intent to preserve the cross-sectional aspect of the survey remained, there was little in the prior survey that would be affected by deeper changes. Unlike the household surveys in the first Silent Steppe report, the market surveys were principally observational and did not result in a dataset that could be statistically analyzed. Without previous experience, the goal was to document (albeit with some level of consistency) what was being traded (species, parts, products), to whom, at what prices and quantities, and where. The approach was not expected to result in numbers that could be extrapolated across all markets for the country as a whole.

The 2005 market survey involved only two basic instruments; one for restaurants and the other for what was in fact a multiplicity of market types, including wholesale markets, grocery stores, containers shops, tourist markets, hospitals, and clothing markets. Naturally, the kind of information available depended entirely on the market segment in question. Both instruments were deliberately designed as broadly as possible and in some

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61 Glynn (2013).

62 199 out of 2,518 men over 15 years self-declared having hunt the previous year, a percentage of 7,903%

instances purely as a way of fishing for potentially relevant information; e.g., who was selling what in the container shops. To make it possible to capture whatever might be seen or heard, the data capture sheets were lengthy and difficult to use. They yielded results, but room for improvement was possible.

A total of seven instruments were designed to capture market data from as many sources as possible. These included:

- Retail Shop Survey
- Tourism Agency Survey
- Restaurant Survey
- Traditional Medicine Survey
- Price Report
- Key Informant Survey
- Observation Sheet

The Observation Sheet has been already described in the prior section of Instruments Targeting Households. The objective and contents for the remaining six instruments are summarized in the following sections. Each instrument has been reproduced in the Annex to this report as indicated in the cross-references.

RETAIL SHOP SURVEY

This instrument (Annex IV) was created to target all shops that might be trading wildlife related products, including retail markets, formal clothing boutiques, jewelry stores, antique shops, and food shops selling wild game and fish. The interview was designed to last 15 minutes and focused on the top three wildlife-related products sold at the store. For each product, the survey required the identification of the species, the country of origin, the use, the price, and the maximum number of items sold in a month during any season.

TOURISM COMPANY SURVEY

Tourism Companies were included in the market survey as the team considered them critical stakeholders, both those that organized hunting, as well as those whose business is based on Mongolia's environment and its wildlife (wildlife photography, sightseeing, scientific trips, etc.). As the headquarters for these companies are almost exclusively based in UB, this particular survey was implemented principally in the capital city. This survey was designed to take an average of 15 minutes and was directed at managers, owners, and employees in tourism companies.

This survey (Annex V) included 12 questions grouped into 3 sections: clientele, hunting/fishing, and general opinions. The first section was directed to all respondents and recorded, their client's main country of origin, the number of clients, and their client's objectives. The hunting section was directed specifically at those organizing hunting or fishing tours and inquired about specimens targeted and amounts taken last year. It also included questions related to the role of the company in relation to gun permits, hunting permits, taxidermy, and export permits. Answer choices covered an entire range from indirect to full involvement of the organization including taxidermy services, arrangement of CITES permits, to trading of meat in local markets. The final section gathered the same general opinion about the status of wildlife and government capacity to combat illicit trade as asked in the Household Survey (cross-reference).

RESTAURANT SURVEY

This survey was designed to target only restaurants selling fish, after the household results showed the importance of this activity. Its goal was to explore the fairly recent trend of fish consumption in restaurants; to understand what is most commonly being served at restaurants; how the supply chain functions; who the clients tend to be; e.g., foreigners or whether new patterns of consumption could be determined among Mongolian clientele. Directed at owners and managers only, the survey was estimated to take 15 minutes to conduct (see Annex VI)

As with the Retail Shop Survey, this survey asked about the top three fish dishes being sold in the restaurant, and asked follow-up questions covering multiple details for each dish, including the main fish ingredient or species, where it is purchased, when, in what form (fresh, canned, frozen), how often, and the average prices paid. In an attempt to estimate the size of this business segment, restaurants were asked about the maximum amount of fish dishes sold per month. They were further asked their opinion on the dynamics of this segment, e.g., the trends in terms of competitors, prices, supply, products, procurement plans, and customer preferences for fish. Finally, they were asked if they saw the market segment for fish in restaurants as increasing, decreasing, or stable.

TRADITIONAL MEDICINE SURVEY

This survey (Annex VII) focused on a key area of the wildlife trade, the demand for traditional

medicine (TM).[63] The TM respondent profile included individuals connected with TM, from workers of TM facilities, to patients using TM or traders selling the products. Questions were addressed generically to these individuals familiar with TM to try to identify common products used and traded in the respondent's area. There were not questions addressing the personal experience of the respondent; i.e., their personal use of such products. Each survey was designed to last approximately 15 minutes.

The survey asked respondents to specify the names and parts of wildlife most commonly used in traditional medicine in their area of residence, the medical uses, and information on the supply chain (provider type and source aimag). Two final questions were included in the survey. The first inquired about consumer preference for Mongolian or foreign products, with China included as one of the responses due to the presence of Chinese medicines in Mongolia. A second question asked about the prevalence of traditional medicine practices in the respondent's community to corroborate whether traditional medicine still plays a significant role in the wildlife trade in Mongolia.

PRICE REPORT

This instrument (Annex VIII) was used by surveyors to record prices of wildlife products obtained in a single location (market/shop). The species listed in the system were based on the list of 62 species identified in Silent Steppe I, and not limited to the species reported in the 2016 household surveys. The price for a particular product was asked when considered safe and appropriate, and later annotated (not in front of the seller). The form allowed surveyors to annotate prices in the terms provided by the seller (for example by fur, by kg of meat, by the entire animal, by article of clothing or jewelry, etc.). This form was also used to document prices found online in websites advertising Mongolian wildlife products.

KEY INFORMANT QUESTIONNAIRE

This questionnaire (Annex IX) was designed to collect qualitative information faster than stakeholder interviews (nevertheless, these

interviews lasted approximately 30 minutes). Questions were designed to identify the main areas of interest, and provided guiding questions to help surveyors conduct the interview, whilst allowing flexibility, depending on the type of informant.

Areas of information targeted included characterizing "what" was being taken and traded in the area (specimens, their uses, the seasons), "who" was involved (hunters, traders, processors, clients, and enforcement officials), "how" the species and products are taken (equipment, methods), the economics of the trade (cost of permits, fines, hunting cost, selling prices, profits along the chain), the logistics (transportation vehicles and roads, border crossing points, storing facilities) and enforcement capacity and activities (patrols, captures and seizures, enforcement equipment, citizens cooperation, etc.).

Instruments Targeting Stakeholders

A total of four questionnaires were designed as semi-structured interviews for key stakeholders. They were used to guide the initial qualitative field research by Legal Atlas staff in UB, as a part of the effort to gather baseline information on the topic. Each interview was expected to last 90 minutes on average. Questions targeted information likely known by the stakeholder and relevant to wildlife trade, including but not limited to: governmental data and statistics, previous reports and research, laws and regulations, etc. Questionnaires were customized to the profile of the different stakeholders targeted, including:

- **Management Authority Questionnaire** (see Annex X)
- **Enforcement Authority Questionnaire** (see Annex XI)
- **CITES Scientific Authority & Academia Questionnaire** (see Annex XII)
- **NGOs and International Organizations Questionnaire** (see Annex XIII)

Each of them identified sections of interest (such as the economics of wildlife trade, conservation issues, cross-border cooperation, etc.) and a myriad of trigger questions within each section to support specific lines of inquiry.

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[63] 'The acronym TM' is used instead of 'TCM' as it more appropriately refers to 'traditional medicine' in general terms, and does not make an unnecessary and likely erroneous reference to 'traditional Chinese medicine.'

Sampling Design

Silent Steppe II is the first complete cross-sectional study of wildlife trade in Mongolia since 2005. In considering the methodology, the strategy was to preserve as much as possible from the original approach while overcoming some of its shortcomings. For that reason, the 2016 study replicated two important aspects of the household sampling design and data collection, specifically: the sampling size and the array of techniques used to identify households to be surveyed (a combination of strata, linear intersects, and random methods). There are, however, some design differences both necessary and desirable in the 2016 iteration. The following section summarizes the main differences in sample design for both survey types between the first and the second edition.

IMPROVING HOUSEHOLD SAMPLING

The 2005 survey planned for national coverage, with an even sampling distribution across 21 aimags and UB. Actual survey implementation was constrained by limitations in logistics and, as a result, not all aimags were evenly surveyed, resulting in over-representation of some aimags and under-representation in others. In the end, almost 70% of all surveys were collected from only 7 aimags (Tov, Zavkhan, Dornogovi, Khovsgol, Uvs, Uvurkhangai, Omnogovi) plus UB, while the remaining 14 aimags provided only 30% of the sample size.

Many of the aimags with higher levels of biodiversity in terms of wildlife species, such as Selenge, Khovd, Arkhangai, Dornod, Khentii, and Govi-Altai were part of the under-represented group. Within each aimag, some sample clusters were instead dictated by convenience and not by statistical design (i.e., the ability to reach certain areas and the presence of partner organizations).[64] When reviewing the correlation between final sampling and aimag population, important deviations also resulted from the convenience criteria used. As an example, in Dornogovi aimag 7 surveys were collected for every 1,000

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inhabitants while in Orkhon aimag the ratio was just 0.1surveys/1,000 inhabitants. All of these situations were throroughly disclosed in the original report as weaknesses and potential sources for bias in research results.

The goal of national survey coverage remained an important objective in 2016, but, learning from the past, an improved approach was designed to better select geographical clusters, and collect a data sample that might be better suited to represent national behaviors. Sampling design is therefore one of the principal differences between the two studies. The 2016 survey followed a multi-stage strata sampling design informed by social, economic, and environmental criteria that ignored convenience criteria entirely. This provided a more robust set of data to analyze, as is detailed in the following section.

IMPROVING MARKET SURVEY SAMPLING

Contrary to 2005, the selection of wildlife markets in 2016 did not attempt to achieve geographical representativeness. The deliberate objective was instead to track trade points along the wildlife value chain, including national wholesale and retail trade, online (internet-based), and international trade. These trade points are, for the most part, known areas and do not occur homogenously throughout the territory. Sampling was thus based on established value chains for wildlife.

Although the sample size for the market survey finally dropped in quantity from 1,100 in 2005 to 850 in 2016, it increased in quality thanks to the combination of market segments, customized instruments, and the value chain approach in sampling.

Household Sampling

SAMPLE SIZE

In 2005, the sample size (n=4,010) was more a result of the team's inter-agency and ability to collect surveys than the result of a statistical computation. For populations over 100,000, as in our case, a sample size around 400 is considered already large enough to provide reasonable statistical confidence. The margin of error (MOE;

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[64] Wingard, J. and P. Zahler, 2006.

also called confidence interval) and the confidence level (α) are the two statistical parameters that together describe that confidence, or in other words how powerful a sample is to describe the behavior of a population. When sampling design is random, a sample of 400 individuals provides a 5% confidence interval[65] and a 95% confidence level,[66] both commonly accepted parameters in statistical design.

When sampling design is not entirely random, as is the case in this study, increasing sampling size is a standard way to compensate biases. The 2005 sample was already 10 times larger than the minimum required in random sampling studies. When applying to it a sample size calculation formula in reverse,[67] we see that the 4,010 size would provide a level of confidence of 99% and a confidence interval of +/- 2%, in both cases much higher than common standards when random sampling is performed.

Sample size was therefore not altered in 2016, trusting in the power of a large sample to counterbalance the fact that pure random sampling methods could not be applied, as described in the following sections.

MULTI-STAGE STRATA SELECTION

In considering the required sampling strategy and Mongolia's unique geographical conditions and population density in Mongolia, the 2016 sampling design and data collection strategy relied on the combination of three techniques including stratification, linear intersection, and random selection. The following sections detail the different stages of the sampling selection for the household survey.

STAGE I: AIMAG SELECTION

The regional division of Mongolia in 21 aimags and UB provided the foundation for the current sampling design. These 22 strata were considered to initially divide the country's population. The research budget was estimated to allow fieldwork in approximately 60% of the territory, requiring selection of a maximum of 14 of the 22 strata.

Level one of the strata selection was not conducted randomly. It was considered of paramount importance that the selected strata represent the various socio-economic and ecological characteristics of the country. Mongolia's vastness and low population density means that a random selection of strata would result in bias by failing to account for parameters that are highly connected to wildlife trade; e.g., household purchase power, or the species that occur in the area. For this reason, the first step was to identify indicators that would capture the drivers of Mongolia's wildlife trade and would inform the selection process in this first stage.

In the end, five indicators were used to capture: 1) key species coverage; 2) ecological zones; 3) human population density; 4) GDP per capita; and 5) Competitive Index. For each of these five criteria, values were obtained from official statistical sources. Four of the criteria resulted in numbers that could be categorized as high, medium, and low and ranked accordingly. One criterion (key species coverage) came in the form of a map. Rather than estimate specific values within the map, we used a simple presence/absence indicator. The overall goal was to ensure that sampling achieved the highest degree of representativeness from all categories, and that Aimags that were essentially the same or similar to others, could be safely omitted. Details on the indicators used are as follows:

- **Key Species Coverage** – A total of 25 key species were selected by the team based on their known importance to hunting and trade in Mongolia.[68] Then, using range and

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[65] The confidence interval or margin of error (MOE) refers to the level of precision of a given result, meaning that a result of 21% for certain behavior within a sample should be inferred into a population as 21% +/- MOE. If our margin of error is 5%, that mean that behavior A can be estimated to be between 16 and 26% of the target population

[66] The confidence level refers to how sure we are that the results obtained through the sample are truly representing the entire population. The confidence level is expressed as the probability that the true population proportion for a given behavior is really contained within the margin of error defined. The most common confidence level used is 95%, meaning that a given result (for example 16% to 26% percent for a behavior A has 95% chances to be true.

[67] $n=(Z\alpha)^2 (\sigma) (1-\sigma)/MOE^2$; where "n" means Sample Size; "Z-score" indicates the random variable of a normal distribution; "α" indicates confidence or significance level; "σ" means standard deviation; and "MOE" means margin of error

[68] Including Snow Leopard, Eurasian Otter, Dalmatian Pelican, Musk Deer, Mongolian Saiga, Moose, Reindeer, Beaver, Pheasant, Swan, Baikal Sturgeon, Wild Ass, Argali, Wild Boar, Red Deer, Siberian Ibex, Goitered Gazelle,

distribution maps from the IUCN,[69] these 25 species were assigned to their corresponding aimags or provinces. Through a basic presence/absence matrix, the number of species present in each aimag was calculated. For example, a score of 5 meant that only 5 of the key species are known to have range and distribution in that particular aimag (e.g., in Darkhan Uul); a score of 17 meant that 17 of 25 species are present (e.g., in Zavkhan, Uvs, or Khovds). Finally, aimags were divided into equal groups of high, medium, and low presence of species.

○ **Ecological Zones** – Mongolia may not be high in ecological diversity, but it is nevertheless made up of distinct ecosystems that influence a variety of factors of interest to this study, including, most importantly, the species that inhabit an area and their relative abundance. Ecological zones were therefore used as an additional criterion in this first stage of the selection process. Ecological zones were based on categories defined by The Nature Conservancy (TNC) and included alpine, taiga forest, forest-steppe, steppe, semi-desert, and desert.[70] A map of each of these zones was overlayed with the administrative divisions map of Mongolia to ensure that sampling would be representative of all ecological zones.

○ **Human Population Density** – This indicator was sourced from the National Statistics Office from Mongolia's latest population census in 2015, and measured persons per km2 within each aimag.[71] The sampling distribution sought to represent the population distribution and for that reason, this indicator was used to divide aimags into high, medium, and low density strata.

○ **GDP per capita** – This economic criterion highlights the economic differences between Mongolia's aimags and their differing purchase power. Some aimags have more than twice the GDP per capita compared to others – as is the case between Omnogovi at USD$7,694 USD and Bayan-Olguii at USD$3,109 USD. Data for this economic indicator was also sourced from the National Statistics Office of Mongolia.[72] It was used to divide aimags (strata) between high, medium, and low GDP.

○ **Competitiveness Index** – Economic activity is directly tied to trade, and while there are no empirical studies demonstrating links to illicit trade based on this criterion alone, it was clear from the 2005 survey and other observations, that trade naturally centered in the markets where economic activity was also high. To ensure that these areas were not over or under-sampled, it was decided to include competitiveness as an additional selection criteria.

As a result, UB and a total of 13 aimags were ultimately selected as representative of the social, economic, and environmental diversity of Mongolia.

Table 2. Selected Aimags by Region

WESTERN REGION	(1)	Uvs
	(2)	Khovd
	(3)	Zavkhan
	(4)	Gobi-Altai
KHANGAI REGION	(5)	Ovorkhangai
	(6)	Arkhangai
	(7)	Khovsgol
	(8)	Bayankhongor
CENTRAL REGION	(9)	Darkhan-Uul
	(10)	Selenge
	(11)	Umnugobi
EASTERN REGION	(12)	Khentii
	(13)	Dornod

From Mongolia's **Western Region**, four Aimags were included (Uvs, Khovd, Zavkhan, and Govi-Altai), and only one excluded (Bayan-Ölgii). This aimag was excluded for convenience. Lying in the extreme west of the country, access is difficult and given the time available, its sampling was considered both cost and time prohibitive. Its exclusion may introduce some bias, however, as it is the only aimag where the range and distribution of at least one key wildlife trade species does not overlap with other aimags (the

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Taimen, Gray Wolf, Saker Falcon, Siberian Marmot, Altai Marmot, Corsac Fox, Red Fox, Roe Deer

[69] Available at http://maps.iucnredlist.org.

[70] Heiner, M., G. Davaa, J. Kiesecker, B. McKenney, J. Evans, T. Enkhtsetseg, Z. Dash, U. Vanchindorj, O. Baast, S. Dolgorjav, G. Radnaabazar, E. (????) Identifying Conservation Priorities in the Face of Future Development: Applying Development by Design in the Grasslands of Mongolia. Available at https://www.nature.org/media/asia-pacific/east-mongolia-grasslands-ecoregional-assessment.pdf

[71] National Statistics Office of Mongolia. Statistical Database (www.1212.mn)

[72] National Statistics Office of Mongolia. Statistical Database (www.1212.mn)

Altai marmot or *Marmota baibacina*). It is also the only Aimag that is predominantly inhabited by Mongolia's minority Kazakh population. Hunting methods in Kazakh communities are known to differ from other Mongolian ethnic groups. They are, for example, the only communities that practice eagle hunting. It is not known whether this has an impact on the variety of species hunted and/or levels of trade. In other respects, the Aimag is similar to several other areas; i.e., it shares all of its ecological zones with at least six other Aimags and it is close to the average in the number of key species, in addition to the socio-economic indicators.

From the **Khangai Region**, lying in the central and western part of Mongolia and defined by the Khangai Mountains, another four aimags were selected (Övörkhangai, Arkhangai, Khövsgöl, and Bayankhongor). From this region, again only one Aimag was omitted, Bulgan. As a northern-forested region with significant water resources, Bulgan was considered substantially similar to Khentii, Selenge, and Khövsgöl Aimags.

Three Aimags were selected from the **Central Region** (Darkhan-Uul, Selenge, and Ömnögovi). Excluded from this region were Töv, Dundgovi, Orkhon, and Govisümber. Orkhon is one of the smallest aimags in Mongolia at just 844 km², or roughly 1% of the average provincial territory. It is also one of the few areas defined primarily by its urban environment with an average population density of 125 persons per km². It was omitted in light of the number of expected surveys in neighboring urban environments, specifically Selenge, Darkhan-Uul, and Ulaanbaatar. Dundgovi and Govisümber lie directly south of Töv Aimag and share many similarities in population density and species composition with Ömnögovi. Töv Aimag itself includes some of Mongolia's northern boreal forest region and covers a large area of steppe and desert steppe in its southern reaches. It shares these ecosystems with all three of the aimags selected for sampling and is otherwise well represented by surveys that would be conducted in the capital city, a distinct administrative unit, but lying at the economic heart of Töv Aimag.

Finally, two of the four **Eastern Region** aimags (Khentii and Dornod) were selected, omitting Sükhbaatar and Dornogovi. Mongolia's eastern expanses are defined predominantly by steppe, semi- desert, and desert, with only a small portion of forested region in the far eastern corner on the border with China. As semi-desert and desert regions would be well represented

by surveys in the south and southeastern part of the country, the one aimag dominated by these ecosystems (Sükhbaatar) was eliminated from this sample set. Dornogovi Aimag was left out of this sampling set as an area already well represented by other low human density, steppe regions, semi-desert and desert regions.

Ulaanbaatar was added to the list as the 14th survey strata since its population represents almost 50% of the country's total. The same 60% coverage limitation was applied to determine that only 5 of the 9 UB districts would be surveyed.

Figure 8 Household Sampling (Stage 1) summarizes this stage by presenting a collection of maps with the aimag status for each of the different indicators. Selected aimags are covered by a dotted area, making it possible to see how the goal of encompassing Mongolian diversity was achieved by this group of 14 strata.

Figure 8. Household Sampling (Stage I)

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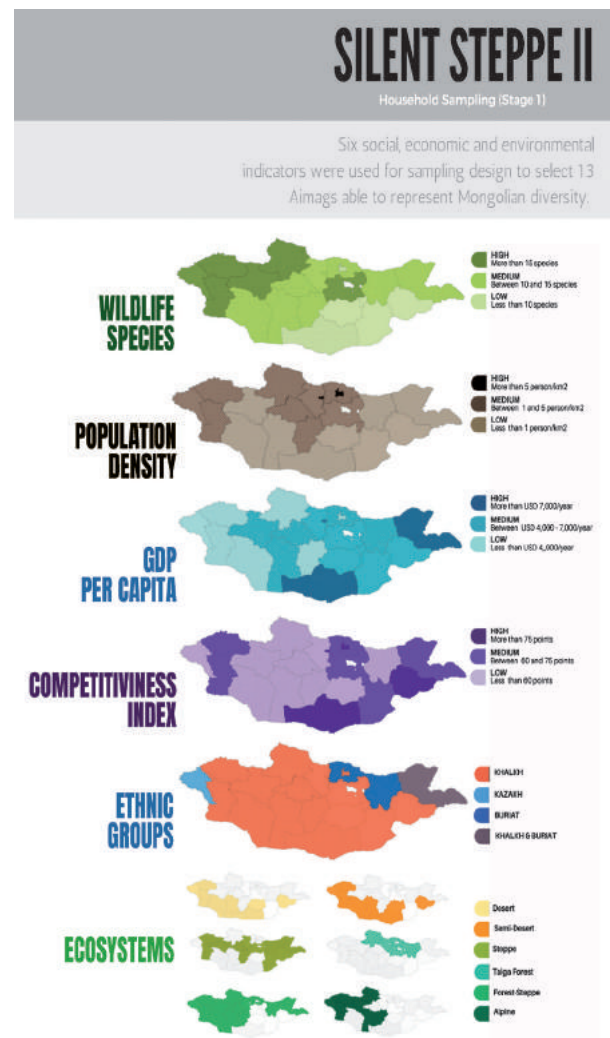
STAGE II: SOUM SELECTION

Based on overall population estimates and the ability to reach the total target sample size, the number of soums selected from each of the 13 aimags was limited to three (3), for a total target of 39 soums. All aimag soum centers were selected, since in all cases, they comprise much of the aimag's population. In addition to the soum center, two more soums were selected from each aimag, this time randomly. This selection was done by numbering the soums and then using a random number generation software[73] to produce two random numbers to select the corresponding soums.

For Ulaanbaatar, five districts were selected from the total of nine using the same technique of numbering districts and randomly choosing five numbers.

See Figure 9 for a list of the 44 selected strata (39 soums plus 5 UB districts) and their geographical location as determined during this second stage.

Figure 9. Household Sampling (Stage II)

Aimag	#	Soum	Sample Size	Aimag	#	Soum	Sample Size
ARKHANGAI	1	Erdenebulgan	100		23	Alag-Erdene	29
	2	Tuvshruulekh	15		24	Chandmana-Undur	14
	3	Khotont	21	SELENGE	25	Sukhbaatar	109
BAYANKHONGOR	4	Bayankhongor	138		26	Shudder	11
	5	Bayantsagaan	16		27	Khushaat	9
	6	Erdenetso	20	ULAANBAATAR	28	Baganuur	135
DARKHAN-UUL	7	Darkhan	375		29	Nalaikh	163
	8	Orkhon	15		30	Bagakhangai	18
	9 10	Shariin gol	39		31	Khan-Jul	646
DORNOD	11	Kherlen	201		32	Chingeltei	757
	12	Dashbalbar	16	UMNUGOVI	33	Dalanzadgad	105
	13	Sergelen	9		34	Bayandalai	10
GOVI-ALTAI	14	Yesunbulag	91		35	Manlai	12
	15	Khaliun	11	UVS	36	Ulaangom	131
	16	Tsogt	16		37	Davit	8
KHENTII	17	Kherlen	96		38	Zuungovi	12
	18	Binder	19	UVURKHANGAI	39	Arvaikheer	145
	19	Tsenkhermanda	16		40	Taragt	15
KHOVD	20	Jargalant	127		41	Uyanga	44
	21	Altai	15	ZAVKHAN	42	Uliastai	75
	22	Man khan	19		43	Zavkhanmandal	22
KHUVSGUL		Murun	180		44	Yaruu	9

SURVEY SAMPLING DISTRIBUTION

With 44 survey areas identified (39 soums and 5 UB districts), the initial distribution of the 4,010 surveys within them was calculated based on their relative proportion of the population, where the aggregated population of all 44 survey areas to be sampled (835,851 persons) represented 100%.

Population figures for each Aimag were taken from the 2015 Mongolia official census.[74]

While Figure 9 provides the specific distribution of the sample among the 44 survey units, Table 3 presents an example of how this distribution was calculated for one survey unit (Unit #42).

Table 3. Example of sampling distribution (A)

Survey Unit #42 at Uliastai Soum (ZAVKHAN Aimag)					
		POPULATION	SAMPLE		
Survey Unit Population	N_i	15,679	75	n_i	Survey Unit Sample
Total Survey Units Population	$N = \Sigma N_i$	835,851	4,010	$n = \Sigma n_i$	Total Survey Units Sample
%	N_i / N	1.876%	1.876%	n_i / n	%

Once the survey area was proportionally distributed among the survey units, a secondary sample distribution was calculated for each unit to be sampled to account for differences between rural and urban populations within each area. In this step, it was not necessary to conduct the same calculation for districts in Ulaanbaatar, since the entire population is considered non-rural. Mongolia's 2015 official census data was again used as a source for population data. The same unit #42 is used to give an example of this step in Table 4.

Table 4. Example of sampling distribution (B)

Survey Unit #42 at Uliastai Soum (ZAVKHAN Aimag)					
		POPULATION	SAMPLE		
Survey Unit Population	N_i	15,679	75	n_i	Survey Unit Sample
Survey Unit Urban Population	$N_{i(u)}$	3,606	17	$n_{i(u)}$	Survey Unit Urban Sample
%	$N_{i(u)} / N_i$	23%	23%	$n_{i(u)} / n_i$	%
Survey Unit Rural Population	$N_{i(r)}$	12,073	58	$n_{i(r)}$	Survey Unit Rural Sample
%	$N_{i(r)} / N_i$	77%	77%	$n_{i(r)} / n_i$	%

Sampling for Market Instruments

Research into Mongolia's wildlife markets was designed with a strong qualitative component. Apart from gathering quantitative data on wildlife trade prices to estimate economic values within the value chain, there were key questions about the actors and procedures of the value

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[73] www.random.org

[74] National Statistics Office of Mongolia. Mongolian Statistical Information Service. Available at www.1212.mn/en

chain that required qualitative investigation. Some of these queries, formulated in the first stage (see Research Questions) revolved around the profile of the actors in the wildlife trade chain, the specific procedures for transporting, storing and smuggling wildlife, and the preference of Mongolian consumers for wildlife based products. Based on these research needs, markets were targeted through a suite of seven quantitative and qualitative instruments, none of which were intended to obtain statistical representativeness.

Based on these objectives, the selection of survey areas was neither random nor driven by statistics. Instead, it was focused on the need to observe wildlife trade along its value chain with the understanding that trade does not occur homogenously throughout the country. Trade generally, including wildlife trade, occurs principally in or near Mongolia's urban centers. This is especially true for segments such as tourism companies or restaurants selling wildlife, most of which are highly concentrated in UB. Additionally, wildlife trade in particular has a strong international component with Mongolia acting as a source country for China and Russia. To capture this required surveying areas bordering those countries.

SELECTION OF MARKET SURVEY SAMPLING AREAS

A three-stage process guided the selection of sampling areas for the market survey. In the first stage, the country was divided into three regions (west, center, and east), with the intent of sampling from all of them. From each region, three aimags were selected for a total of nine. In the central region, this included two aimags, plus UB. Within each of the selected aimags, the actual survey areas were narrowed to include two soums, for a total of 16 soums, and another four areas in UB, as well as three wildlife markets on the outskirts of the capital. In total, research into wildlife trade markets and chains was conducted in twenty different geographical areas spread across the entire country. The following paragraphs provide additional information on the criteria used in steps 2 (aimag selection) and 3 (soum selection).

Figure 10. Market Sampling Areas

SELECTION OF BORDER AREAS

The Mongolian Customs Authority lists 42 official border crossing points with Russia and China, 29 and 13 respectively.[75] According to this list, 30 borders are closed or are not within any of the aimags otherwise targeted by the household survey. This left 10 border crossing areas in six aimags to select from: Khovd and Uvs in the west, Selenge in the center and Dornod, Dornogovi, and Sukhbaatar in the east. All six of these aimags were selected, and to complete the target of three aimags per region, two additional were included: Bayan-Olgii in the west[76] and Tov in the central region. In both cases, these aimags have non-operational custom's offices, but because they have functional road infrastructure at the border crossing points, they can potentially be used for illegal trade and wildlife smuggling.

Within the eight selected aimags, all aimag centers were chosen, as most of the retail shops, restaurants, and traditional hospitals can be found in these urban centers. In addition to these, any soum with an international border was considered a candidate for selection, as these are often where processors of wildlife products, and wildlife traders operate. In the event more than one soum met this last criterion, the soum known for wildlife trade or having a major

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[75] Resource: http://www.customs.gov.mn/2014-03-24-09-28-57.

[76] Also the aimag where the Tsaagan Nuur Free Trade Zone is located, although it has not yet been developed.

transportation route was selected. The sixteen soums that were selected as part of the market survey sampling area are listed in Figure 10.

SELECTION OF UB AND NEARBY MARKETS

In Ulaanbaatar, six well-known markets were identified, including: Kharkhorin, Naraan Tuul, Nomin, Bayanzurkh Market, Khuchit Shonkhor, and Bars. Three additional areas outside UB were also identified as well known locations for raw material trade, including wildlife. These included Emeelt, Baganuur and Nalaikh, all of which were also part of the survey in 2005.

The selection of specific markets did not restrict the other market surveys conducted within the capital (such as travel agency surveys, retail shops, or key stakeholder interviews). As a practical matter, UB in its entirety was included as part of the market survey, as some survey types were implemented wherever the respondent may have been within the city.

MARKET POPULATION AND SAMPLE SIZE

STEP 1: Estimating Market Population

Estimating the market population for each of the targeted market segments required collecting data from a variety of sources,77 including calls to Aimag governor's offices, personal visits, online research, and a review of the national phone directory. Statistics for Ulaanbaatar city were collected from websites78 and the national phone directory. The aggregated result is presented in Figure 11.

Figure 11. Market Sample Size

STEP 2: Sample Size Definition

Within the 20 selected sampling areas, it was possible to identify the existence of 17 wildlife markets, 56 tour operators, 9 traditional medicine hospitals, 103 restaurants, 90 retail shops, and 200 key informants. Even though they are estimations, the provided sufficient insight to define sampling goals for each of the market research instruments.

As Figure 11 shows, sample targets were defined at 400 observations in wholesale markets (including 300 Price Reports and 100 Observation Sheets) and 30 doctors and patients of the TM hospitals. For the remaining instruments, the goal was to try to encompass the entire market estimated to exist in the 20 sampling areas: 50 surveys for travel agencies, 100 for restaurants, and 120 for retail shops selling wildlife.79 Additionally, it included a target of 150 key informants.

Combining all instruments, the total sample size for market research was 850. This represents 250 observations less than was obtained in 2005 (1,100 market surveys). However the segmentation of both the population surveyed and the refined research instruments used, compensated for these fewer observations, providing a larger set of valid data for analysis.

STEP 3: Assigning Sample Size to Areas

Following these national level targets, sub-targets for each sample area were calculated to account for the major concentration of respondents in UB. Some cases were clear, like the tourism company segment, all of which are headquartered in the capital. For this instrument, the entire sample size (50 surveys) was assigned to UB. For the remaining instruments, UB and its outlying markets were allocated between 40% and 70% of the sample target size, depending on the segment, with the 16 remaining soums being assigned a sample size of the remaining portion, equally distributed.

Data Collection and Analysis

Data Collection

For households, data collection was organized using the linear intersect method to identify the specific households to survey within each of the 44 selected survey units. Using Google Map's satellite view, units were divided using roads and geographical points of reference as a way to efficiently organize the fieldwork for survey teams. Figure 12 shows how Survey Unit #42 was divided into three sections (divided by the dotted line and marked with a number).

Within each section, additional lines were randomly drawn following streets to provide surveyors specific walking paths. The direction of each walk was also randomly selected, including start and end points. The lower half of Figure 12 shows a magnified view of section 1, and illustrates the walking paths. Surveyors were instructed to walk all lines from start to end, surveying all households available until completing the required sample size for that section and unit.

Figure 12. Linear Intersect Method for Household Survey

Survey Unit #42 at Uliastai Soum (ZAVKHAN Aimag)

Magnification of Section 1 (Unit #42)
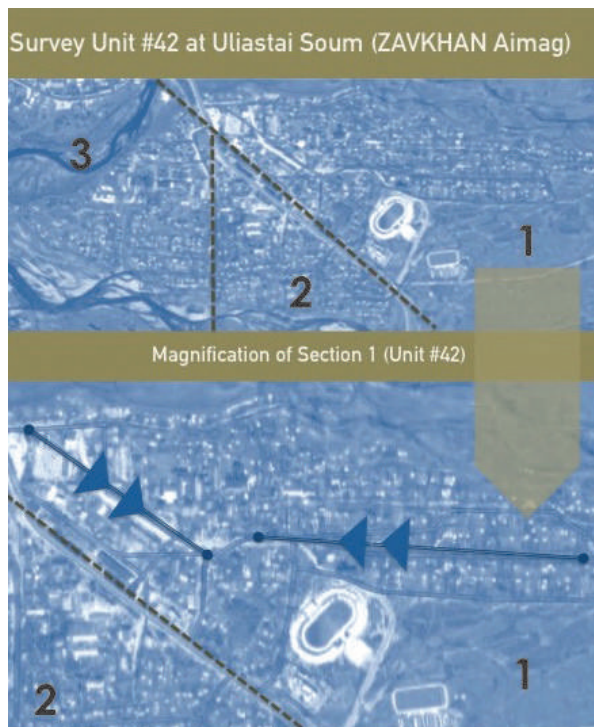
For the market and stakeholder surveys, no specific data collection method was necessary, since instruments were applied to targets previously identified through directories and other references.

Figure 13 on page 26 summarizes the data collection effort for Silent Steppe II. The thirteen research instruments (combining household, market, and stakeholders) are listed, along with the months and number of days of field work, the number of surveyors involved, and the number of surveys finally collected. In total, 5,013 observations were captured using these 13 research instruments, with an estimated time invested in pure data collection of 1,564 hours, based on the estimated average time to implement each instrument.

A team of 25 surveyors was engaged for the Household Survey in the months of May and June 2016. They completed 4,070 surveys over a period of 29 days. Around half of these surveyors provided a total of 46 observation sheets, which were completed during 13 days.

In the fall, a second team of nine surveyors was organized using instruments #3 to #8 to survey markets between September and November 2016. Figure 13 (p. 26) shows the number of working days involved in this effort. At the bottom of this figure is a summary of the data collection process involving stakeholders, which was conducted during the first three months by a single researcher using semi-structured interviews.

The main challenge for collecting information on illegal wildlife trade was the clandestine atmosphere surrounding it, caused in part by heightened enforcement in recent years. This new environment, contrary to the one experienced during the first study, limited both the readiness and openness of respondents to collaborate, and also the possibility for surveyors to directly observe illegal wildlife trade. At the household level, UCT questions incorporated in the survey confirmed that respondents did not always respond truthful to sensitive questions. For market surveys, two of the targeted segments directly refused to participate with surveyors. This was also the case for all hunting associations and all tourism companies (except for one) that organize hunting and fishing tours. Phone contacts and visits to share the official letter from MoE backing the survey did not overcome a general lack of trust. Also, many officers related stories of illegal trade occurring at night or in

secret areas. It is therefore possible, and likely, that the few direct observations collected by surveyors during their fieldtrips (through the Observation Sheets and Price Reports) were only a glimpse of reality.

Logistical challenges also played a role in the survey team's ability to conduct key informant interviews with custom officers and soum rangers. It was not uncommon for staff to be absent from the office when contacted by the survey team, but to be otherwise engaged in field inspections. In other instances, the complete replacement of field teams meant that staff did not yet have the experience or information to provide detailed answers. Nevertheless, the sample was sufficiently large (150 interviews completed), and deemed successful in engaging enforcement personnel across all agencies involved in wildlife issues.

Data Quality Control

In comparison to the previous report, assuring quality data was collected during research was dramatically improved through the use of basic information technologies. The first advantage was the possibility to reduce data entry mistakes through the use of closed menu choices and pre-defined question flows in the questionnaires. Since electronic devices automatically recorded interviews, it was easy to recall the original answer if a particular response raised any concern. Geo-location of surveys and pictures provided a strong cross-verification mechanism to reduce the possibility of fake respondent data. Additionally, phone numbers were collected for household survey respondents and random follow-up calls were conducted to confirm not only their participation in the survey, but also a selection of key questions. A quality assurance team member in UB was able to remotely access all data collected during fieldwork, and store it online. This made it possible to react quickly to any data collection problems. As a result, few instruments (less than 10 instruments or 0.2% of the total) from the entire sample were invalidated.

Data Analysis

After collection and quality control, data went through a variety of analyses to ensure that results were as reliable as possible. In some instances, however, low response rates prevented full extrapolation of data. This is noted in the text wherever it applies.

ASSESSMENT OF DATA

In the research team's assessment, the accuracy of the 2016 survey results has been affected primarily by low response rates among those that engage in wildlife harvests, whether as hunters or fishers. This particular issue, and the use of the UCT is fully discussed previously in this Chapter, and again in Chapter V. In addition, other limitations in the study both for the Household and Market surveys are outlined in the following paragraphs.

Household and Market Surveys

In general, the design and implementation of the 2016 survey was substantially more rigorous than its predecessor. That said, the advances that saved time and improved results in some areas have also never been applied and tested in this context.

1. The sampling design included several selection tools designed to ensure representativeness of the survey, but which may or may not introduce some level of bias. These are:

   α. the use of Competitiveness Index (CI) as an indicator of a given region's general well-being and economic status. The CI is a broad concept that measures numerous factors that have an impact on conducting business. It does not, however, measure pure economic factors and therefore may hide important economic realities, in particular those related to strong, but illicit economies.

   β. the reliance on presence/absence for several criteria. For example, the sampling design intended to ensure that species were well represented by the selected areas. Aimags were considered, however, they were based only on whether species occurred at all within their territory. A more refined estimate of presence may have helped; i.e., X aimag has X% of the distribution of X species. The same is true for other criteria used in the selection process.

   χ. the particular combination of criteria used in the sampling design has not been tested in other studies. In the end, the sampling design and the sample size were both robust enough to at least mitigate against any bias that may been introduced by the preceding.

2. Both the Household and Market surveys relied on respondent recall, which has the potential to introduce some bias. As was true in 2005, the present survey has no access to independent records that would allow for comparisons. The UCT estimates that there was clearly a large degree of underreporting, and this certainly introduces error to the estimates of hunters, take, and trade levels. Unlike 2005, this survey invested significantly in meeting with key informants to independently test the validity of survey results.

3. The limitation of the UCT to overcome some knowledge gaps. The UCT method is useful when testing for the prevalence of a particular behavior. It is difficult to use if the goal is to also solicit more detailed information about a particular illicit behavior. In other words, the survey was able to determine how many people are likely engaged in wildlife harvests. It could not be used to then question those individuals about their hunting and fishing behaviors.

4. The timing of the survey. In 2005, the summer surveys lacked seasonal representativeness. This time, only the household survey was implemented during the summer. However, it coincided with Mongolia's national elections. The survey was able to avoid the actual election itself, but it is known that elections have an impact on respondent willingness to take part in a survey. This likely introduced some measure of bias.

5. No observations of night trading. This is a new form of trade that was only reported during the key informant interviews. The survey has no direct observations or other anecdotal information to offer.

6. The singular focus on restaurants that offer fish. In one part of the Market survey, the focus was exclusively on fish. Surveyors nonetheless recorded some anecdotal information that some wildlife (e.g., gazelle) may be used as a substitute for other red meats.

7. The missing respondents. Hunting organizations were noticeably absent and could have provided valuable insight into hunting. However, these organizations are supposedly limited to hunting trophy animals, so it's possible they may lack knowledge on the remainder of the market.

Figure 13. Date collection

SILENT STEPPE II
Data Collection

	Data Collection Month (MAY JUN JUL AUG SEP OCT NOV)	Field Work Days (2016)	Surveyors Involved	Surveys
1 Household Survey	MAY JUN	29	👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥👥	4,070
2 Observational Sheet	MAY JUN	13	👥👥👥👥👥👥👥👥👥👥👥👥👥	46
3 Price Report	SEP OCT	15	👥👥👥👥👥👥👥👥👥	300
- Observational Sheet	SEP OCT NOV	26	👥👥👥👥👥👥👥👥👥	121
4 Travel Agency Survey	SEP OCT NOV	9	👥👥👥👥👥👥👥👥👥	55
5 Traditional Medicine Survey	SEP OCT NOV	11	👥👥👥👥👥👥👥👥	34
6 Restaurants Survey	SEP OCT NOV	17	👥👥👥👥👥👥👥👥👥	108
7 Retail Shops Survey	SEP OCT NOV	25	👥👥👥👥👥👥👥👥👥	106
8 Key Informant Interview	SEP OCT NOV	20	👥👥👥👥👥👥👥👥👥	146
9 Management Authority Interview	JUL	6	👥	7
10 Enforcement Authority Interview	JUN JUL	6	👥	8
11 Scientific Authority Interview		-		-
12 Civil Society Interview	MAY JUN JUL	10	👥	11
13 Academia Interview	JUL	1	👥	1

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The Bigger Picture

International Trade is a Primary Driver

Mongolia does not generate all of the demand for its own wildlife; nor is it a major destination for wildlife products from other countries. It is, however, a part of global and regional trade flows. Understanding the dynamics of this trade is a starting point for understanding Mongolia's role in and vulnerability to the largely hidden and under regulated nature of wildlife trade markets. While a domestic market for wildlife trade is certainly a factor in Mongolia, both the 2005 and 2016 surveys indicate that a large portion is either directly or indirectly intended for the international market.

Discussed briefly in Chapter I. The Setting, wildlife trade (whether illegal or simply unregulated) is a global problem not unique to any one country or limited to the few species receiving the most press coverage – elephants, rhinos, tigers, and more recently pangolins. Estimating the scale of this trade is incredibly difficult, but a commonly accepted assessment is that "wildlife trade involves hundreds of millions of individual plants and animals from tens of thousands of species."[80] Virtually every place on the planet is implicated and it includes species and uses that most of us have never heard of – to name only a few: helmeted hornbills, whose beaks are traded for their 'red ivory' used in small carvings and decorative pieces; pittas, birds from Southeast Asia sold in the pet trade;[81] slow loris, a small mammal, also from Southeast Asia and sold for the pet trade; and giant clams, sold for carvings and as aquarium ornamentals. Examples from Mongolia include the Saiga antelope, whose horn is sold for its purported medicinal properties; gray wolves, sold whole and frozen to Chinese buyers, but also in individual parts, e.g., ankle bones and teeth; and musk deer, well known in wildlife trade for its musk gland for the perfume and medicinal use, but less well known as yet another source of ivory from its unique tusks.

Wildlife trade is diversified, can happen in high volumes, often travels long distances, and has immense value. In 2016, for example, Peru seized 8 million dried seahorses valued at almost USD $5 million and bound for Asia on a Chinese-flagged vessel.[82] In the same year in Hong Kong, officials confiscated four tons of pangolin scales, labeled as 'sliced plastic.' Shipped from Cameroon, this one transaction represented as many as 6,600 individual animals and was worth $1.25 million.[83] Rhino horn, another high value wildlife product used as an aphrodisiac in Asia, is worth roughly 1.5 times its weight in gold.[84] A single rhino horn, averaging 1.5-3.0 kilos, can be worth as much as $65,000.[85]

Mongolia has similarly high value wildlife. Its brown bear is a source for bear gallbladders that can fetch up to several thousand dollars (sold whole) in some markets in Asia; they are almost $200 per gram in powder form,[86] which translates to $200,000 per kilo. The report documenting these prices, also found bear gallbladder product in South Korean markets labeled as coming from Mongolia. Saker falcons in demand in the Arab states of the Persian Gulf are trafficked in the thousands and sourced throughout their range in Central Asia, including Mongolia, and can bring as much as USD $25,000 each.[87] For rare specimens, these sums can be more than double, as reported in 2014 in a transaction in Saudi Arabia.[88]

There are many more examples, but these few already underscore the high values and long distances traveled as trade crosses from source countries in South America, Africa, and Central Asia

[80] TRAFFIC, *Background: Trade*, http://www.traffic.org/trade/.

[81] Shepherd, C., Eaton, J., & Chng, S. C. L. *Pittas for Pittance: Observations on the Little Known Illegal Trade in Pittadae in West Indonesia*, BirdingASIA 24(2015): 18-20, *available at http://www.traffic.org/home/2016/2/17/indonesias-little-known-pitta-trade.html*.

[82] ABC News Australia, *Peru Seizes 8 Million Seahorses Illegally Bound for Asia On Chinese-Flagged Vessel*, (Jun. 22, 2016) http://www.abc.net.au/news/2016-06-22/peru-seizes-8-million-seahorses-illegally-bound-for-asia/7531550.

[83] Actman, Jani, *Four Tons of 'Plastic' Discovered to Be Smuggled Pangolin Scales*, National Geographic: Wildlife Watch (Jun. 26, 2016), http://news.nationalgeographic.com/2016/06/pangolin-scales-smuggling-hong-kong/.

[84] Harper, Jennifer. *$60K a Pound: Illegal Rhino Horn Now Declared More Valuable than Gold, Diamonds, and Cocaine*, Washington Times (May 2015). http://www.washingtontimes.com/news/2015/may/17/rhino-horn-considered-cure-all-and-aphrodesiac-now/

[85] Prices of Exotic Animals and Wildlife. Harvoscope Global Black Market Information.

[86] Foley, K., Stengel, C., & Shepherd, C., *Pills, Powders, Vials, and Flakes: The Bear Bile Trade in Asia*, TRAFFIC Southeast Asia Report (2011).

[87] https://www.forbes.com/sites/guymartin/2015/12/30/the-250000-bird-falcon-hunting-in-qatar/#3465b0e34bc1. (Retrieved on May 17th, 2017).

[88] A rare saker falcon was sold for SR 210,000 in Saudi Arabia, equivalent to approximately USD 56,000. http://www.arabnews.com/offbeat/news/651846. Retrieved on May 17, 2017.

to enter markets in the Middle East, Asia, Europe, and North America. Wildlife trade (when combined with timber trafficking and illegal fishing),[89] is currently considered one of the top five illicit markets in the world worth up to USD$20+ billion or more annually.[90]

Despite increasing attention by enforcement authorities, international wildlife trade remains a major and increasing threat to many species. A global marketplace fueled by: growing economies and populations; advanced and highly connected transportation networks; speculation on the potential extinction of species by private investors;[91] and increasingly efficient harvest technologies; wildlife trade today has the potential to drive the loss of more species and at rates never before witnessed.

While there are other threats to Mongolia's wildlife (e.g., linear infrastructure,[92] climate change, habitat loss, etc.), the single largest threat arguably comes from its role in the international market as a supplier of wildlife products. Sandwiched between two major economies (Russia and China) and far from any ports, Mongolia finds its foreign trade dominated by these two neighbors, their markets, and political interests; a fact it recognizes and a relationship it seeks to improve upon. Mongolia's stated goal is to "double trade with China and quintuple it with Russia, growing each to $10bn a year by 2020."[93] Among other measures, this has included the promulgation of pro-business legislation (in 2013); and new bi-lateral trade deals with both Russia and China (in 2014).[94] In terms of exports, the country does not have a wide variety of resources to offer,[95]

but exports nonetheless account for 50% of GDP,[96] while the world average is closer to 30%).[97] Most of its exports are dedicated to supplying one of its neighbors, China, which accounts for 79% of all export trade in 2016).[98] Mongolia's import market is also high (34%) and similarly dominated by the same trading partners[99] Figure 1 shows the distribution of Mongolia's combined imports and exports among its trade partners, with China and Russia representing 71% of total trade and six other partners comprising another 18%.[100] The dominance of international trade in its economy creates the opportunity to participate in licit and illicit international wildlife markets.

Figure 1. Mongolia's Top Trade Partners, 2016 (for all merchandise, including imports and exports)
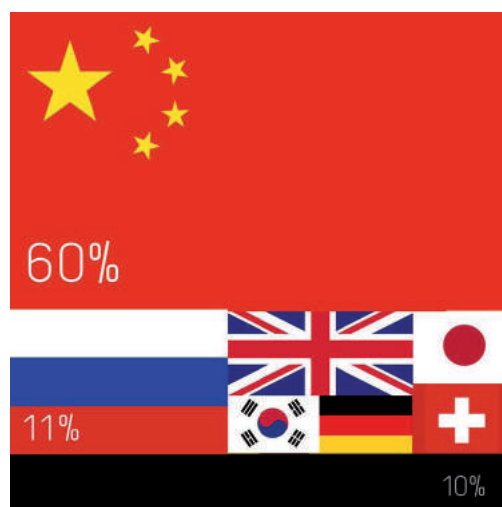
22.2% of mineral exports respectively, with mineral export accounting for 28% of GDP. Other exports included iron ore (15.3%); crude oil (12.1%); and gold (7.3%).

[89] UNODC, Estimating Illicit Financial Flows Resulting From Drug Trafficking and Other Transnational Organized Crimes, Oct. 2011 (38). https://www.unodc.org/documents/data-and-analysis/Studies/Illicit_financial_flows_2011_web.pdf.

[90] Haken, Jeremy, Global Financial Integrity, Transnational Crime in the Developing World, February 2011 (11) http://www.gfintegrity.org/storage/gfip/documents/reports/transcrime/gfi_transnational_crime_web.pdf.

[91] Platt, J. (2016). China's Wealthy Are Banking on Extinction. Participant Media.

[92] Wingard, J. et. al. (2014).

[93] Oxford Business Group. Mongolia builds new partnerships in trade and investment, with China and Russia and beyond. Accessed online at https://www.oxfordbusinessgroup.com/overview/mongolia-builds-new-partnerships-trade-and-investment-china-and-russia-and-beyond-0.

[94] Mongolia has, for example, signed 15 bilateral agreements with Russia and 26 with China. Oxford Business Group. Mongolia builds new partnerships in trade and investment, with China and Russia and beyond.

[95] In 2013, coal and copper represented 26.1% and

[96] Total Exports for Mongolia amounted 4.917 Billion USD for 2016, half of its GDP for that same year, amounting 9.878 Billion USD. Source: Mongolian Statistical Information System (www.1212.mn).

[97] World Integrated Trade Solution. The World Bank. www.wits.worldbank.org (Retrieved on April 20, 2017)

[98] In 2016, Mongolia traded with many countries, but almost 80% of all trade was with neighbor China (79%) and Russia (11%). The remaining major trading partners are the UK (9%), the US and South Korea (both at 5%), and Japan (4%). WTO (2014).

[99] Mongolian Statistical Information System (www.1212.mn).

[100] The total value of Trade of Merchandises for Mongolia was USD 8.275 billions for 2016 (including USD 4.917B in Exports and USD 3.357B in Imports). The Top Trade Partners for 2016 were China (USD 4.926B or 60% of the total), Russia (USD 0.936B or 11% of the total), UK (USD 0.585B for 7% or the total), Japan (USD 0.344B or 4% of the total), Switzerland (USD 0.240B or 3% of the total), Republic of Korea (USD 0.206B or 2% of the total) and Germany (USD 0.163B or 2% of the total). The remaining 10% is trade with Other Partners. Source: Mongolian Statistical Information System (www.1212.mn).

China's Influence

The increase in wealth and incomes of the middle class in Mongolia's southern neighbor, China, have created a seemingly inexhaustible demand for wildlife products pushing illegal trafficking to new levels. Goods, once considered luxury items and reserved for the few, are now within the purchasing power of the many, spanning everything from art pieces, to exotic pets, food items, and traditional medicine products. The proximity of the dynamic Chinese market and the vast borders that separate both countries makes Mongolia an easy target for illicit wildlife exports. According to reports and officials interviewed in this survey, there is a direct connection between increased diplomatic and business partnerships with China, and the growth in illegal wildlife trade.[101] Data from Mongolia's Customs supports this assertion, as most of the seized illegal wildlife products are in fact destined for China.[102]

According to Mongolia's Customs Authority, the top species and products illegally traded to China in recent years have been wolves, bear gallbladders and bile, red deer blood antlers, and musk deer glands.

○ **Wolves** are traded for various parts and organs as well as frozen whole. In the last decade, Mongolia has legally exported only 56 wolves to China under CITES (under different trade terms including skins and bodies). Many more have been sent illegally, as reported by customs data and officers. They reveal that the highest peak of the year in illegal exports of frozen wolfs to China is just before the Chinese New Year.[103]

○ **Bear gallbladder and bile**, traded for use in TCM, are routinely seized by police and customs. This trade is a violation of CITES legislation, which, since 2015, bans all trade in Mongolia's brown bear. Domestic hunting and trade, however, are only banned for the Gobi bear, which is listed as a 'Very Rare' species in the Law on Fauna and is strictly protected. Up until 2014, Mongolia issued export permits for bear gall bladder.

In this survey, researchers were told about, but could not confirm, the existence of a bear farm in Mongolia set up to supply bear bile.[104] Key informants predict that trade in wild bear bile will continue given existing demand and the fact that users consider it more potent than the farmed product. In the last decade, China had 109 CITES-Imports related to bear products including 38 bodies, 150 claws, 20 gall bladders, 67 live animals, 147 skins, 72 specimens, 5 skulls, and 70 trophies.[105]

○ **Red deer blood antler trade** is not unique to Mongolia,[106] but the country is a source for China's market. All trade in this wildlife product to China has been illegal. Red deer is an Appendix II species requiring export permits. There have been no legal CITES exports from Mongolia to China registered in the last two decades. Customs and police officials, however, both provided data showing that red deer antlers are a commonly seized illegal product on the border with China.[107] Blood anters are sold for their purported medicinal properties, a common ingredient in Chinese tonic preparations.[108] They are harvested while still in a growth phase and thus contain blood (hence the name). Past experiences with harvesting proved problematic as they were cut from the animal while they are still growing; a painful and potentially fatal process to the animal. Attempts to farm this product in Mongolia were thus criticized for their high mortality rates and generally poor condition.[109] Harvesting antlers in the wild is equally, if not more problematic, as poachers first kill the animals before harvesting the blood antlers.

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[101] Key informant interviews; see also, N. Otgonsaikhan, The Current Situation for Mongolian Foreign Trade and Cooperation with Northeast Asian Countries, Erina Report 127 (Dec. 2015) (8), available at http://www.erina.or.jp/en/wp-content/uploads/2015/02/se12712_tssc.pdf.

[102] Mongolia Customs Data.

[103] Key Informant Interviews #UB5 and #UB6 (Customs Agency central office in UB).

[104] Interview with TM specialist at GASI.

[105] CITES Trade Database (https://trade.cites.org) Retrieved on May 17, 2017.

[106] Id. "…New Zealand is the world's largest producer of deer antler, followed closely by Australia and Canada (both increasing rapidly), and … Korea is probably the world's largest user of antlers, with an apparently insatiable appetite for antlers of all species."

[107] Myagmaruren, Sh., Gombobaatar, S., Munkhjargal, M., Conaboy, N., *The First National CITES Report of Mongolia*, MEGD, Steppe Forward Programme, Zoological Society of London, Mongolica Publishing (2014) (54), 451.7 red deer antlers and 150 red deer blood antler and elk antler seized at borders between 2002-2014.

[108] Deer Antler to Nourish Blood, Bone, and Joints by Subhuti Dharmananda, Ph.D., Director, Institute for Traditional Medicine, Portland, Oregon.

[109] Wingard, J. and P. Zahler (2006).

○ **Musk deer glands (or pods)** are sometimes found in illicit trade coming from Mongolia. In the past, this product was used by the perfume industry, but has since been largely supplanted by synthetic musk.[110] Trade from Mongolia is instead used as a traditional medicine to treat a variety of conditions (e.g., pain, swelling, convulsions and delirium). In Mongolia, there have been attempts in the past to farm musk deer for the pods produced by the males.[111] A current project is rumored to be operating in partnership with a South Korean company intending to develop synthetic equivalents for the medicinal market.[112] Its operations, however, could not be independently verified by this survey. Seizures indicate that trade continues, but the source of the trade is not known. Given suspected decreases in Musk deer populations,[113] it is possible that at least some of this trade is in fact transiting from Russia through Mongolia to supply other markets in Asia.

In addition to these four endangered species, there are many others being illegally exported to China. Among them are deer testicles and tails, and saiga horn, all documented by Customs seizures. In addition, furs from polecats, marmot,[114] and other Mongolian species are sold to China for supplying the apparel manufacturing industry. These are used for production and shipment throughout China and to the international apparel and fur markets. The fur processing industry and market has increased in China in recent years. A 2014 report by the China Leather Industry documented significant increases in the production of "mink, fox, and raccoon pelts… with 60 million mink pelts, 13 million fox pelts and 14 million raccoon pelts produced, up 50 percent, 30 percent and 16.7 percent year-on-year respectively."[115]

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[110] The Conversation, *The Changing World of Perfume and Why Some Chemicals are Being Taken Out*, (Nov. 27, 2014) https://theconversation.com/the-changing-world-of-perfume-and-why-some-chemicals-are-being-taken-out-34502.

[111] Farms were personally visited by individuals associated with the 2005 survey, but not during the present effort.

[112] Personal communication with official in GASI. This information has not been independently verified or supported by documentation.

[113] Nyambayar, B., Mix, H. & Tsytsulina, K. 2015. Moschus moschiferus. The IUCN Red List of Threatened Species 2015: e.T13897A61977573.

[114] *Id.* 1,253 skins seized in 2012. More than 30,000 skins seized between 2002- first half of 2014.

[115] China Daily, *Official Statistics Key to China's Fur*

Russia's Influence

Russia's involvement in Mongolia's economy has evolved over the years just as its influence on Mongolia's governance has. In the 90s it was Mongolia's first trade partner, representing almost 80% of the country's foreign trade; today it stands a far second behind China, after being reduced to just 11% of total foreign trade turnover.[116] Mongolia´s desire to counterbalance China's current dominance and invigorate its commercial ties with Russia has been paired with Putin's interests to improve the country's commercial position in its neighbor.

Despite this interest in improved trade relations, Mongolia has not been able to achieve a better balance of trade with Russia. Exports have increased in recent years, but imports have increased even more. Mongolia's trade deficit with Russia has been steadily growing over the last two decades, with its highest trade deficit recorded in 2012, reaching US$1.769 billion."[117]

This overarching pattern is reflected in the wildlife trade between the two countries as well. During the Soviet rule of Mongolia, Russia had direct access to Mongolia's resources, including its wildlife products. The main wildlife products Russia imported from Mongolia included various furs, e.g., marmot, wolf, polecat, and fox. Russia would then produce coats and fur clothing products. Even after Soviet control ended in 1991, Mongolia continued to supply wild sourced furs to Russia's fur industry. After this, records of legal trade in wildlife are not published independently from CITES records, and general trade data on animals, hides and skins. The general trade data does not provide a breakdown of wildlife, but it is nonetheless part of this trade. The dramatic shift in the balance of trade between the two countries is an indicator of the change in wildlife trade as well. Figure 2 shows this difference from 1996 to 2015. The first category, Animals, refers to

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Farming Industry, (Aug. 20, 2016) http://www.chinadaily.com.cn/business/2015-08/20/content_21659731.htm.

[116] Sneath, David, *Russia's Borders: Mongolia Looks to Its Old Big Brother to Counterbalance China,* The Conversation (Jan. 27, 2015), https://theconversation.com/russias-borders-mongolia-looks-to-its-old-big-brother-to-counterbalance-china-36721.

[117] (footnote 20) N. Otgonsaikhan, *The Current Situation for Mongolian Foreign Trade and Cooperation with Northeast Asian Countries*, Erina Report 127 (Dec. 2015) (8), *available at* http://www.erina.or.jp/en/wp-content/uploads/2015/02/se12712_tssc.pdf.

live animals, a form of trade that can include wildlife, but which does not appear to be a significant factor in Mongolia's trade to date. CITES records indicate some trade, but limited to circus animals. The second category refers to all forms of animal skins, including wildlife pelts. In 1996, legal exports in hides and skins to Russia were USD 412 thousand, while imports from Russia were insignificant. In 2015, this trade has changed dramatically with imports from Russia dominating at USD 793 thousand, and Mongolia's exports a mere USD 22 thousand.

One explanation behind this shift in the balance of trade, may be related to changes in the market generally. Today, most fur products in the global market are sourced from farms – a cheaper and easier way to obtain and guarantee supply. Currently, only 15% of fur on the global market comes from the wild, while the remaining 85% comes from farmed species.[118]

In brief, both the balance and level of trade in these categories has changed dramatically with Mongolia, now principally an importer rather than exporter. Although exports of animals from Mongolia have remained almost the same, imports from Russia have risen dramatically, going from less than USD 0.5 million in 1996 to almost USD 9 million in 2015. Official exports of fur from Mongolia have dropped to just 5% of their 1996 trade values, while imports from Russia increased 30-fold over the same period. Apparent in the survey was the increase in the number of souvenir stores in the capital offering fur products from its northern neighbor.[119]

There are at least two factors that likely play a role in this, although it is not clear which of these may be most important, or how much of a role they play in to the observed changes in wildlife trade associated with the fur industry. First, is an apparent increase in Mongolia's capacity to produce value added materials. Many shops sell high quality furs produced in Mongolia, a change from the 2005 survey when much of the trade appeared to be in the form raw pelts for processing abroad. Second, is that hunting of several wild species is either completely prohibited or at least more restricted than in the past (e.g., wolf and marmot). Combined, these

two factors at least partially explain the dramatic changes in wildlife trade between Mongolia and Russia.

Figure 2. Historical Evolution of Mongolia's bilateral wildlife trade with Russia (1996 and 2015)[120]
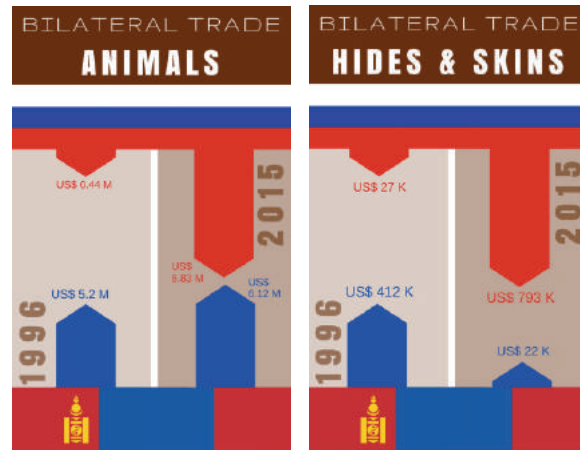
A Confirmed Transit Country

One unresolved question from the 2005 Silent Steppe report was whether Mongolia was also a transit country for illegally traded wildlife. Hinted at in the previous sections in this report, this survey found that Mongolia's status as a transit country is beginning to emerge and it is now a clearly documented part of its wildlife trade problem.

Mongolia may not be a major transit route at this point, but it does have transportation infrastructure (in particular, the direct railroad and highway that runs north-south through Mongolia from Russia) already known as a route for other forms of illicit trafficking including drugs and people.[121] As wildlife trafficking has become associated with global organized crime and with Mongolia's location next to the large demand center of China, this transportation corridor makes it not just plausible, but highly probable that Mongolia's role as transit country already exists and will continue to rise in the coming years.

Some of the police and customs data and information acquired during the survey point explicitly to this transit status. It also indicates that

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[118] *Farmed Fur,* Int'l Fur Trade Fed'n, http://www.iftf.com/#/farmed-fur/.; We Are Fur, *Fur Farming,* www.wearefur.com/about-fur/fur-farming; SPCA.

[119] It should be noted that the actual origin of the furs was not verified independently. This information is based solely on observations markets with pelts marked as coming from Russia.

[120] Visual elaborated based on data retrieved form the World Integrated Trade Solution (http://wits.worldbank.org).

[121] Mongolia. Trafficking in Persons Report 2016. US State Department (July 1, 2016).

there are multiple species potentially involved. One case, for example uncovered more than 100 saiga antelope horns from Kazakhstan traded by Kazak traders through Mongolia en-route to the final destination of China.[122] Another trader was found in possession of a lion pelt, a species that does not occur in Mongolia.[123] In 2016, Customs officials recorded a transit attempt to bring four Dalmatian pelican beaks to China (a CITES Appendix I species) through Mongolia at the Bayan Ulgii border crossing.

It is, however, hard to confirm the degree to which Mongolia acts as a transit country today; a problem caused in part by loopholes in the Criminal Code (discussed in more detail in Chapter V), but also by the failure to use other applicable legislation (e.g., CITES trade prohibitions in national law). Up until its amendment in September 2016, the Criminal Code did not criminalize illegal trade or possession of wildlife species not sourced in Mongolia. The 'gap' created by this loophole resulted in 'transit' cases not being properly documented or prosecuted, and even dropped by the courts for lack of jurisdiction.

This was, however, not a gap within the legal framework generally. At least since 2002, Mongolia's law regulating foreign trade in endangered species (herein CITES Regulation) made it illegal to trade any CITES Appendix I species internationally for commercial purposes,[124] and all CITES species in a manner contrary to its provisions.[125] Requirements relevant to transit cases include obtaining re-export permits from the Administrative Council.[126] Prior to the approval of the Law on Infringements in 2015, international trade without the appropriate license carried a maximum fine of '50,000 MNT for citizens, 60,000 MNT for public officials, or 250,000 MNT for economic entities.'[127] While the law did not state what a minimum sentence would be, nor did it apply criminal sanctions in the form of incarceration, liability for international trade in species that do not occur in Mongolia was nonetheless applicable under this law. The transit cases in the preceding paragraph were all dropped because of the perceived loophole in the Criminal law, ignoring the applicability of Mongolia's CITES implementation legislation. This gap has since been addressed in the new Criminal Code, but it is still too early to assess its impact (see Chapter IV, Mongolia's IWT Legal Framework).

This gap has likely had a larger impact on prosecutions than can be satisfactorily reviewed. Without evidentiary protocols requiring preservation, evidence is not typically kept and is no longer available for further investigation. What is known is that some of the 'transit' cases involved species that are also present in Mongolia, for example Saiga and Dalmatian pelican. However, without evidence that a given specimen was illicitly harvested in Mongolia or forensics to verify its Mongolian origin, prosecutors were unable to use the older version of the Criminal Code law to satisfactorily argue for jurisdiction. The mere claim that the species was of extra-jurisdictional origin was sufficient to have the case dismissed.

Even if the CITES Regulation had been applied, it is not clear that the fine level would have acted as much of a deterrent. With values of more than USD$250 per horn,[128] the single transaction attempted by the Kazak trader would have been worth at least $25,000. The CITES Regulation, however, set the maximum fine for an individual trader at only 50,000 MNT (USD $20), or less than one tenth the value of a single saiga horn. Even though the horns were confiscated, the penalty for the attempt is still only a small fraction of the potential benefit. Stated differently, it would take penalties from more than one thousand infractions to equal the value of this single illicit trade attempt. Documented in numerous regulatory environments, a fine will only have a deterrent value if it exceeds the anticipated benefit. The fine, in other words, cannot be so small that it is disregarded as a mere cost of doing business.[129]

Even without the full prosecution of transit cases, testimonies and enforcement data collected in the survey indicate that Mongolia has indeed become another transit country for illicit wildlife products. The expectation is that the changes in the Criminal Code will close at least one partial gap and shed more light on how deeply Mongolia has become involved.

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[122] Cite Customs data; key informant interview.

[123] Cite Customs data; key informant interview.

[124] Law on the Regulation of Foreign Trade in Endangered Animal and Plant Species and Derivatives Thereof, Art. 7.1.

[125] Id. at Art. 7.6.

[126] Id. at Arts 8 and 9.

[127] Id. at Art. 15.1.1.

[128] Reported prices vary, but have increased dramatically from the 1990s when locals reported paying USD $30 per horn. In 2013, Chinese officials estimated the value of a seizure of 4,470 horns from Kazakhstan at USD$22 million, or almost USD$5,000 per horn.

[129] "Crime and Punishment: An Economic Approach" by Gary S. Becker, Journal of Political Economy, Vol. 76, No. 2 (Mar. - Apr., 1968), pp. 169-217.

CITES Trade Reflects a Changing Role

Before discussing Mongolia's CITES trade and the trends visible within it, it should first be noted that the numbers presented are, for the most part, significantly smaller than trade figures for other species and regions. While trade volumes for some species and regions are in the order of thousands and millions, trade in Mongolian species are in the order of dozens or, in limited cases, hundreds (e.g., wolves) or thousands (e.g., falcons). The low volumes, however, should not be mistaken for low value either in economic, or more importantly, in ecological terms. The species that occur in Mongolia inhabit an arid landscape where the ones that thrive in great numbers tend to be insects and rodents. With the exception of marmots, those targeted for and threatened by trade are large herbivores, carnivores, and a few, highly prized bird species. Hunting and trade quotas, where they exist, may seem small when compared to trade in species found in tropical climes. The annual hunting quota for Gray wolf, for example was set at just 20 in 2015, with population estimates ranging between 10,000-20,000.[130] For comparison, Spain, at just 1/3 the size of Mongolia and an estimated wild population of 2,000-2,500 wolves restricted in range to a small area in the north, set a quota of 200 animals for the same year.[131]

Hunting and trade quotas in Mongolia are likely small to ensure the continued survival of the species that inhabit this fragile environment. On average, the official numbers for aggregated CITES exports of wildlife come very close to, if not exceed, the total that wildlife managers believe may be legitimately supported to insure species survival. In all cases, illicit trade volumes are surpassing these limits by orders of magnitude.

Official Numbers Tell Part of the Story

Several trends are visible in Mongolia's official CITES trade, but the most critical may be an invisible one. The following paragraphs highlight three visible trends that show how the country's official CITES trade is changing, reflecting new patterns of consumption and trade overall. They show in official numbers 1) how imports are increasing over time, evidence of Mongolia's role as a consumer country for international wildlife products; 2) that live specimens dominate this trade, and 3) that exports for endangered species remain mostly unchanged.

Behind this last trend, is a hidden trend; the continuation of illicit trade as documented in the first Silent Steppe report. Just a few cases and enforcement records are enough to demonstrate that illicit exports are substantially higher than the licit trade represented by the official numbers (in some instances many times more).

Wolf trade illustrates this well. According to records provided by the Customs Agency, wolves have been one of the top species seized in illegal trade at the border for several years. In 2009, permitted wolf exports were 56 including all trade terms (17 skins, 15 trophies, 2 live, 20 specimen and 2 skulls). That same year, however, wolf seizures reported by Customs were six times that amount, at 312 frozen wolf carcasses. In 2013, with a legal trade of only 8 skins and 2 trophies, seizures were of 232 teeth and snouts.[132] Seizures represent an unknown, but likely small percentage of the actual illicit trade.

Added to this are instances of transit trade to China in saiga horn (from Kazakhstan), Dalmatian pelican beaks (source country unknown), and lion (source country unknown); cases that were virtually non-existent in the customs records reviewed during the first Silent Steppe report, and that also do not have paired data in CITES permitted imports.

There is no easy way to accurately measure how much more illicit trade is occurring compared to licit trade. Multiple methods are being used to smuggle, including hiding pelts and carcasses

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[130] Mech, D.L and L. Boitani (2003) Wolves: Behaviour, Ecology and Conservation. P. 448.

[131] España autoriza la caza de centenares de lobos pero oculta el número total de muertes, in El Diario online available at http://www.eldiario.es/sociedad/Espana-autoriza-caza-lobos-oculta-muertes_0_371663169.html.

[132] Myagmaruren, Sh., Gombobaatar, S., Munkhjargal, M., Conaboy, N., *The First National CITES Report of Mongolia*, MEGD, Steppe Forward Programme, Zoological Society of London, Mongolica Publishing (2014) (54), 312 frozen carcasses seized at the border in 2009 alone, 232 teeth and snouts seized in 2013.

inside tires, under coal, in secret compartments, and wheel wells.[133] What is known, however, is that even at the domestic level, take and trade are likely substantially more than what is officially permitted and that some of this also feeds into international trade. Despite highly restrictive hunting quotas,[134] domestic trade is generally not banned. Wolf pelts, for example, are openly displayed in Ulaanbaatar's iconic Soviet-era department store, the Ikh Delguur. Shops on almost every block in Ulaanbaatar sell wolf canine jewelry and wolf pelts were regularly offered to surveyors in the markets. Tracking actual sales to foreigners within these domestic markets is virtually impossible, but they are clearly a target market segment.

A comparison of enforcement data and market observations with CITES export data shows that the number of CITES permits issued are far fewer than total international trade numbers. The Sniffer-Dog unit of the Customs Agency alone, operating 50 sniffer-dogs in 15 customs houses and branches, was able to detect 245 individual cases of illegal animal fur trade over a three-year period from 2011-2013.[135] Legal CITES trade during that same time was only 110 CITES export permits.[136] Even more telling, however, is that almost 80% of all infractions detected by the Sniffer-Dog unit were for animal furs, compared to 20% for illegal shipments of alcohol, tobacco, medicine, raw meat, and cashmere. Unfortunately, sniffer-dog units are only able to detect a fraction of what is actually being smuggled, while the vast majority of trade remains hidden.

Mongolia is a Consumer Country of Foreign Wildlife

Looking again only at official CITES trade, the data hints at Mongolia's new role as a consumer of international wildlife trade products. Mongolia

joined CITES in 1996, soon after its democracy formed, with a dominant profile as a source country for international wildlife trade markets. In the first decade of its membership, export permits had a strong upward trend going from roughly 20 permits in its first year (1996) to just under 60 in 2005. Over the next ten years, exports slowly decreased, falling to just below 30 permits in 2013. This CITES export trend is in direct contrast to imports. In the first decade of trade, annual import permits mostly remained under 10, making them an insignificant part of the trade equation. The second decade of trade, however, has witnessed a steady and significant increase, going from just ten permits issued in 2006 to more than 40 in 2013.[137] If the cumulative total for import permits in the first decade was 85, the second decade saw officials issue almost three times as many (249 import permits). Stated another way, 75% of all CITES imports were recorded from 2006 to 2015. At the same time, CITES exports were in decline and in 2011, for the first time, the number of import and export permits were roughly equal.

Figure 3. CITES Permitting in Mongolia (1996-2015)
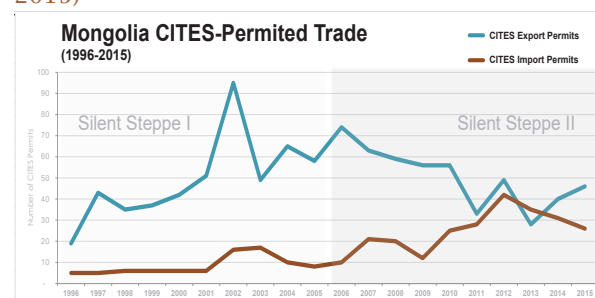
Accompanying the increase in demand for foreign wildlife products is a clear increase in the number of source countries. In its first decade of CITES trade, Mongolia imported wildlife from 24 different countries. A majority of this trade was from Europe with six of the top ten countries including (in order of importance) Denmark, Switzerland, Netherlands, France, Austria, and the UK. The second decade of CITES trade witnessed an increase in the number of source countries expanding from 24 to 43 countries.[138] Major

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[133] Source: Customs Official Database of Criminal Incidents, 2016.

[134] 2016 Mongolian Hunting Quota: Дугаар 463 ТУСГАЙ ЗОРИУЛАЛТААР 2016 ОНД АГНАХ АГНУУРЫН АМЬТНЫ ТООГ ТОГТООХ ТУХАЙ.

[135] Sniff Dog Unit of the Mongolian Customs Agency http://www.customs.gov.mn/en/2012-03-14-03-21-37/2012-03-14-03-24-07. Retrieved on May 17, 2017.

[136] CITES Trade Database (https://cites.org) Retrieved on November 12, 2016.

[137] Another exception is noted in this decade as well with only one import permit issued in 2015. (do we know the reasons?).

[138] This includes 39 source countries exporting directly to Mongolia and another 4 countries acting as re-exporters. The majority of Mongolia's CITES imports are in fact sourced in third countries different from the exporter country. Of the 304 import permits issued between 1996 and 2015, 211 (or 69%) were to import products not from the country of origin.

trading partners shifted in this timeframe to the Americas and Asia, reflecting general changes in trade for the region, and including among the top ten the United States, Colombia, Thailand, India, China, and Vietnam (See Figure 4).

Figure 4. Comparison of CITES Imports to Mongolia 1996-2005 and 2006-2015
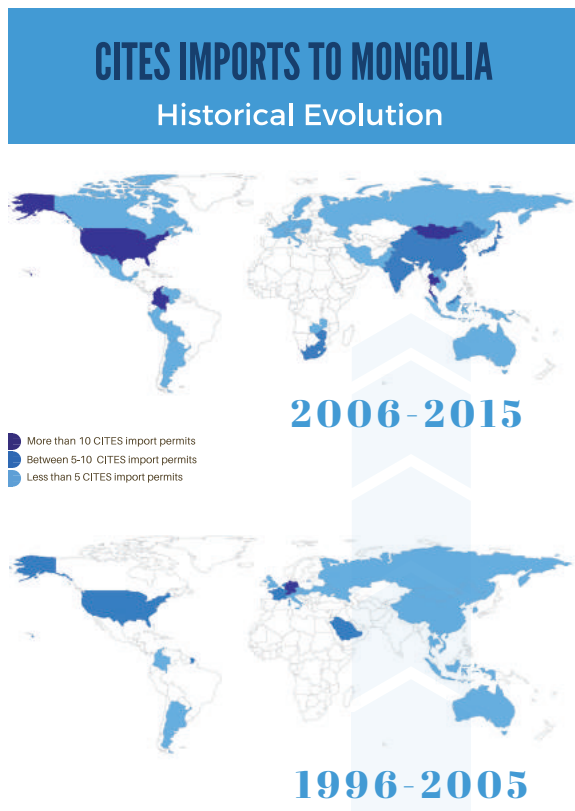
While official import data do not provide the entire picture, they are, nonetheless, an indicator of increasing and shifting demand for foreign wildlife goods by Mongolians. In other words, Mongolia is also a consumer country with an appetite for wildlife products from beyond its borders. From the official records, this includes as many as 73 CITES listed species, although more than 97% of the trade is concentrated in 27 of them, the rest having minor values (see Figures 5 and 6). Records and results from the survey not visible in CITES data indicate that other species are also part of this trade flow, but are unreported. Field visits to antique and jewelry shops also showed some, albeit limited, amounts of ivory, typically as chopsticks or as traditional snuff bottles.

At present, there is no official record of imports (CITES, Customs seizures, or otherwise) of exotic foods like shark fin or pangolin as is the case for other Asian countries. These types of dishes (e.g., shark fin or pangolin soup) were also not uncovered during the restaurant survey portion of the study. Similarly, the demand for foreign-produced traditional medicine products does not appear to be as common as the use of domestic traditional medicine products.[139]

Notably, the association of increased wealth and increased consumption of wildlife appears to be as valid in Mongolia is it is in other parts of Asia. Economic growth in the country may not be as dramatic as some neighboring countries, but certain sectors of society have nonetheless experienced rapid increases. Reports indicate, for example, that Mongolia's ruling elite in particular has amassed fortunes far outpacing the rate of growth in the economy.[140] And even though Mongolia's consumption of wildlife products pales in comparison to China's, it confirms, even at these smaller scales, the direct relationship found in Asia between wealth accumulation and increases in the consumption of wildlife products.

Live Specimen Trade Dominates

Live specimen imports to supply the pet market are frequently found in many countries, but this is not the case for Mongolia, where pet trade and exotic pet ownership is generally uncommon. This survey found a few pet shops in the capital city supplying turtles, cats, dogs, parakeets, and possibly some endangered marine fish species. This is an observed change compared to the 2005 survey, when no stores of this type were documented. However, in general there does not seem to be a large market for exotic pets.

Nonetheless, official CITES import records indicate that live specimen trade is the single most important category for Mongolia, with increases in total volume of trade that follow the general trend in import permits already discussed. As shown in Figure 5, from 1996 to 2005 live imports accounted for 99% of the total CITES import volume, most of which were live cacti, followed by Przewalskii horse and saker falcons. Total live trade volume was 14,175 specimens of which roughly 90% are cacti.

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[139] There are, however, rumors from officials of a planned bear bile farm to meet demand in China, with some of the expected output to be used in Mongolia.

[140] The Mongolist Blog using numbers submitted by Mongolia's parliament members to the Independent Authority Against Corruption (IAAC), Mongolia's agency responsible for investigating government corruption.

Of note during this decade are the imports of live falcons. Four species are among the imports: saker falcon (Falco cherrug), gyrfalcon (Falco rusticolus), and peregrine falcon (Falco peregrinus), as well as hybrid falcon. Hybrid falcons are created by cross-breeding two or more falcons (typically either saker or gyr crossed with peregrines or barbary) and are preferred by falconers over pure bred varieties because of the combined attributes they exhibit - larger size, enhanced performance, more suited to Middle East climate, more aesthetically pleasing.[141]

There is some concern over the introduction of hybrids into the wild that could potentially lead to the extinction of wild species caused by genetic introgression.[142] In response to this concern, Birdlife International is calling for institutional measures to prevent this occurrence, as well as prohibit their deliberate release into saker breeding grounds.[143] Under Mongolian law, it is illegal to breed exotic species[144] and their use is to be regulated by the Ministry of Environment and Tourism.[145] While the law also prohibits the introduction of foreign and invasive species, the question of hybrids is not explicitly addressed either in the overarching environmental protection legislation or the specific wildlife conservation and trade laws.

Figure 5. Mongolia's CITES species imports by type

From 2006 to 2015, total CITES trade in live specimens more than doubled, but also switched almost entirely to trade in live sturgeon; again followed by Przewalskii's horse and saker

falcon, but at much reduced numbers. One of the sturgeon's, known as the white sturgeon (Acipenser transmontanus), is native to the Pacific coast of North America and a favorite among sport fishermen. Trade with Mongolia in this species is, however, restricted to caviar. The other, the Siberian sturgeon (Acipenser baeri), can be found throughout the Siberian river basins as well as Mongolia. At 32,400 specimens, this species dominates Mongolia's live imports in its second decade of CITES trade. The relatively early maturity of Siberian sturgeon and its freshwater lifecycle, make it a common species found in aquaculture. Rumored, but not confirmed in this survey, is an effort to establish a fish farm for sturgeon in Mongolia.[146]

Figure 6. Mongolia's CITES species imports by term

Exports Are Still Strong

The shift in orientation from predominantly exporting to almost equal import and export permits is an important transition in Mongolia's CITES trade. Exports, however, are still strong and play a role for several critical species. Among the top three exported species are wolves, saker falcons, and Altai argali.

In the past, most exports were designated as trophy hunting or for scientific purposes, reflecting the predominance of Mongolia's trophy hunting industry for Altai argali and Siberian

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[141] Id. Dixon, A. (2012). Conservation of the Saker Falcon (*Falco cherrug*) and the use of hybrids for falconry. Aquila (2012), Vol. 119, p. 9–19.

[142] Id.

[143] CMS Technical Series No. XX (2014). Saker Falcon (*Falco cherrug*) Global Action Plan (SakerGAP), including a management and monitoring system, to conserve the species.

[144] Mongolian Law on Fauna, Art. 36.4, 2012.

[145] Id. at Art. 36.5.

[146] Key informant interview.

ibex,[147] and the scientific research initiated after the opening of the country. The major trading partners for these exports reflect the purpose of this trade as well. During the first decade of CITES trade, major export destinations were the United States, and a few countries in Europe. The one exception to this was South Korea, a country that factors into Mongolia's wildlife trade, but does not dominate the overall volume of trade, as do other trading partners.

Figure 7. Comparison of CITES Exports from Mongolia 1996-2005 and 2006-2015
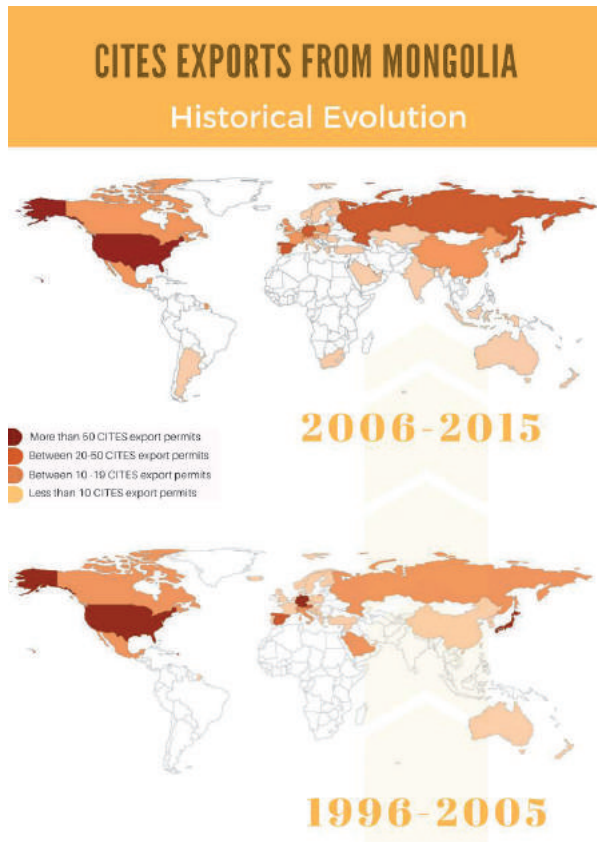
CITES exports have changed in character in the second 10-year period, diversifying in the number of trading partners as well as the number and types of species traded.

Wolves are one of Mongolia's top CITES trade species. Over the years, gray wolf CITES permits have represented approximately one third of the total CITES export permits issued by Mongolia, making it the top export species based on permit totals (291 permits), followed by Argali with 263 permits. On average, 33% of all export permits were wolf specimens during the first decade,

dropping to 25% in Mongolia's second decade of trade.

Each permit, however, may contain more than one specimen. Records document exports of more than 2,700 wolves and wolf parts over the past 20 years;[148] a figure that is high, but not as high as saker falcon trade (see next section). Trophies and skins are the primary trade term recorded for CITES wolf permits, although data also show a trend in wolves being traded live for scientific purposes and to zoos in Japan and Western countries. In addition to whole carcasses and live animals, wolf parts, including teeth and pelts, are part of this trade.

Figure 8. CITES Exports of Gray Wolf from Mongolia 1996-2015
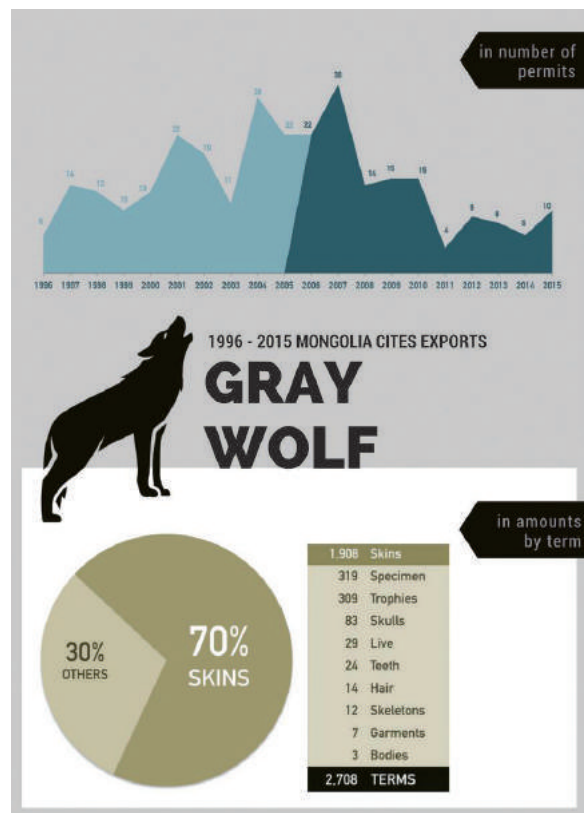
Falcons, in particular saker falcons, are another common CITES trade species from Mongolia. Nine species occur in Mongolia, including Amur falcon (*Falco amurensis*); saker falcon (*Falco cherrug*); merlin (*Falco columbarius*); lesser kestrel (*Falco naumanni*); peregrine falcon (*Falco peregrinus*); gyrfalcon (*Falco rusticolus*); Eurasian hobby (*Falco subbuteo*); common kestrel (*Falco tinninculus*); and Barbary falcon (*Falco pelegrenoides*). With the exception of the Barbary

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[147] The United States, Japan, and Germany have historically been the three main CITES markets for Mongolia.

[148] CITES trade statistics derived from the CITES Trade Database, UNEP World Conservation Monitoring Centre, Cambridge, UK.

falcon, all of the other species appear in the official CITES trade records.[149] The list of exports also includes hybrid falcon, for which there is no further indication of hybrid type. Of these eight species, by far the most commonly traded is the saker falcon, with 3,646 live specimens and another 12,560 unspecified specimens exported from 1996-2015.[150] This compares to only 476 specimens for all other species combined over the same period, or 510 specimens, if hybrids are included.[151] In other words, on a specimen basis, saker falcon is the dominant species in trade. Mongolian biologists, however, question whether some of the other species listed by CITES are in fact misidentified, raising questions about the total trade in saker falcon. Further evidence of potential misidentification is the use of the generic 'specimens' category, which prevents an accurate assessment of the forms of trade and their potential impact on the species.

As in the case of wolves, official trade numbers are not capturing all falcon trade. In the past, Mongolia has been warned by CITES for failure to submit trade reports[152] and criticized in international media for unsustainable trade in falcons.[153] Key informants discussed the continuing practices of such trade and at least one enforcement record documents it.

[149] CITES Trade Database.

[150] Id.

[151] Total falcon trade from 1996-2015 comes to 24,873. specimens, including all forms (live, feathers, and unspecified.

[152] CITES SC66, Agenda Item 30.1. January 2016, Geneva.

[153] Al Jazeera, Mongolia's Nesting Program Helps Save the Prized Saker Falcon, (Jul. 2016), video available at http://video.aljazeera.com/channels/eng/videos/mongolias-nesting-programme-helps-save-the-prized-saker-falcon/5020070661001;jsessionid=8AC15BEC25296C2528340C84BF28773B.

Figure 9. CITES Exports of Saker Falcon from Mongolia 1996-2015

Argali sheep is also among the top three most commonly exported CITES species in Mongolia, almost all of which comes from trophy hunting. Similar to gray wolf exports, argali CITES permits comprise roughly one third of total trade (263 from 1996-2015) in most years, making it the second most frequently exported species based on permit totals. The total number of animals traded is also similar to gray wolf numbers, with records documenting 1,322 trophies and another roughly thousand specimens traded for a total of 2,369.[154]

'Trophies' is the largest category of CITES trade, a function of the species being targeted by trophy hunters from around the world. The Altai argali is considered the largest of all wild sheep and highly prized. It is also one of the most expensive, creating a lucrative business opportunity for those that are able to successfully enter the business. As reported in the first Silent Steppe, the lucrative nature of the business resulted in a steady increase in the number of licensed argali hunting companies in Mongolia, as well as those receiving permits to hunt. In 1993, only three companies received permits; in 1999, this grew to 18, and in 2003,

[154] CITES Trade Database.

43 companies were successful. Unfortunately, no totals were available for 2015, preventing an assessment of trends for this sector.

A well-known segment in Mongolia's special interest tourism industry, and a major source of potential revenue for conservation of wildlife, hunting companies were of particular interest in the survey. Unfortunately, all hunting companies and associations declined participation in the survey. The noticeable differences between Argali hunting quotas and the actual trophies exported using CITES permits remain a factor with no clear justification to counter suspicions of illegal trophy hunting occurring in Mongolia. As an example, in 2014 only 28 Argali were allowed to be hunted, but 37 CITES export permits for Argali trophies were issued. In 2015, the same pattern repeats: 78 CITES permits were issued while the annual quota restricted hunting to just 50 animals. The extent to which local governance over hunting permits in Mongolia creates the opportunity for deliberate or inadvertent quota violations is not known. However, this may be having an impact as seen in the discrepancies between CITES export numbers and official quotas. It is also not an issue unique to Mongolia.

Figure 10. CITES Exports of Argali from Mongolia 1996-2015
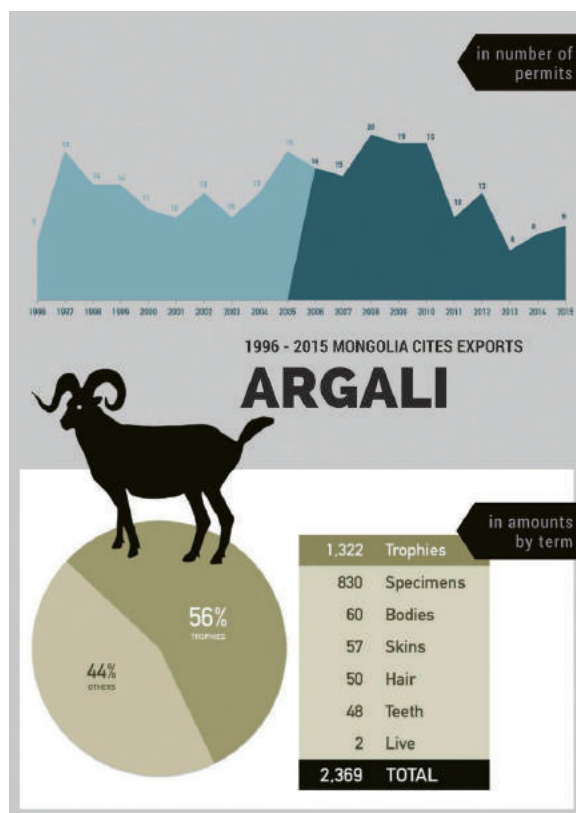
Comparing the volume of trade between species using CITES data is difficult, as CITES has different categories depending on the species. Some of which are not distinct enough to determine exactly what is being traded (e.g., 'specimens'), and others for which the number of specimens cannot be easily translated into the number of animals traded (e.g., teeth, feathers, specimen, etc.). For purposes of comparison, Table 1 ranks the top 10 species being exported by total number of permits and highlights the top three species. Table 2 ranks them by amounts of trade aggregating all trade terms. In both cases, the top three commercially traded species are the same – gray wolf, saker falcon, and argali. Brown bear appears as the second most traded by amount, marked as entirely for scientific purposes.[155]

Table 1. Mongolia's top 10 species by number of CITES Export Permits

1996-2015 MONGOLIA'S CITES Export Permits TOP 10 Species		
#	Species	Permits
#1	Gray Wolf	291
#2	Argali	263
#3	Saker Falcon	83
#4	Golden Eagle	30
#5	Pallas's Cat	28
#6	Brown Bear	23
#7	Eurasian Lynx	16
#8	Snow Leopard	16
#9	Cinereous Vulture	15
#10	Siberian Ibex	14
	Other	166
		945

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155 CITES Trade Database.

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Table 2. Mongolia's Top 10 species by CITES Export Amounts

1996-2015 MONGOLIA'S CITES Export Amounts [*] TOP 10 Species		
#	Species	Permits
#1	Saker Falcon	24,873
#2	Brown Bear	3,402[156]
#3	Gray Wolf	2,708
#4	Argali	2,369
#5	Great Bustard	1,912
#6	Golden Eagle	1,529
#7	Wild Ass	980
#8	Snow Leopard	664
#9	Pallas's Cat	527
#10	Musk Deer	309
	Other	2,098
		41,371
* Including and aggregating the following trade terms (live, hair, specimen, skulls, trophies, derivatives, etc.)		

Comparing the absolute number of animals traded can only be done by aggregating terms where each item traded is likely to represent a single animal. For saker falcon, the following three forms meet this requirement – live, trophy, and body. Excluded from this were 'specimen' and 'feathers.' It is likely that 'specimen' trade actually contains live trade, but without further information, this cannot be fairly included as part of this aggregation. For argali, a single animal is typically represented by – trophy, skull, and horns. Excluded are several other categories including 'specimen,' 'hair,' 'skulls,' 'skeletons,' and 'garments.' As with saker falcon trade terms, it is likely that some of these include trade in whole animals, but these cannot be included without further information. For gray wolf, the terms 'skins,' 'trophy,' 'live,' and 'body' were selected, excluding 'specimens,' 'hair,' and 'teeth.'

Using this filter, at least 3,524 saker falcons were exported by Mongolia from 1996-2015

(average 176/year). For gray wolf, the total trade in individual animals was at least 2,249 over 20 years (average 112/year). For argali, the total trade in individual animals was at least 1,384 (average 69/year). For at least two of these species, saker falcon and gray wolf, documented trade is likely significantly lower than actual trade. Excluded trade terms for both are either large enough in number or indistinct enough as a trade concept to include important numbers of individual animals. The aforementioned saker falcon trade figure, for example, excludes high rates of trade in 'specimens' (n. 12,560) and 'feathers' (n. 8,664). It is not known from the 'specimens' whether this in fact includes live animals or only parts. For the gray wolf, rates of trade in excluded trade terms is less, but still worth noting, in particular the trade in 'specimens' (n. 319).

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[156] As the Mongolian population of brown bear is a CITES Appendix I species, its exports are entirely for scientific purposes. The top three commercially traded species by amount are highlighted in blue.

Hard to Control

Increased Trade Requires Increased Capacity

The increases in international trade brings with it easier or more fluid avenues for both legal and illegal international trade. With millions of shipments going through ports around the world every day,[157] less and less is being inspected. This happens in all ports as they become busier and is already happening in the ports of Mongolia as well. Increases in the country's foreign trade has been substantial over the last two decades, going from USD 2.9 Billion in 2005 to USD 11.4 Billion in 2011 and then to USD 8.4 Billion.[158] The high growth rate of the Mongolian trade sector (between 300 – 400%) has not even been matched by the dynamic Chinese economy over the same time frame.[159] Moreover, Mongolia's foreign trade is dominated by exports of raw minerals and imports of industrial products. The increase in both forms of trade has a direct footprint in the number and frequency of freights crossing Mongolia's borders and custom points every day,[160] something that does not occur in economies with trade dominated by high value added products.

MONGOLIA FOREIGN TRADE TURNOVER 1996 - 2015
In USD Billions — Exports ■ Imports

Increased trade and shipping have added strain to already understaffed and underfunded custom houses and border offices in Mongolia. X-Rays, Gamma Rays, Neutron scanning, and Backscatter X-rays are all non-intrusive inspection equipment considered the most common technology for cargo screening by the World Customs Organization.[161] Their use boosts capacity to conduct freight audits without involving physical inspection by customs officials. Its procurement and operating costs, however, are high, in part because of their use of nuclear technology. Key informants working for the Custom Agency, both at the central office in Ulaanbaatar and in the border points surveyed, refer to insufficient imaging equipment to conduct routine inspections of heavy vehicles. It is precisely in this type of vehicle, carrying coal and minerals, where several customs inspections have uncovered hidden wildlife specimens as traders attempt to illegally cross the border. This is a problem mostly found on the southern border with China. On this border, empty 100-200 ton trucks enter the country heading toward mining operations and return fully loaded, in many cases with sealed containers – seals placed on-site by mining operation inspectors without the possibility for custom officers to conduct proper inspections.[162] The use of secret compartments in cars, truckbodies and even trains, where fake ceilings and floors have been discovered to hide wildlife, would be more easily discovered if this

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[157] UNCTAD collects data and stats on shipments. The indicator of "Container port throughput", which refers only to Maritime Transportation, was 651 Million of TEUS in 2013 (Twenty Feet Equivalent Unit) and 684 Million of TEUS (provisional data) in 2014. Retrieved from http://unctadstat.unctad.org on May 30th, 2017.

[158] Mongolia Statistical Information Service (www.1212.mn).

[159] China Total Trade Turnover increased from USD 3,765 T to USD 5,977 in the period 1996-2015 (less than doubled). World Integrated Trade Solution (www.wits.worldbank.org).

[160] The UNCTAD reports that data for the indicator "Container port throughput (TEU)" as not available, so this survey assumes that is information not being shared by Mongolia government in the same way other countries do. (www. http://unctadstat.unctad.org/CountryProfile/GeneralProfile/en-GB/496/index.html).

[161] World Customs Organization. Guidelines For The Procurement And Deployment Of Scanning/NII Equipment. April 2015. http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/~/media/1BC3CBC9189B4BECB21BC5F261E43694.ashx.

[162] Key Informant Interviews # 1.8, #1.10 (Khovd, Custom Inspector), # 5.5, 5.6 and 5.7 (all Umnogovi Custom Inspectors), # UB5 and #UB6 (From Customs central office in UB).

technology were in place in all customs without distinction.[163]

Free Trade Zones Pose Risks

Add to the problems mentioned in the previous section, the relaxation on inspections and scans on cargo in free trade zones and the traffickers' job becomes much easier. In other countries, free trade zone and the liberalization of trade in general have been used as opportunities for wildlife traffickers to exploit. Chief among these are restrictions on inspections and investigations to speed up trade going in and out of the zone. In general, more information is required before a scan will be authorized, much less a full inspection of a shipment.

Mongolia has actively pursued several policies and actions to promote its international trade. Among them are the identification of free trade ports along its southern, northern, and western borders (Zamiin Uud, Altanbulag, and Tsagaan Nuur respectively);[164] and approval of free trade zone (FTZ) legislation (starting in 2002). Although long on the agenda, the FTZ legislation stalled for more than a decade before gaining new life in 2015, when an agreement between China and Mongolia led to breaking ground at the Zamiin Uud site. Although completion is not expected until 2018, the concerns stated at the inception of these FTZs remain valid and relevant to wildlife trade.

Shortly after their designation, an international study reviewed Mongolia's free trade program and two of the selected sites, Altanbulag and Zamiin Uud.[165] Among its conclusions were that the program 'suffers from serious conceptual and operational weaknesses' and that '[s]ubstantial legal and regulatory framework enhancement is

required' to reach standards.'[166] Not specifically mentioned, but likely part of this concern is the primary law's reliance on implementing regulations. Of particular concern for illicit wildlife trade are two articles: Article 4.2 - requiring that the entry into such zones be restricted and conducted pursuant to 'procedures to be approved by the Custom Office'; and Article 10.1 – calling for the creation of an independent inspection unit tailored to the form, purpose, and location of the zone. In both cases, the question remains how well these regulations will respond to the particular challenges that illicit wildlife trade poses.

Unprotected Borders Facilitate Trade

Even under the best of circumstances, it is an enormous and costly task to control borders, one that some countries cannot reasonably afford. Mongolia's international border, at 8,252 km[167] and 2.5 times longer than the US-Mexico border, is one of those cases. Acting as a buffer between major powers, however, Mongolia's border has always been of paramount concern and, in the past, well-equipped. During the Cold War, the government maintained a force of 15,000 troops to control its borders and immigration. Basic military equipment supported border control activities including "[f]ixed-wing aircraft, helicopters, tanks, motor vehicles and motorcycles, radio communications equipment, engineering equipment, and automatic weapons."[168] The current numbers are not published, but at least one source claims that between 300 - 350 border patrol units operate at all times.[169] Testifying to their continuing concern for security along the border, Mongolia is one of the few countries in world that has almost entirely enclosed its borders in fencing (see Figure 11).[170] This fencing, however, is not solid and, as observed in several areas, not consistently maintained.

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[163] Key Informant Interviews #UB6 and #UB7 (Custom Officials from central office in UB).

[164] This includes the following legislation: The Law of Mongolia on the Free Zone, adopted in 2002; the Law on the Legal Status of Zamyn-Uud Free Econnomic Zone, adopted in 2003; The law on the Legal Status of and Resolution No.17 on the Development of the Zamyn-Uud Free Economic Zone adopted in 2004 by the Parliament of Mongolia.

[165] Id. USAID (2004). Assessment of Mongolia's Free Trade Zone Program and Site Evaluation. Mongolia Economic Policy Reform and Competitiveness Project (EPRC).

[166] Id.

[167] Mongolia international border includes 4,677 Km of borders with China (57% of the total) and 3,543 Km with Russia (43%).

[168] Id. Mongolia - Border Troops / Border Forces. Global Security (www.globalsecurity.org) Retrieved on May 24, 2017

[169] Id.

[170] This information has not been confirmed in this survey. The exact length and locations of fencing was not available for this publication.

Figure 11. Map of Security Border Fencing in Eurasia[171]

Despite the fencing and staffing, it is still true that Mongolia's borders are relatively open and difficult to control. Except for its far western border, defined by the Altai Mountains, there are no major natural features (e.g., mountain areas or major water bodies) that significantly impede crossing at any point. Its entire southern border with China is either grassland or desert, and much of its northeastern border with Russia is grassland, all of which can be crossed by jeep almost as easily as using a paved road. With these long, mostly deserted borders to both the north and the south, traffickers are not restricted in their movements and, once they navigate any fencing, can move contraband with relative ease and little risk of detection.

Several stories from key informants questioned during the survey illustrates this point. A customs official from Khovd aimag in the west, for example, related instances of Korean porters carrying frozen fish during the winter using secret roads and informal crossing points into China.[172] From Bayan-Ulgii aimag, the use of uncontrolled crossing points is also reported as being used by wildlife smugglers using horses, as well as small, and large vehicles.[173] In the same aimag, key informant surveys also revealed how traffickers use illegal crossing points to bring wildlife from Kazakhstan to Mongolia.[174] From the northern aimag of Selenge, there were more reports captured by surveyors of 'fast cars' used to cross the border using forested areas as cover.[175] Making matters even more difficult is the fact that traffickers are using more sophisticated methods including: arranging by phone to exchange goods in unmonitored border areas, such as forests and woods, and replacing car plate numbers with fake ones to elude law enforcement.[176]

Vast Territories Challenge Enforcement

Wildlife is typically found in vast, sparsely inhabited spaces that tend to be difficult, if not impossible, to patrol. Front line enforcement staff is usually limited in number and often restricted to park rangers for established protected areas. With large areas to patrol, it is nearly impossible to catch illegal activity on a consistent basis.

This is especially true in Mongolia, where park rangers are responsible for controlling 265,000 km2 – or roughly 17% - of the country's territory. If each square kilometer were laid end-to-end, Mongolia's protected areas would circle the earth almost 7 times. Making the job of patrolling even more difficult, these areas are divided into 75 different individual protected areas (excluding national monuments and international designations, e.g., World Heritage sites) spread across the entire the country. Furthermore, they are still located in some of the remotest regions, covering largely uninhabited mountains and deserts. Added to this is the need to monitor increasing activities along the country's 10,409 km of major rivers and 13,418 km2 of lakes, as pressure on aquatic resources has risen sharply in recent years. In sum, few places on earth have so much territory to cover with as few people and resources as Mongolia – an impressive landscape and equally daunting task by any definition. (see Figure 12).[177]

[171] Linnel, D., A. Trouwborst, L. Boitani, P. Kacenzsky, D. Huber, S. Relijc, J. Kusak, A. Majic, T. Skrbinesk, H. Potocnik, M. Hayward, E.J. Milner-Gulland, B. Buuveibaatar, and U. Breitenmoser (2016). Border Security Fencing and Wildlife: The End of the Transboundary Paradigm in Eurasia?. https://doi.org/10.1371/journal.pbio.1002483

[172] Key Informant Interview # 1.1 (Khovd Customs Officer).

[173] Key Informant Interview # 3.6 (Bayan-Ulgii Environmental Inspector).

[174] Key Informant Interview # 3.7 (Bayan-Ulgii, Surveyor Inspector).

[175] Key Informant Interview # 4.5 (Selenge – Police).

[176] Key Informant Interview # 3.13 (Bayan-Ulgii, Altai Mountain Inspector).

[177] Sources include: Mongolian Statistical Information Service (www.1212.mn) for data on total area (2016), major rivers and lakes, and border length; World Database on Protected Areas (WDPA) (www.protectedplanet.net) for data on number and size of protected areas (2016). (UNEP-WCMC).

Figure 12. Mongolia, a vast space to manage

Figure 13. Staffing Mongolia's Protected Areas[178]
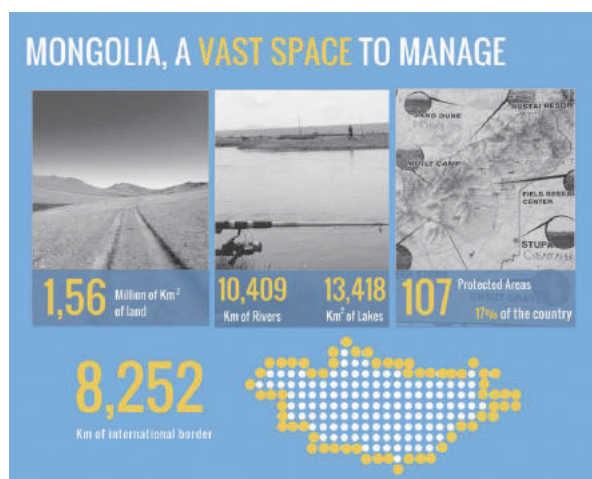
Illustrating the challenge is Figure 13, which provides a quick comparison of the relation between the size of two of Mongolia's protected areas, Toson Khulstai Nature Reserve and Khuvsgul National Park, and the average territory rangers must patrol. According to official data, these parks have just 6 (Toson Khulstai) and 15 (Khuvsgul) rangers each. At 4,699km2 and 8,380km2 respectively, rangers have an average of 783 km2 and 559 km2 to cover. Compared to Yellowstone National Park in the US (27 km2/ranger), they have between 20 and 30 times fewer personnel by area. However, this comparison only takes into account permanent staff, a figure that doubles in Yellowstone during the summer season. Mongolia does not report increased staffing practices during its high season, making the understaffing of rangers in Mongolia even more dramatic.

Outside protected areas, the situation for enforcement personnel is not any easier. The same conditions that make Mongolia a haven for wildlife (and therefore a source country for certain species) also make it nearly impossible to patrol. With only 2 people per square kilometer on average,[179] it is one of the least densely populated countries in the world.[180] Since almost half of its 3.1 million population reside in the capital city, Ulaanbaatar,[181] the reality is that human population densities are often much lower and at least nine aimags have less than 1 person/km2.[182] Wildlife thrives in the country's large, undeveloped spaces. But just as wildlife roam vast landscapes, so must the rangers who protect them.

These relatively uninhabited spaces are not paired with sufficient human and economic resources to ensure successful management. Given Mongolia's base economic conditions, this is of course difficult

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[178] Sources www.protectedplanet.net for area protected. EU Biodiversity Conservation Report and US Forest Service for park rangers numbers.

[179] 2016 National Population Density from the Mongolia Statistical Information Service (www.1212.mn) Retrieve on April 23, 2017.

[180] World Atlas, *The 10 Least Densely Populated Places in the World* (2016) http://www.worldatlas.com/articles/the-10-least-densely-populated-places-in-the-world-2015.html.

[181] The Mongolist Blog, Rethinking Ulaanbaatar's Population (May, 2014) quoting Data from table "Хүн амын тоо, хүйсээр, оны эхэнд, мянган хүн" at: http://ubstat.mn/StatTable=11, available at http://www.themongolist.com/blog/society/89-rethinking-ulaanbaatar-s-population.html.

[182] Mongolian Statistical Information Service (www.1212.mn).

to achieve. As a general indicator of the capacity to invest in such efforts, Mongolia ranks at the bottom of all countries in terms of population, population density, and also in tax collection; three indicators that point to scarce human and public resources to respond to governance needs in general (See Figure 15). Despite this challenge, however, the funding levels for environment generally, and for enforcement in particular, have been increasing in recent years. Prior to 2006, capital investment for environmental inspection was virtually non-existent. In the last decade, this budget line has increased roughly 10 fold, going from 2.6 billion MNT (USD $1.1 million) in 2006 to more than 28 billion (USD $11.6) in 2015 and is now the second largest budget line item for this group.[183]

Figure 14. 2000-2015 Capital Investment for Protection and Rehabilitation of Natural Resources in Mongolia

Figure 15. Limited Human and Economic Resources[184]

The view from the aimag level is even worse than that experienced by protected area rangers. In Selenge aimag, 28 rangers are expected to cover its 41,000 km2 while in Bayan-Ulgii, 30 rangers have responsibility for 45,700 km2. The average for these two comes to an average surveillance requirement of around 1,500 km2 per ranger.[185] Virtually all aimags have similarly daunting ranger to area ratios, although it is also true that aimag administration has played a role in recent years in funding ranger patrolling operations. As a result, there are disparities among aimags.

Reports from enforcement personnel – rangers, environmental inspectors, customs officials, and police – during the survey are ubiquitous concerning insufficient resources. Salaries are insufficient and basic equipment (uniforms and binoculars) in some cases old or unusable. Several of those interviewed complained of the lack of means for self-defense (such as stun batons or air guns) to cope with armed poachers that rangers and inspectors are expected to confront. Access to motorized vehicles was not found to be the norm, with many rangers relying on old motorbikes or horses, which makes patrolling in the winter sometimes impossible, or at least a life-threatening task. Other specialized gear, such as cameras, tents and blankets, lamps, GPS, and instruments to preserve wildlife after seizures seems to fall into the category of extraordinary circumstances. Such equipment is usually only available when there is outside support. Although not a necessity for many, access to desks and computers by rangers was also pointed to by some as a missing and much-needed resource.

The dramatic shortage of public resources is sometimes compensated by private ones, including rangers using their own means (vehicles, phones to take pictures, or even clothing for uniforms), as well as donations from mining companies and non-profit conservation organizations. Although promoting public-private partnerships to overcome structural shortages in funding environmental protection is certainly a smart strategy for the country, those partnerships today are not enough to cover shortages and the continuing lack of basic equipment has a clear impact in the capacity to patrol and conduct inspections. Enforcement officials interviewed in this survey universally stated that patrolling plans are constrained by a lack of fuel and some environmental difficulties.[186]

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[183] Id.
[184] Mongolian Statistical Information Service (www.1212.mn) for data on Total Population (2016), Population Density (2016), and Tax Revenue (2016). CIA WorldFactBook (www.cia.gov) for data on Mongolia's position within Global Rankings.

[185] Key Informant #3.13 (Bayan-Ulgii-Altai Mountain Inspector) and #4.1 (Selenge-Environmental Inspector).
[186] Key Informant Interviews #1.3, #2.6, #2.7, #2.8, #3.3,

The Threat of Violence Hinders Enforcement

Rangers are not only challenged by the size of the areas they must patrol, but by the threat of violence. In many countries around the world, rangers often find themselves on the frontlines in the battle against poachers. Just in the Virunga National Park in the Democratic Republic of the Congo (DRC) alone, around 150 rangers have been reported killed on duty.[187] It is estimated that around 10,000 rangers worldwide have been murdered while on duty in the last ten years, 80% by poachers and militia groups.[188]

Violence, however, is not a common threat to rangers in Mongolia compared to other countries. As reported by surveyors, both poachers and illegal fishermen have easy ways of avoiding rangers and actively pursue this strategy to avoid detection and prevent conflict.[189] Finding ways of knowing in advance about inspection plans, including the days and areas to be patrolled, seems to be the most common practice for poachers to evade detection. An environmental inspector from Uvs aimag estimates that one in every two inspection operations may be leaked by the officers involved.[190] Hunting at night is another easy and common technique used to avoid encountering rangers. As a Dornod fisherman revealed, "since there is no possibility to obtain permits to fish for us, we fish like thieves. We are breaking the law, so we need to hide very well".[191]

Under Mongolian law, protected area rangers are also limited in their ability to conduct enforcement actions and in the use of force. By law, they can only use firearms in self-defense. Pursuant to Article 32.2.1 of the Law on Protected Areas, rangers have the right to use weapons "when life and health of wildlife rangers are potentially endangered due to a real circumstance" or "when life and health of wildlife rangers are potentially endangered by wild animals." For the most part, however, rangers are not armed, as revealed by this survey. They also do not have the authority to arrest people; they can only issue ticket citations. As a result, the normal circumstance is that unarmed rangers must approach armed men and travel to the nearest community – often dozens of kilometers away – to find a police officer to make the actual arrests. With these preconditions, the tactic of avoiding conflict seems the only reasonable choice not only for poachers but also for rangers themselves.

As a result, no stories of violence were collected during the survey. Instead, there were many stories of encounters between armed groups of illegal hunters and rangers where conflict was avoided by both sides. If it was not the poachers escaping using their fast vehicles,[192] then it was the rangers themselves that fled the area to save their lives.[193]

Similarities to Drug Trafficking

Illicit wildlife trade may be classifiable as an environmental crime, but it has more in common with drug and human trafficking than other environmental crimes, like illegal hazardous waste dumping. Wildlife crimes are effectively smuggling schemes to bring illegal wildlife products into the market, sharing the same logistics and financial methods used by traffickers of weapons, drugs, people, and diamonds (see Figure 16). The similarity between wildlife crime and other smuggling crimes is crucial to understanding and developing appropriate enforcement and prosecution strategies. It is in fighting this crime that countries have developed some of the most advanced prosecution techniques and where IWT enforcement can benefit the most.

Wildlife investigators, particularly the special agents of Homeland Security (ICE), the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration, already use techniques similar to those used in narcotics enforcement, in particular, controlled deliveries of contraband, followed

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#3.9, #4.3, #4.12, #5.2, #5.8, #5.11, #5.13, #6.8.

[187] Neme, Laurel, *For Rangers on the Front Lines of Anti-Poaching Wars, Daily Trauma,* National Geographic (Jun. 27, 2014), http://news.nationalgeographic.com/news/2014/06/140627-congo-virunga-wildlife-rangers-elephants-rhinos-poaching/.

[188] Thin Green Line Foundation, *What We Do,* https://www.thingreenline.org.au/.

[189] Key Informant Interview #2.2 (Uvs – Custom Officer).

[190] Key Informant Interview #2.9 (Uvs – Environmental Inspector).

[191] Key Informant Interview #6.4 (Dornod – Fisherman).

[192] Key Informant Interview #2.9 (Uvs – Environmental Inspector).

[193] Key Informant Interview #5.2 (Umnogobi – Hunter).

by anticipatory warrants.[194] The first technique is most effectively used when authorities detect an unaccompanied freight with ilicit products. In these cases, enforcement authorities allow, under strict surveillance, the effective delivery of the freight to its final destination, which allows them to identify a larger portion of the network, and secure criminal evidence against them. Anticipatory warrants are essentially warrants sought from a judge based on the suspicion that a crime will be committed at a certain place in a certain moment. Standard warrants operate only after a crime has been committed and may be issued if enforcement personnel have a reasonable belief that evidence of a crime will be discovered. Both techniques work together allowing authorities to be ready with a search warrant at the moment the final addressee of the illegal product receives the freight.

Figure 16. Illegal Trade: Common Methods

These techniques avoid the drawback of catching only the 'mules' and can result in overwhelming evidence against trafficking networks. In the world of smuggling, the term 'mules' refers to the individuals used to carry illicit product, and not those involved in the remainder of the illicit trade chain. This survey revealed stories of Mongolian women living in poverty being used

to cross the border with small amounts of illegal wildlife hidden in candy and biscuit wrappers and personal bags.[195] Also, in these cases, the target of enforcement actions were the 'mules' and never reached those that manage the illicit network. Controlled deliveries make it possible to move to the next level and secure significant evidence of crimes committed by the network. With this level of evidence arrayed against them, defendants are often more willing to cooperate, providing critical information about suppliers and networks. The greatest deterrent effect occurs when suppliers are convicted, as opposed to minor traders and mules.

Global operations coordinated through INTERPOL against wildlife trade have been mimicking the past experience in drug trafficking global prosecution. These operations involve an extraordinary number of police, customs, border agencies, and environmental and wildlife officials to tackle global networks with truly global enforcement operations. Mongolia has participated in one of the most recent operations, resulting in significant achievements in terms of suspects identified, wildlife seizures, and assets confiscated (see Figure 17). These global operations give Mongolia high levels of experience with the real dimension of the international traficking networks, the continuation of which is encouraged.

Figure 17. INTERPOL Operation ThunderBird At a Glance

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[194] Sellars, J. (2017) What Wildlife Trade Enforcement Can Learn from Drugs and Arms Enforcement. Global Initiative Against Transnational Organized Crime.
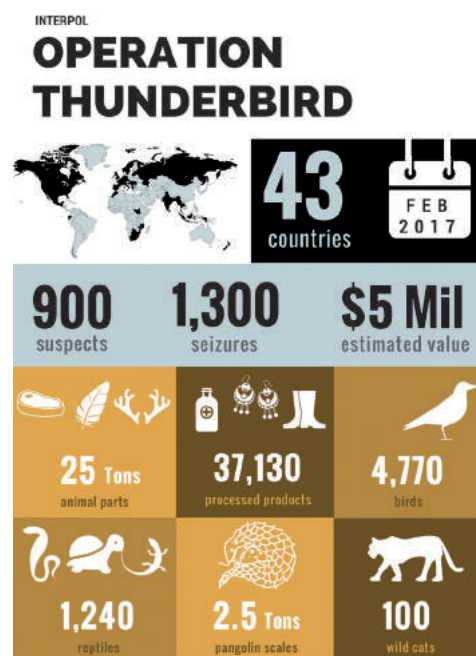
[195] Key Informant Interviews 1.8 and 1.12 from Khovd Aimag.

In Mongolia, there are opportunities to apply additional criminal prosecution techniques to IWT. The legal analysis in Chapter 5 describes the current system and highlights the legal reforms that may enhance criminal procedures and would contribute to more effective enforcement of wildlife legislation.

International Organized Crime is Part of IWT in Mongolia

Highly lucrative and illegal businesses are the necessary grounds for organized international crime networks to exist and flourish. Networks involve a relatively high number of people, operate with sophisticated equipment, invest in expensive logistics and self-protection structures, frequently using military equipment. They require complex international monetary transactions to pay regular bribes at numerous levels and in many countries to secure their supply chains, including sourcing, transportation, processing, storage and final sale of the product of their exploitation – whether the products are drugs, wildlife products, counterfeit products or other. Only highly lucrative transactions can finance all of the operation costs associated with illegal businesses in the way and at the scale criminal networks require to survive.

Organized crime profiting from Mongolia's wildlife occurs around the highly profitable trafficking of endangered species parts (such as red deer, musk deer, brown bear, gray wolf, corsac fox, wild horse, red fox, or Saiga antelope) principally to supply the traditional medicine markets of China, but also to a lesser extent in Korea. As high ranking enforcement officials revealed in this survey, international networks operating in Mongolia involve Chinese and Korean buyers that issue purchase requests or orders, triggering a sequence of communications over phone and internet at aimag and soum levels, reaching poachers within the network, who then plan for the harvest on-demand. Hunting happens mainly in groups using fast vehicles and an array of illegal hunting methods. Night lighting, automatic weapons, intentional vehicle-wildlife collisions, and car chasing comprise some of these methods. Drones have also been identified by the police as being used by criminal organizations to geo-locate wildlife.[196] When the "purchase order" is high, specialization occurs with some of the hunters shooting from their motorbikes, while others pick up the corpses using large and fast vehicles. If not hurried by time or unexpected inspectors in the field, poachers take the time to extract the parts needed while still in the field, leaving the corpses behind. Once the harvest target has been achieved, a chain of intermediaries at the local, soum, and aimag level are in charge or collecting the organs and parts from their assigned areas. Avoiding passing through UB, the shipment or shipments then go straight to the border at Zamiin-Uud or Ereen to cross into China. One of these key informants claimed to have participated in the undercover investigation of up to 12 different criminal networks in recent years in Mongolia, with an estimated value of their illegal wildlife operations at USD 15 million. Enforcement officers would not share any information related to further actors in the network beyond the importer, but many others are needed to distribute the products to factories for processing and to the wholesale and retail markets for commercialization.

Synergies with Business to Hide Illicit Trade

The terms 'front company' or 'shell company' both imply use of a legal business, which acts as a front for the some other, typically illicit business. On paper, the front or shell is an independent, legal entity engaged in some form of legitimate trade or service. In practice, however, it is controlled and used by another organization, typically involved in a prohibited activity; e.g., drug trade, human trafficking, and the like.

Using a legal trade to hide illegal trade is common, an integral part of international wildlife trade, and notoriously difficult to uncover. The arrest of an ivory kingpin in Tanzania in 2015 is an excellent example. Known as the Chinese 'ivory queen,' the person was arrested in Tanzania for smuggling over 200 elephant tusks, which she moved using several front companies. Her

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[196] Key informant interview.

arrest came only after she had been in operation for decades, and only after she crossed an international border. [197]

So far, the various surveys conducted in Mongolia, including this one, have not uncovered this type of operation. However, key informants from Mongolia's enforcement and customs staff are pointing to possible business synergies between wildlife traders and transporters linked to mining operations.[198] Given the expense of setting up a mining operation, it is unlikely, however, that these types of businesses serve solely as a front for illicit wildlife trade. It does, nonetheless, offer the opportunity to conceal illicit trade and smuggle it across the border.

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[197] Smith, David, *Chinese 'Ivory Queen' Charged with Smuggling 706 Elephant Tusks,* The Guardian (Oct. 8, 2015), https://www.theguardian.com/environment/2015/oct/08/chinese-ivory-queen-charged-smuggling-706-elephant-tusks.

[198] Key Informant Interviews from Umnovobi Aimag 5.8, 5.9, 5.10, 5.14 and 5.15.

Institutions and Laws

Institutional Landscape

Rebuilding Capacity

The first Silent Steppe reported on the rapid decline of Mongolia's wildlife trade related institutions, precipitated by the economic collapse and the dramatic transformation of government in the early 90s. As a key, sometimes overused resource, however, wildlife had been a concern for many decades already and its management was firmly embedded in Mongolia's governance structure. Formal efforts to bring take and trade under control began in the early 1900s and, by the 1960s, Mongolia had instituted a nationwide program that achieved successes not seen before or since. Reminiscent of Chinggis Khan's decimal-based organization of his military units, Mongolia organized its hunters into 'brigades.' Managed by a Central Hunting Authority, these units operated in a tightly controlled social environment (e.g., licensing hunters, controlling weapons, ammunition, and movement of people) and were the only ones allowed to conduct official wildlife harvests. Numbering 25,000, these brigades were present in every aimag and soum, and had the power to investigate and prosecute poaching incidents. Well-organized and supported, they had a dramatic impact on controlling hunting activity. Testifying to this is the effectiveness of the hunting ban on all internationally traded species instituted in the early 1970s. According to official figures, international trade was held at zero for a full five years. For some species, hunting for international trade was never resumed; for others, the brigades maintained take and trade volumes that did not again exceed 50% of prior levels.

Hunting brigades remained a strong part of the legal and institutional fabric for wildlife management until 1991, when the virtual disappearance of funding and material supply (fuel, ammunition, vehicles) left them effectively powerless. Without the funding, and to some extent considered a holdover from Soviet times, they have never recovered their former status or their operational capacity. According to a high-level Police Official in the Eco-Crimes Division, hunter's associations 'have lost their significance,' as well as their historical reputation. Since hunting licenses are not a requirement anymore, anyone with a firearm permit can effectively be a hunter.[199]

The radical increases in wildlife hunting and trade that began in the post-Soviet era has led Mongolia to again focus its attention on its wildlife. Over the past several years, management and enforcement agencies have been engaged in effort to rebuild that is not yet complete and has suffered setbacks. Some notable efforts in the last 10-15 years have been the reorganization among existing inspection and enforcement agencies on environmental crimes, including illicit wildlife trade. In particular, this includes: the General Agency for Specialized Inspection (GASI),[200] the Eco-Crimes Division of the Police, and the Mobile Anti-Poaching Units (MAPUs).

- **GASI** was created in 2002[201] as a regulatory agency of the Government of Mongolia, centralizing existing inspection bodies that previously operated as separate units located in the various ministries. It concentrates inspections in many fields, among them environment, tourism, mining, and finances, and benefits from standardized procedures and synergies. As such, it is now the principal agency for inspections related to wildlife take and trade and is therefore also charged with overseeing state environmental inspectors and rangers stationed throughout the country.

- **The Eco-Crimes Division of the Police** is another relatively new division, established in 2010 and responsible for the investigation of crimes involving natural resources, including wildlife.

- **Mobile Anti-poaching Units (MAPUs)** have also been created to conduct patrols in snow leopard, saiga antelope, and Altai argali ranges. Initially started and sponsored by WWF Mongolia in 2001, these units represent an integrated approach to patrols that combine the experience and the suite of enforcement powers held by GASI state inspectors, rangers, custom officials, and police.

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[199] Key Stakeholder Interview #UB17 Police authority of Mongolia.

[200] In Mongolian, the term used in the title of the Agency is 'Expert' as opposed to 'Specialized.' This report uses the English translation used by the official governmental website (http://eng.inspection.gov.mn).

[201] Ikh Khural Resolution #58 and Government Resolution 126, 2002.

Figure 1. Capital Investment for Protection and Rehabilitation of Natural Resources

MONGOLIA
Capital Investment for Protection and Rehabilitation of Natural Resources
2000 - 2015

- Environmental Inspection
- Environmental Protection Fund
- Land Protection & Rehabilitation
- Reforestation & Forestry Activities
- Special Protected Areas
- Protection of Nature

Figure 2. Public perception of government ability to prevent wildlife crime

MONGOLIA 2016

HOUSEHOLD PERCEPTIONS

on Wildlife Conservation and Government Capacity

Importance of the conservation of Mongolia's wildlife

3.4

9.6

Government's ability to prevent and combat wildlife crime

Household Survey Question #18 (n = 4,070)
Household Survey Question #19 (n = 4,070)

The responsibility of these and other related agencies with respect to wildlife trade are further described in the following sections. While some of them have both general wildlife management and enforcement functions (e.g., protected area rangers), this report divides them into two groups based on their primary roles:

- as 'regulators' or 'managers' – responsible for drafting and approving wildlife related laws and regulations, as well as implementing them (e.g., issuing hunting and trade permits, CITES compliance, population surveys, and quota setting, etc.); or

- as 'enforcers' – responsible for detecting, inspecting, investigating, and prosecuting potential wildlife crimes.

In spite of the recent institutional developments, there is much left to do and the public seems to be aware of the challenge. The survey asked on three occasions (to households, travel agencies, and retail shops) about the respondent's perception of the government's ability to efficiently manage wildlife conservation and tackle wildlife crime. Opinions on the importance of wildlife conservation among the general public as recorded in the household survey were consistently high at 9.66 out of 10. The same question was presented to market segments with an interest in wildlife conservation (tourism companies and restaurants that sell fish) with similar results. In contrast, opinions of the ability to prevent wildlife crime in the same survey were low, at just 3.42 out of 10.
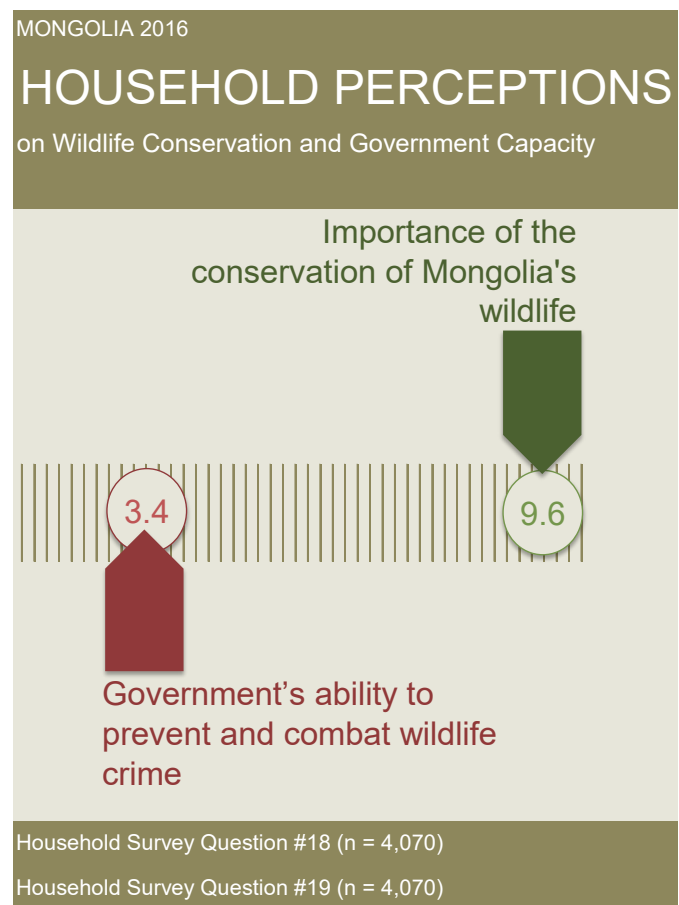
Figure 3. Institutional Framework for Wildlife Trade in Mongolia

2016 MONGOLIA

INSTITUTIONAL LANDSCAPE
Wildlife Take & Trade

Regulatory/Management Role

Enforcement Role

LEGISLATIVE BRANCH

PARLIAMENT

PRESIDENT'S OFFICE

CABINET MINISTRY

MET / DEPARTMENT OF NATURAL RESOURCES MANAGEMENT

CITES-Management Authority

CITES-Scientific Authority

LOCAL GOVERNMENTS

GENERAL AGENCY FOR SPECIALIZED INSPECTION

STATE PROSECUTORS

COURTS

JUDICIARY BRANCH

RANGERS

ECO-CRIMES POLICE DIVISION

CUSTOMS GENERAL ADMINISTRATION

GENERAL INTELLIGENCE AGENCY

GENERAL AUTHORITY FOR BORDER PROTECTION

EXECUTIVE BRANCH

Regulators and Managers

Standard wildlife trade related tasks for public authorities include: establishing the legal framework; implementing wildlife conservation and research; managing protected areas and reserves; conducting hunting management through the establishment of hunting quotas, hunting regions and permits, as well as managing CITES trade. Many of these activities are directly relevant to combatting illicit trade; they are the backbone of the system that establishes what is, and what is not legal.

In Mongolia, a total of eight government entities (including local governments) from the executive and legislative branches form the institutional landscape that fulfill the wildlife trade related regulatory and management tasks mentioned. The distribution of responsibilities between national and local levels is both necessary and appropriate for a resource that requires a coordinated approach across multiple jurisdictions, as well as for on-the-ground activities to be successful. It is, however, precisely in these divisions that some of the observed weaknesses with respect to the management of wildlife trade reside. In addition, all of these government bodies lack the resources and capacity necessary to more effectively manage the country's ability to control wildlife trade, whether licit or illicit.

For purposes of comparison, the responsibilities listed in the relevant laws were organized into three basic types: 1) policy and conservation; 2) hunting and trade; and 3) CITES management.

The first, policy and conservation, includes the authority to issue laws and policies in whatever form. This applies not only to those entities typically associated with legislative development (e.g., Parliament), but those executive agencies that also issue decrees, regulations, orders, and the like, as a normal part of their functions. Figure 4 associates this authority with Parliament, the President's Office, the MET, and in limited form for local governments.

The second set, hunting and trade, refers to activities solely related to managing how, when, where, and in what quantity animals may be taken from the wild and traded. In some instances, the law stipulates this authority. The MET, for example, is recognized in the Law on Fauna as the principle agency authorized to conduct all forms of hunting management, including the establishment of hunting seasons, zones, quotas, and more. Parliament is not involved in the daily business of managing hunting, but it does approve legislation, and formally sets the list of Very Rare animals in the Law on Fauna. The exercise of this authority also effectively bans hunting for the animals on this list. The President's Office, also not typically concerned with hunting, has nonetheless in the past used its power to issue Decrees to establish hunting bans. Related to trade, but excluded from this section, is Customs. This agency is responsible for enforcing trade requirements and is listed in the following section on Enforcers.

The third set, CITES management, is a limited area of activity, but nonetheless an important focus given its role in preventing international trade from impacting endangered species. There are two authorities responsible: the CITES Management Authority (CITES MA), which handles all activities other than issuing non-detriment findings (NDFs); and the Scientific authority, which issues NDFs and otherwise provides advice to the CITES MA.

Figure 4. Mongolia's Wildlife Management Entities and Roles

MONGOLIA

WILDLIFE MANAGEMENT ENTITIES & ROLES

	POLICY & CONSERVATION			HUNTING MANAGEMENT				CITES MANAGEMENT		
	Laws & Regulations	Population Studies	Information & Awareness	Hunting Bans	Hunting Quotas	Hunting Permits	Trade Permits	CITES Country Reports	CITES IMP/EXP permits	Attend CITES COPs
PARLIAMENT	Full	No	No	Limited	No	No	No	No	No	No
PRESIDENT'S OFFICE	Full	No	No	Full	No	No	No	No	No	No
CABINET MINISTRY	Full	No	No	Full	Limited	Limited	Limited	No	No	No
MINISTRY OF ENVIRONMENT	Full	Full	Full	Full	Full	Limited	Limited	No	No	No
CITES-MA	No	No	Full	No	No	No	Limited	Full	Full	Full
CITES-SA	No	Full	No	No	No	No	Limited	No	No	Full
LOCAL GOVERNMENT	Limited	Full	Full	Limited	Full	Limited	No	No	No	No

■ Full authority   ■ Limited or shared authority   □ No authority

PARLIAMENT'S ENVIRONMENTAL STANDING COMMITTEE

The primary institutional structure and budget for combatting illicit wildlife trade is defined by Mongolia's Parliament (or Ikh Khural). By law, Parliament is specifically responsible for determining state policy on animal protection and setting hunting rates. As a practical matter, this job is performed by the Environmental Standing Committee whose job it is to receive and develop all national level legislative reforms for environmental issues, including those that touch upon wildlife take and trade.

In the decade since the first Silent Steppe report, the Committee has been instrumental in the drafting and approval of three new environmental and natural resource laws impacting how wildlife is managed. These include the Forest Law (2012), a revised list of Rare Species (2012), and a revised Law on Fauna Law (2012). The Committee should also be credited for the specific wildlife provisions included in other fundamental laws enhancing wildlife management, such as the Tax Law (2008), Medicines & Medical Devices Law (2010), Criminal Procedure Code (2015), and new Criminal Code (2016). Further detailed in the following section on IWT Legal Framework, this Committee's work has started to reshape Mongolia's approach and capacity to combat wildlife trade.

OFFICE OF THE PRESIDENT

The Office of the President of Mongolia is meant to be primarily symbolic, but is conferred with certain powers, including the power to issue decrees. There is no subject matter limitation on decrees, but they must be in conformity with authorities granted in the Law on the Presidency.

The Office bears mentioning in the context of illegal wildlife trade as Presidential decrees have been issued in the past to impose hunting bans for wolves and marmots. The power to establish bans is shared by other government offices (e.g., MET, Cabinet Ministry), which have also issued bans using different regulatory tools for wolf and marmot hunting. The use of a Presidential Decree, however, has particular importance if for no other reason than the level of the issuing office. Its value in combatting illicit trade may be therefore in its ability to raise awareness more than anything else.

CABINET MINISTRY

The Cabinet Ministry is Mongolia's primary executive agency, with the combined representation of all ministers organized under the leadership of the Prime Minister. A regularly shifting landscape, Parliament approved a new list of ministers and ministries that will make up the new government, increasing the number of ministries from 11 to 14. Similar to the President's Office, the Cabinet also has a certain level of regulatory authority and is listed here for its authority to set hunting quotas for Rare species, as well as its related authority to impose hunting bans.[202] Species listed as Rare under the Law on Fauna, which require a permit from the central government to hunt, and hunting activities for special purposes, have their quotas set by the Cabinet.

While intended to guard against corruption, a major drawback of this format is that the Cabinet Ministry may lack formal scientific expertise in setting quotas. In the past, the system has not prevented the approval of quotas that were in fact greater than those recommended by the Institute of Biology.[203] The need for the professional review of quotas has always been important, as even the Institute of Biology had limited capacity to conduct required surveys. This need has not disappeared under the new approach where recommendations for quotas come from contracted professional organizations that in some instances may include hunting companies.[204]

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[202] E.g., Cabinet Ministry Resolution 93, 2013.

[203] Amgalanbaatar et al., 2000.

[204] Law on Fauna, Art. X; Page, L. (2015) Killing to Save: Trophy Hunting and Conservation in Mongolia. Independent Study Project (ISP) Collection. Paper 2086.

DEPARTMENT OF NATURAL RESOURCES MANAGEMENT, MINISTRY OF ENVIRONMENT AND TOURISM

The Department of Natural Resources Management of the Ministry of Environment and Tourism is Mongolia's primary body responsible for developing the implementing regulations for wildlife, as well as directing the on-the-ground management of wildlife, including the principal responsibility for most of the country's protected areas, hunting and fishing regimes, legal trade in CITES species, and combatting illegal wildlife trade. In this last responsibility, it must be noted that the Ministry is purely an administrative body, and not an implementation or enforcement authority. The Department itself does not in fact have field operations. On-the-ground management is led by other bodies. Without field operations, the Department also lacks the authority and ability to investigate, detain, or arrest for wildlife trade related crimes. In contrast, similar agencies in other countries have field officers with such enforcement powers. This is the case, for example, in Mexico, with its Environmental Secretary (SEDEMA) and its 'Environmental Police' and in the US Fish and Wildlife Service with its 'Special Agents.'

On the regulatory side, the Department has developed three new regulations in the last decade related to some degree to wildlife. These include the Environmental Measures Decree (2005), the Special Protected Areas Decree (2011), and a Forest Law Resolution (2015). The section on IWT Legal Framework analyzes the impact of these and other regulations on the country's ability to fight wildlife crime.

The Department also manages and proposes adjustments to the official lists of Very Rare and Rare species. The national lists today include a total of 31 Very Rare species and 76 Rare species, for a total of 107 species with either complete or strong restrictions on take and trade. The additions, as well as the number of species on those lists that are also targeted by hunters for domestic and international trade, underscores the importance of this management tool. Changes to the list of Very Rare include new listings for six birds, including Reed parrotbill (Paradoxornis heudei), white-headed duck (Oxyura leucocephala), short-toed snake eagle (Circaetus gallicus), golden eagle (Aquila chrysaetos), Pallas's fish eagle (Haliaeetus leucoryphus), and greater spotted eagle (Aquila

clanga). Also of note is the removal of the two species of sturgeon from the list of Very Rare fish and the new listing of Taimen as Rare.

Table 1. Mongolia's List of Very Rare and Rare Species by Class, Comparative View 2000 and 2012

MONGOLIA			
MONGOLIA Very Rare and Rare Species by Class Comparative View (2000-2012)		2000	2012
ALL SPECIES	Very Rare	25	31
	Rare	10	76
		35	107
MAMMALS	Very Rare	11	13
	Rare	10	14
		21	27
BIRDS	Very Rare	8	9
	Rare	2	24
		10	33
FISH	Very Rare	4	2
	Rare	0	1
		4	3

implications for combatting illicit trade is the calculation of the 'ecological value' of species. Required by the Law on Fauna,205 this value has in the past been used to establish fines for illegal hunting or trade. It is designed to monetize the ecological loss of a particular specimen for a given species for the country. In practical terms, the established 'ecological values' tend to mimic black-market prices and in this way are intended to act as a deterrent to illegal harvests. Table 2 presents a sample of ecological values in Mongolian Tugrig (MNT) and their equivalents in USD for some of the most iconic species of Mongolia.

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[205] Law on Fauna, Arts. 4.1.25; 5.3.3; 23, and 37.

Table 2. Wildlife Ecological Values in Mongolia

2016 EXAMPLES OF WILDLIFE ECOLOGICAL VALUES		
In MNT and their equivalents in USD		
	male	**female**
Panthera uncia	MNT 22,400,000	MNT 26,000,000
SNOW LEAPARD	$9,739	$11,304
Ovis ammon	MNT 22,000,000	MNT 26,000,000
ARGALI	$9,565	$11,304
Pelecanus crispus	MNT 13,140,000	
DALMATIAN PELICAN	$5,713	
Cervus elaphus	MNT 6,000,000	MNT 7,500,000
RED DEER	$2,609	$3,261
Capra sibirica	MNT 5,400,000	MNT 6,200,000
SIBERIAN IBEX	$2,348	$2,696
Saiga tatarica mongolica	MNT 4,000,000	MNT 4,400,000
MONGOLIAN SAIGA	$1,739	$1,913
Procappra guturosa	MNT 1,000,000	MNT 1,100,000
MONGOLIAN GAZELLE	$435	$478
Hucho taimen	MNT 422,000	
TAIMEN	$183	
Tetraogallus altaicus	MNT 260,000	
ALTAI SNOWCOCK	$113	
Exchange Rate Used 1 USD = 2,300 MNT		

Managing wildlife population surveys is also the responsibility of this Department. As described in the Law on Fauna,[206] wildlife surveys must be implemented to ensure hunting quotas are evidence-based. However, according to key informants, and not surprisingly given the vastness of the task and resource constraints, these reports require more robustness and frequency. The 2013 reports, for example had yet to be submitted in the summer of 2016, three years after being conducted.[207] According to the 2015-2016 Mongolia Report sent to the CITES Secretariat as a part of the bi-annual progress reporting activities, population surveys have been conducted for at least eight CITES listed species, but none of the reports or results are available. Species indicated in the report as surveyed are: snow leopard (Panthera uncia), Eurasian lynx (Lynx lynx), Pallas's cat (Otocolobus manul), gray wolf (Canis lupus), Przewalskii's horse (Equus przewalskii), Mongolian saiga antelope (Saiga

[206] See Law on Fauna, Arts. 5.3.2.
[207] Key Stakeholder Interview (MOE).

tatarica mongolica), gyrfalcon (Falco rusitcolus), and peregrine falcon (Falco peregrinus). As a result, this survey was not able to compile up-to-date official data on estimated wildlife populations for most species to compare with those presented in the 2005 survey. In the opinion of informants at the Department of Biology at the National University of Mongolia, government studies to estimate wildlife populations occur only every 5 years and are not always entirely reliable or useful, likely due to a lack of funding capacity at the levels required to survey Mongolia's vast landscape.

The first Silent Steppe report cited dramatic declines in Mongolian saiga antelope, red deer, argali sheep, saker falcon, and Siberian marmot as emblematic of the impact uncontrolled and illegal wildlife trade was having at the time. Mongolian saiga had declined from over 5,000 to less than 800, an 85% drop (WWF 2004). Red deer had gone from 130,000 in 1986 to roughly 8,000-10,000 in 2004; a 92% decline in only 18 years. Argali, estimated at 50,000 in 1975 and 60,000 in 1985, were recorded at just 13,000 to 15,000 in 2001 (Amgalanbaatar et al. 2002); a 75% decline in just 16 years. Marmot once numbering more than 40 million, fell to around 5 million in 2002; a decline of 75% in only 12 years (Batbold 2002). Finally, saker falcons went from an estimated 3,000 breeding pairs in 1999 to 2,200 pairs in 2004; a loss of 30% of the population in just 5 years (Shagdarsuren 2001). Anecdotal evidence suggested similar declines in the population of other wildlife species were occurring, however no data was available.

More recent population estimates are available only for some of these, and in many instances, they too, are already dated. The most recent argali survey, for example, was conducted in 2009, and concluded a population of 19,700 individuals,[208] a marginal increase over previous estimates. Mongolian saiga populations have undergone substantial changes, but the 2017 data estimates almost 5,000 head. While this is far more than the 800 estimated in 2004,[209] it is still less than more recent surveys and represent a reduction of 54.5% due to due disease outbreak, and goat plague (peste des petits ruminants).[210]

[208] Lkhagvasuren, B, Y. Adiya, G. Tsogtjargal, G. Amgalanbaatar, and R. Harris. (2016) "Current Status and Conservation of Mountain Ungulates in Mongolia" (2016). *Erforschung biologischer Ressourcen der Mongolei / Exploration into the Biological Resources of Mongolia, ISSN 0440-1298.* 180.
[209] This is the population figure used during the first Silent Steppe report.
[210] Online report available at http://wwf.panda.

Lastly, the Department is charged with establishing annual hunting quotas, a responsibility it shares with local governments. Lacking regular and reliable estimates of wildlife populations means that the setting of quotas may lack accuracy. As designed, the right to make quota proposals rests with the local governments. There are concerns about the potential lack of expertise and funding within local governments required to conduct scientifically sound studies. Even if experts were available, the current approach may still cause issues. Many species in Mongolia are migratory or have large seasonal movements. Purely local estimates are not likely to represent the necessary larger context that quotas need to consider.

As a matter of practice, local proposals are reviewed by the Department and tend to be accepted without significant adjustments. The consolidated numbers for the entire country are published annually in the form of government resolutions. Except for falcons and birds, (which receive a generic quota for all species within them), only eight species had quotas for the last three years (Table 3), including seven mammals and one fish. The mammals include ibex, Mongolian gazelle, red deer, roe deer, wild boar, argali, and wolf – all species known to be targeted by hunters. Without survey data, it is not possible to say whether quotas are high or low, although they have remained mostly steady. The quota for Taimen is strictly for catch and release.

Reduced capacity within the Ministry has exacerbated an already difficult task to address illegal wildlife trade. At present, only one person is dedicated to all wildlife programs, both international and domestic. This is a recent change. From 2011 – 2014 the Ministry had a "National Committee on Rare and Endangered Species" with four people working just on CITES and wildlife trade issues. In 2014, however, Parliament cut budgets to a number of national committees, including this one. In the absence of government funding, it ceased to function that same year and has not been reinstated. All international wildlife and biodiversity treaty implementation and compliance issues, national wildlife programs, and special hunting issues now fall essentially on one staff member within the office.

Table 3. Consolidated National Hunting Quotas for Personal Use.

2014-2016

MONGOLIA Annual Personal Hunting Quotas

	2014	2015	2016
Birds	-	300	400
Falcons	40	300	400
Ibex	41	60	70
Mongolian Gazelle	200	150	150
Red Deer	20	15	30
Roe Deer	10	10	10
Taimen (Catch & release)	310	350	400
Wild Board	10	10	10
Wild Sheep	28	50	60
Wolf	20	20	20

SOURCES

2014 - Government Resolution 122 (January 12, 2014)

2015 - Government Resolution 377 (May 1, 2014), amended on April 27, 2015

2016 - Government Resolution 463 (November 23, 2015)

CITES MANAGEMENT AUTHORITY

The CITES Management Authority (CITES-MA) sits in the Ministry of Environment and Tourism as an unfunded office that operates mostly as a coordinating committee with the legal obligation to meet at least twice a year.[211] Four professionals are registered with the Convention as Mongolia's CITES-MA: i) The Director of the Department of Environment and Natural Resources Management, ii) one additional officer of that same unit, iii) the Chairman of the CITES Implementation Professionals Association in Mongolia (developing the internet domain www.cites.mn), and iv) the CEO of the Mongolian Professional Fauna and Flora Organizations United Association (also accredited as Scientific Authority).[212] Another seven organizations, including police, customs, GASI and NGOs, such as WWF Mongolia, participate in the committee,

org/?296930/545-percent-of-the-Mongolian-Saiga-population-is-lost-due-to-disease-outbreak.

[211] Key Stakeholder Interview (MOE).

[212] CITES National Contact Information (https://cites.org/eng/cms/index.php/component/cp/country/MN.

although they are not formally registered with CITES.

Without exclusively dedicated staff, it is difficult for Mongolia's CITES-MA to be actively engaged in the Convention, either for implementation or to engage more widely in its biannual conferences. During the last Conference of the Parties (CoP17) organized in Johannesburg (South Africa) in 2016, Mongolia was able to send only one representative. Other countries with lower GDPs were participating with significantly higher number of delegates, as was the case for Namibia (23), Mozambique (12), and Maldives (7).213 Mongolia's neighboring countries participated with large delegations as well: China (26) and Russia (10).

The situation in 2016 in South Africa was not exceptional. A quick review of the participation of Mongolia in COPs since its incorporation in 1996 reveals the same pattern during the past two decades. (See Table 4) In the last three COPs, just one representative from Mongolia has been able to attend these important events.214 With multiple sessions and negotiations occurring in many different rooms at the same time, it is not hard to understand how difficult, if not impossible, it is for one representative to fully participate.

More than just a lack of participation, however, this low attendance rate is also an indication of Mongolia's lost opportunities at CITES events to strengthen coordination and collaboration with its neighboring countries in its fight against illicit wildlife trade. CITES-MA reports, for example, only one joint enforcement operation with Russia (2003-04 Report) and that communication with other CITES authorities is infrequent (2015-16 Report). In 2016, it also reported having no national or international enforcement strategy or action plan, and no formal international cooperation, such as an international enforcement network. Mongolia has yet to formally join the Snow Leopard and Wildlife Enforcement Network (SLAWEN). Recognizing the need for improved inter-agency and cross-border communication, SLAWEN is a dedicated effort to facilitate the sharing of wildlife trade enforcement data between snow leopard range states. SLAWEN is expected to complement other cross-border enforcement networks including

the South Asian Wildlife Enforcement Network (SAWEN) and the ASEAN Wildlife Enforcement Network (ASEANWEN) establishing a similar system for the Central Asian region, covering countries that are not eligible for membership in SAWEN or ASEANWEN.

Table 4. Mongolia's participation at CITES COPs since it joined in 1996

CITES Conferences of the Parties (CoP)				
Official Participation of the Government of Mongolia				
			CITES-MA Representatives	CITES-SA Representatives
10th CoP	1997	ZIMBAWBE	2	-
11th CoP	2000	KENYA	3	-
12th CoP	2002	CHILE	2	-
13th CoP	2004	THAILAND	3	-
14th CoP	2007	NETHERLANDS	1	1
15th CoP	2010	QATAR	1	-
16th CoP	2013	THAILAND	1	-
17th CoP	2016	SOUTH AFRICA	1	-

Reporting to the convention has been infrequent since joining. Although countries commit themselves to report on a biannual basis on the national progress and impact of CITES implementation, the Convention Secretariat has received only two reports from Mongolia since 2003, corresponding to the periods 2003-2004 and 2015-2016. Not only are five reports missing during the decade 2005-2014, but existing reports sometimes lack accuracy and completion of responses, and may not present evidence in the form of attachments to back-up the assessments provided (e.g., copies of legislation, data on confiscation, etc.).215

Mongolia could take advantage of two convention mechanisms that would reinforce its ability to control illegal wildlife exports:

○ national export quotas, and
○ Annex III listings.

National export quotas are voluntary for Annex II listed species, with Parties proposing them to the Convention to cap their own CITES export permits for selected species. A total of 36 countries of the 186 current CITES Parties are

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213 CITES List of Participants to the 17th Conference of the Parts. (https://cites.org/sites/default/files/eng/cop/17/FinalCoP17ParticipantList.pdf).

214 CITES. List of Participants to the different COPs.

215 CITES Mongolia Biennial Reports at https://cites.org/eng/cms/index.php/component/cp/country/MN/national-reports.

using this mechanism to complement national hunting quotas. Examples are Uzbekistan, with an export quota of 6 Argali (skulls) per year; and Romania, setting a limit of 30 permits for wolf (skins and skulls) exports.[216]

Annex III is a mechanism that parties use to provide the same protection level afforded to Annex II species, but applied only to exports of unlisted species from their jurisdiction. Annex III species are ones that either do not occur in other countries or are not in danger on a global level and have therefore not otherwise been listed by CITES, but which would benefit from export restrictions for that particular country. As an example, India lists in Annex III of the Convention the red fox (Vulpes vulpes); Pakistan lists the Siberian ibex (Capra sibirica) – both of which are examples of species that occur in Mongolia and are subject to hunting and trade pressure. Any country may request the inclusion of additional species in Annex III. Trade is then regulated with mandatory export permits accompanying its passage through customs border points in source, transit, and demand countries.

Species whose hunting is not completely banned in Mongolia and that are known to be impacted by international trade, might therefore benefit from export quotas and Annex III protection include the brown bear, red deer, Siberian and Altai marmots, Siberian ibex, and Altai snowcock.

Beyond the more strategic functions of the CITES-MA, its core and daily responsibility is in fact the issuance of export and import permits for all species contained in CITES Appendixes I and II. A big question mark arises regarding its capacity to deliver this service in an efficient manner due to the structure and resources of the unit. It may be true that the workload is small (since joining CITES, Mongolia has never exceeded 100 combined import and export permits per year), but its operations require some basic conditions. First, permits should be made available for exporters and importers close to their locations. In a country the size of Mongolia, fulfilling this condition is key to incentivizing legal trade simply by reducing compliance burden. In addition, a database of permits needs to be accessible by enforcement officers at all times, including police and custom officers.

At present, neither of these is available in Mongolia. CITES permitting is a centralized activity that obligates traders to travel to UB, which from some locations can be a significant

undertaking. According to Mongolia's 2016 CITES report, permit issuance is still a paper-based system although backed by an electronic data management system not yet available for sharing with other concerned agencies, e.g., Customs.[217] Plans to move to an e-permitting system have been declared, but no details are available in the report or online.

A quick review of the CITES permits database as published by CITES using information submitted by its Parties, reveals that the information sent by Mongolia has room to improve. Inconsistencies in the way information is provided (e.g., parts traded, the units, and purposes) may challenge the reliability of the information and make it difficult to accurately present a picture of CITES trade in Mongolia.

Informants from different enforcement agencies expressed the need to access wildlife trade materials to better understand: the different levels of protection afforded to species; the laws and restrictions that apply depending on their source, the season, and type of trade; the ability to identify species based on the parts seized, how to handle evidence, etc. The Convention has developed state-of-the-art knowledge resources and also training programs that would satisfy the kind of information demanded by Mongolia's managers and enforcers including CITES Implementation Model Legislation, Identification Manuals, Species Fact Sheets and Guides, and a Wildlife Crime Analytical Toolkit. A more active CITES-MA could leverage these existing resources and ensure they are properly distributed across custom border points, ranger offices, police and the court system.

CITES SCIENTIFIC AUTHORITY

As stipulated in CITES, it is the role of the Scientific Authority (CITES-SA) to make non-detriment findings (NDFs). These are essentially decisions that the proposed trade in Appendix I and II species will not be detrimental to the survival of that species or its role in the ecosystem.[218] NDFs may be written or verbal, or may take the form of a quota. The Convention does not provide guidance on the how NDFs must be supported, but accepted evidence in the past has included studies on species distribution, population status, population trends, and threats.

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[216] CITES National Export Quotas at https://cites.org/eng/resources/quotas/export_quotas.

[217] CITES Mongolia Biennial Report, 2016.

[218] CITES, Arts. III and IV. There is no NDF requirement for Appendix III species.

In Mongolia, two people are officially appointed to act as the CITES-SA: the Head of the Institute of Biology at the Mongolian Academy of Sciences, and the Head of the Mongolian Professional Fauna and Flora Organizations United Association. It is unclear what form their NDFs take, as there are no publicly available records of them. According to Mongolia's 2015-2016 CITES report, it has no standard NDF procedures.[219] As reported by Mongolia's CITES-MA, export quotas are used. According to the CITES database, however, there are no export quotas in place for Mongolia for 2016 or 2017.[220]

More specific to illegal wildlife trade, Mongolia's CITES report claims that it has no capacity to conduct forensic tests. According to other sources, one of the members of the Scientific Authority, the Institute of Biology, is the same entity responsible for conducting forensic tests on specimens submitted by enforcement officials during wildlife crime investigations. In sum, the small government budgets seen during previous years, the general lack of participation in CITES COPs,[221] and the absence of current population estimates for many species, speaks to insufficient institutional capacity also affecting the CITES-SA.

LOCAL GOVERNMENTS

Local governments at the aimag and soum level are principal actors in Mongolia's efforts to manage hunting and fishing resources within their territory. The legal mandate of local government officials includes close coordination with the Ministry of Environment on issues such as population surveys[222] wildlife conservation,[223] public awareness campaigns,[224] as well as the general implementation of the Law on Fauna (e.g., quotas,[225] and bans). A total of 69 hunting regions have been established and all have hunting management at the local level.[226]

Soums have the ultimate authority to issue hunting permits pursuant to the approved quota for their region. With the modifications to the

2012 Law of Fauna, funds from hunting permits and trophy hunting no longer go to the state budget controlled by the Ministry of Finance, but to the soum governor's budget.[227] This incentive is considered a positive development for combatting illicit wildlife trade as local governments now have a vested interest in maintaining the resource.

The Enforcers

Similar to wildlife management, enforcement is also a shared responsibility, involving eight different government agencies that overlap with, but include more than those involved in regulation and management. Figure 5 summarizes the key powers and authorities given to each of the enforcement bodies. For purposes of comparison, the powers assigned by law to the different agencies have been organized into three basic types including the authority to: 1) detect and suspend; 2) search and seize; and 3) investigate and enforce.

The first set of powers, (**detect and suspend**), includes those typically exercised in the field at the time a suspected violation is observed by enforcement officers. As shown in Figure 5, almost all of the entities listed have this primary authority. The only exceptions are for soum rangers and customs officers.

- For soum rangers, this power is expressly prohibited in the Environmental Protection Law, with the caveat that it may be granted by other legislation.[228] Absent the grant, however, soum rangers have no explicit authority to inspect. A primary method of detecting criminal activity, inspections, as used in this context, should not be confused with the term 'searches.' The former involves methods of observation exercised prior to any determination of legal activity. They may be instituted as a matter of course (e.g., a Customs inspection) or because there is some suspicion of illegal activity (e.g., a ranger stopping and inspecting a hunter's papers).

- The right to suspend activities is similarly limited for soum inspectors as per the same provision limiting their right to inspect.

- For customs officers, the right to inspect is limited to initial inspections of goods crossing the border. The moment a

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[219] CITES Mongolia Biennial Report, 2016.

[220] CITES National Export Quotas at https://cites.org/eng/resources/quotas/export_quotas

[221] In the 20 years that Mongolia has been a member of CITES, a member of its Scientific Authority has attended only one time, the 14th COP in 2007.

[222] Law on Fauna, Art. 5.5.3, 2012.

[223] Law on Fauna, Arts. 6.1.3 and 6.1.7, 2012.

[224] Law on Fauna, Art. 6.1.11, 2012.

[225] Law on Fauna, Art. 26, 2012.

[226] Key Stakeholder Interview (MOE)

[227] Key Stakeholder Interview (MOE)

[228] Environmental Protection Law Art. 28.1(2).

product, document or activity is suspected of being a violation, custom officers have to submit the case to the Customs Division representative of GASI.

○ The second set of legal enforcement powers, search and seizure, are often exercised at the scene of an infraction, but not exclusively. A search and seizure may be part of a stop where suspicion of a violation exists, but no formal charges have been brought. They may, however, also be conducted after the fact, during an investigation subsequent to an arrest. While most of Mongolia's enforcement bodes have search and seizure powers, they do not share them equally, nor can they exercise them in all circumstances. Notable limitations on the search and seizure power are:

○ Limitation on soum rangers. As stated in the Environmental Protection law, soum rangers do not have any rights of search and seizure, unless granted by another law. The only law that contains such a grant is the Protected Areas Law and it limits this authority to Protected Area rangers.

Figure 5. Wildlife Enforcement Entities and Powers

WILDLIFE ENFORCEMENT ENTITIES & POWERS

	DETECT & SUSPEND				SEARCH & SEIZURE					INVESTIGATE & ENFORCE				
	stop	question	inspect	suspend activities	search	seize instruments	seize property	seize vehicles	seize facilities	make arrests	investigate offenses	issue fines	invalidate licenses	use weapons
POLICE ECO-CRIMES Officers	●	●	●	●	●	●	●	●	●	●	●	●	●	●
GASI Inspectors	●	●	●	●	●	●	●	◐	●	○	○	●	●	◐
AIMAG Inspectors	●	●	●	●	●	●	●	◐	●	○	○	●	●	◐
SOUM Rangers	●	●	◐	◐	○	○	○	○	○	○	○	●	●	◐
PROTECTED AREA Rangers	●	●	●	●	●	●	●	○	○	○	○	●	●	◐
CUSTOMS Officials	●	●	●	●	●	◐	●	◐	○	○	○	◐	○	●
GENERAL INTELLIGENCE AGENCY	●	●	●	●	●	●	●	●	●	◐	●	○	○	●
BORDER PATROL	●	●	●	●	●	●	●	●	○	●	○	○	○	●

● Full legal powers   ◐ Limited or shared legal powers   ○ No legal powers

○ **The right to seize vehicles.** This power is held mainly by the Police. For Customs, the seizure of vehicles is not expressly mentioned.229 It is, however, an implied power in that they are authorized to use force to stop a vehicle that attempts to leave or evade an inspection entirely.230 Once an inspection is technically completed, it

is not clear that customs has a continuing authority to keep the vehicle for further investigation. The power to seize a vehicle is also held by GASI and State Inspectors, but the law expressly allows for this seizure to be challenged by the suspected violator. A similar right to challenge is not granted for other forms of seizure. This right is also not given to soum or protected area rangers.

The final set of powers has been labeled **investigate and enforce.** This set includes instances where the law provides either 1) the authority to go beyond inspections and actually investigate a crime or 2) explicit coercive enforcement power.

○ **Arrests and investigations.** The only agencies with the full power to investigate crimes expressly granted by law are the Police and the General Intelligence Agency. All other enforcement bodies may engage in some level of initial inspection, but are required to transfer the case to the Police of the GIA for formal investigation. According to many interviewees, this separation between inspection and full investigation (including the power to arrest) puts frontline enforcement personnel (customs and rangers) at a significant disadvantage and disrupts the flow of enforcement work, sometimes irreparably.

○ **Controlled delivery.** Not separately listed in the graphic, but an investigation technique of particular interest is the 'controlled delivery' (See Chapter 3). Even though customs does not have general investigation authority, it is the only agency that has the express authority to conduct controlled deliveries. In particular, the law states that "on the basis of international treaties of Mongolia or mutually agreed arrangements with Customs or competent authorities of other countries, the Customs may use controlled delivery method for the purposes of repressing illegal trafficking of prohibited and restricted goods and revealing persons involved in the smuggling of such goods under Customs control."231 Specific norms governing this investigation technique are to be described by separate legislation, but were not available for review. For other forms

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229 Customs Law, Art. 276.1.5 mentions the right to temporarily seize documents and records. Seizure of vehicles is not mentioned here or in any other article.

230 Customs Law Art. 280.2.

231 Customs, Tariffs and Tax Law, Art. 252.1.

of investigation, customs, like the remaining enforcement bodies, are required to turn the case over to an authority with the power to investigate.

○ **Carry and use of weapons.** Of the eight enforcement bodies identified, all have the authority to carry and use weapons. Only for two of them does this also include the right to use weapons to force compliance: customs, in the event a vehicle attempts to evade or escape; GASI Aimag Inspectors, when a violator uses force to avoid compliance, and threatens the safety of the Inspector. The remainder may use weapons in limited circumstances of self-defense.

Each enforcement body is described in more detail in the following sections.

GENERAL AGENCY FOR SPECIALIZED INSPECTION

The General Agency for Specialized Inspection (GASI) is under the Deputy-Prime Minister's Office. It has two units relevant to the management of the wildlife trade: the Environmental Control Office and the Customs Inspection Office.

The inspection powers transferred from the Ministry of the Environment to GASI Inspectors cover three types of licenses, two of which are relevant to wildlife trade: i) food and food production certificates, ii) certificates and permits of individual citizens regarding wildlife and plants, and iii) special purpose permits – for example for hunting trophies or hunting permits for foreign nationals. To conduct this task, the Environmental Control Office oversees all environmental inspectors and rangers[232] throughout the country and conducts inspections, among others, for domestic hunting, fishing, and wildlife transportation, and trade.

The number of rangers as quoted by the head of this unit includes a total of 669 (Table 5): 71 at the national level, 4 operating in each Aimag (84 in total); another 352 at the Soum level; and finally 162 stationed in Mongolia's protected areas.[233]

Although rangers are an organic part of GASI, their recruitment process and salaries are tied to local governments. The Governor's office in each Aimag is tasked with the selection and funding of ranger positions, their equipment, and operational expenses. As a result, GASI faces the same budgetary constraints as local administrations when it comes to staffing field agents.

Table 5. 2016 Distribution of Rangers by Jurisdiction Levels in Mongolia

2016

Distribution of Rangers by Jurisdiction

Number of Rangers	Jurisdiction Level
71	National Level
84	Aimag Level
352	Soum Level
162	In Special Protected Areas
669	**Total Number of Rangers Deployed**

The GASI Customs Division is the unit working with the larger Customs Agency on CITES related permits and trade. Its inspectors are located within the border point premises and are responsible for verifying the legality of wildlife items being traded after initial inspections are conducted by Customs officials. They act, in other words, as a secondary check on illegal trade by verifying whether permits are legal, and the amounts and species traded comply with the permits issued. The current paper-based permitting system and lack of a centralized electronic CITES database that custom officers can use to verify the authenticity of permits being presented, challenges their capacity to detect forged or altered permits. Moreover, as these agents do not have full investigatory authority, if a behavior, product, or permit is found to be potentially illegal, they must refer the case to the police for further action.

This survey was not able to access facts and figures of GASI Inspectors enforcement activities. During the visit of the field team to GASI headquarters in June 2016, the survey team was shown a display containing traditional medicine products seized by the agency as a specific example of GASI enforcement activities.

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[232] The terms environmental inspectors and rangers are not used consistently, but essentially refer to the same personnel, although occupying different positions. Rangers, for examples, are expressly mentioned in the Special Protected Areas Law and simultaneously given the same authority as the separately named environmental inspectors.

[233] Rangers are not stationed in all 107 protected areas. Only the first two categories (Strictly Protected Areas, National Conservation Parks) have nationally assigned rangers.

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Image 1. GASI's seized traditional medicine products

AIMAG STATE INSPECTORS

At the Aimag level, State Chief Inspectors and State Inspectors are the highest level of non-police enforcement authorities. These inspectors operate under the umbrella of GASI, but also have a relation with local governments, which provide the funding for their operations. While they are clearly under the direction of GASI National State Inspectors, the rights and duties of each as described in the Environmental Protection Law are the same. They have a long list of inspection and enforcement authorities that allow them to suspend activities, inspect identification cards, search and confiscate vehicles, as well as illicit property, weapons, equipment, facilities and tools used in the illicit activity. The power to seize facilities is a type of authority unique to State Inspectors at this level. In the context of their monitoring and inspections, their rights include entering businesses and organizations, but not private residences. They do not, however, have the power to arrest and cannot conduct full investigations. Their use of weapons is limited to instances of self-defense and instances where a suspect "clearly refuses to comply… and uses weapons or threatens the life of an inspector or ranger in any other way" (emphasis added).[234]

The Law on Environmental Protection[235] lists several enforcement authorities. As some of these relate to each other, but have not been listed together in the law, they have been regrouped here under three headings for convenience as follows: 1) detection and suspension, 2) search and seizure, and 3) investigate and enforce:

Detection and suspension authorities

- obtain information from citizens, businesses, and organizations required for 'supervision'[236]
- suspend activities of citizens, businesses, and organizations[237]
- inspect identification cards of citizens[238]

Search and Seizure

- enter and 'carry out supervision' of business entities and organizations[239]
- take samples and have samples analyzed[240]
- search vehicles[241]
- confiscate identification cards, illicit property, weapons, equipment, facilities, and tools[242]
- confiscate vehicles[243]

Investigate and Enforce

- propose the invalidation of licenses, permits and rights[244]
- require or propose the invalidation of official decisions that violate environmental law[245]
- order elimination of damage caused[246]
- impose administrative penalties[247]
- carry weapons and instruments while performing duties[248]

As part of the powers just listed, and as a specific example of their use in combatting wildlife trade, Dornod's Governor Office operates three different check points over the Kherlen river, a water border crossing point in the east identified as hotspot for illegal wildlife trade flowing to China. During the winter, when the river is frozen, transporters of illegal wildlife are known to avoid the border point by crossing the ice to enter China. Image 2 depicts the checkpoint building and the handwritten instructions and controls being used to track the different transports.[249]

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[234] Law on Environmental Protection, Art. 29.2(1).
[235] Law on Special Protected Areas, Art. 31.2.

[236] Environmental Protection Law, Art. 27.1(2).
[237] Environmental Protection Law, Art. 27.1(3).
[238] Environmental Protection Law, Art. 27.1(6).
[239] Environmental Protection Law, Art. 27.1(4).
[240] Environmental Protection Law, Art. 27.1(4).
[241] Environmental Protection Law, Art. 27.1(6).
[242] Environmental Protection Law, Art. 27.1(6).
[243] Environmental Protection Law, Art. 27.1(9).
[244] Environmental Protection Law, Art. 27.1(10).
[245] Environmental Protection Law, Art. 27.1(11).
[246] Environmental Protection Law, Art. 27.1(3).
[247] Environmental Protection Law, Art. 27.1(7).
[248] Environmental Protection Law, Art. 29.1(3).
[249] #1 Market Survey – Observational Sheet #804- 4 November 2016.

Image 2. Anti-Wildlife Trafficking Checkpoints established by Dornod Governor

SOUM RANGERS

Soum rangers are the next level of enforcement authority. Their placement at the Soum level with patrol duties makes them essential in combatting illegal hunting and trade. Their powers, however, are limited principally to inspection, unless otherwise authorized by law. In particular, they are only permitted to supervise compliance, enter businesses and organizations for this purpose, and take and analyze samples. Pursuant to the Law on Environmental Protection,[250] soum ranger powers include the following:

Detection and Suspension

- supervise compliance[251]
- enter and 'carry out supervision' of business entities and organizations[252]
- take samples and have samples analyzed[253]
  Investigate and Enforce
- carry weapons and instruments while performing duties[254]

According to the Law on Environmental Protection, the additional rights to inspect, suspend activities,

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[250] Law on Special Protected Areas, Art. 28.1(1) and (2).
[251] Environmental Protection Law, Art. 28.1(1), referencing Art. 27.1(1).
[252] Environmental Protection Law, Art. 28.1(1), referencing Art. 27.1(4).
[253] Environmental Protection Law, Art. Art. 28.1(1), referencing 27.1(4).
[254] Environmental Protection Law, Art. 29.1(3).

search and seizure as listed in Articles 27.1(6) and (7) of the Law are not automatically among their rights.[255] These additional powers include the imposition of penalties, as well as the authority to inspect identification cards, search and confiscate vehicles, as well as seize illicit property, weapons, equipment, facilities and tools used in the illicit activity. For reasons not clear, the law states that other laws may grant such rights. However, unless such a grant has been made, the practical result is that soum rangers cannot exercise them. No law, other than the Special Protected Areas law, grants such powers to rangers.

As with all other inspectors and rangers, they do not have the power to arrest and cannot conduct full investigations. Similar to State Inspectors, their use of weapons is limited to only instances of self-defense, and instances where a suspect 'clearly refuses to comply… and uses weapons or threatens the life of an inspector or ranger in any other way.'[256]

Given the lack of authority, physical and financial support, the on-the-ground reality for soum rangers is difficult. Ranger Byambasuren, for example, is responsible for the 1st and 2nd Bag of Chandmani-Undur soum where he has been working as ranger for 17 years. In recent years, he states that he has been more focused on protecting forests than wildlife because they are no longer present. He related that he has not received any protection equipment or special clothing in the last few years. The only protection he has is a police baton, pictured in Image 3 along with his official ID card.

Image 3. Soum Ranger pictured with police baton and ranger ID.

The real story at the local level is that volunteer rangers, of their own volition or in cooperation with paid rangers, are doing much of the work. Ranger Erdenebayar from Tuv aimag, for example, has put together a team of six volunteer rangers from the local community. Together, they patrol the entire

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[255] Law on Special Protected Areas, Art. 28.1(2).
[256] Law on Environmental Protection, Art. 29.2(1).

soum with only a motorbike and limited fuel.[257] Image 4 shows a volunteer ranger in Bayankhongor Aimag with one of the survey team members. He claims that like other local residents, he is committed to, and helps protect wildlife. Without being backed by official resources or equipment, he monitors and coordinates with travelers and tourists, as well as supports authorities in managing wolf populations in conflict situations. He explained that he once received the award of "Best Environmental Protector" from the Ministry of Environment,[258] revealing some degree of formal recognition by authorities for the importance of local volunteers.

Image 4. Volunteer ranger (left) and survey team member (right) in Bayankhongor Aimag.

PROTECTED AREA RANGERS

Mongolia's Protected area rangers act as a first line of defense against illicit wildlife trade inside its Strictly Protected Areas and Nature Conservation Parks. By law, they have the same status as 'state environmental inspectors,'[259] and are structurally part of the Environmental Control Office within GASI, but are also assigned to protected areas managed by the MOE. Unlike soum rangers, the Law on Fauna specifically authorizes them to intervene and temporarily stop illicit activities, and if necessary, search vehicles, confiscate illicit property, weapons, and instruments used in the illicit activity. They may also make orders, instructions, and demands, although the law provides no clarity on what these may include. They do not however, have the power to arrest,

cannot seize vehicles, and cannot conduct full investigations. In the context of their monitoring and inspections, their rights include entering businesses and organizations, but not private residences. In contrast to the rights exercised by State Inspectors, their use of weapons is limited to instances of self-defense only.[260]

Following the same division of enforcement authorities applied to Aimag State Inspectors and Soum Rangers, the Law on Special Protected Areas[261] grants protected area rangers the following:

Detection and Suspensions authorities

○ temporarily stop activities of citizens, business entities and organizations[262]

○ check and collect documents of suspects[263]

○ confiscate identification cards, weapons, instruments and illicit property[264]

Search and Seizure

○ search vehicles[265]

○ entering and auditing business entities and organizations[266]

Investigate and Enforce

○ carrying weapons and instruments while performing duties[267]

○ imposing fines[268]

○ making orders, instructions, and demands[269]

MOBILE ANTI-POACHING UNITS

Another development in Mongolia that came as a result of increased poaching of endangered species was the creation of mobile anti-poaching units (MAPUs), which currently operate in the west, center, and east of the country. MAPUs are joint units involving customs, GISA, police, and rangers that collaborate on IWT.

MAPUs are intended to address an important gap in fighting wildlife crime: the lack of regular and immediate information exchange between enforcement agencies.[270] As a practical matter, it also removes the disruption in enforcement

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[257] #2 – Household Survey – May 2016. Aimag: Tuv, Soum: Sergelen.

[258] #1 – Household Survey – May 2016. Aimag: Bayankhongor.

[259] Law on Special Protected Areas, Art. 31.1.

[260] Law on Special Protected Areas, Art. 32.

[261] Law on Special Protected Areas, Art. 31.2.

[262] Id. at Art. 31.2(4).

[263] Id. at Art. 31.2(3).

[264] Id. at Art. 31.2(3).

[265] Id. at Art. 31.2(3).

[266] Id. at Art. 31.2(2).

[267] Id. at Art. 31.2(5).

[268] Id. at Art. 31.2(1).

[269] Id. at Art. 31.2(4).

[270] Key Stakeholder Interview (WWF).

activities caused when soum and protected area rangers operate alone. By including all groups of law enforcement within a single unit, information exchange between the agencies is naturally expected to increase. In the event the unit detects a poaching incident, it combines all enforcement powers necessary to detain, conduct searches, seize weapons, instruments, property and vehicles, makes arrests, and conduct investigations.

The first MAPU was created in 2001 with support from WWF Mongolia. After a first decade of success, responsibility was handed over to the government in 2010.[271] In 2012, however, public funds were cut and private funds were again primarily responsible for funding the units. MAPUs have since been funded by the mining company Oyu Tolgoi (OT), with guidance and training provided by WCS.[272] They have been known to inspire other conservation private efforts like the protection of taimen. Although these units have seen some success, the lack of direct integration in routine government activities raises concerns for it continued operations.

POLICE ECO-CRIMES DIVISION

Formally part of the Ministry of Justice, the Police are the prime investigative and enforcement authority for all crimes in Mongolia, including illegal hunting and illegal wildlife trade. In 2010, the Police established an Eco-Crimes Division, a positive new development for Mongolia's fight against the illegal trade in wildlife since the first Silent Steppe report. The Eco-Crime Division is specifically tasked with environmental crimes, offering the opportunity to accumulate the expertise and practices necessary to fight specialized crimes. Although the Division's attention is presently concentrated mostly on mining cases, 15% of their caseload involves illegal wildlife take and trade incidents.[273]

Eco-Crime Police officers are essentially the middle point in the process between front-line enforcement personnel and the prosecutor's office. Their involvement begins once a wildlife product is determined to be illegal and in need of further investigation, as may be determined and referred to them by rangers, GASI Inspectors, Customs, Border Patrol and GIA. The Police cooperate with all of these agencies to conduct investigations and inspections of illegal hunting or illegal wildlife trade and rely heavily on effective collaboration and information sharing. They also work with the Institute of Biology on evidentiary matters that require scientific evidence, and with State Prosecutors to help bring illegal wildlife cases to trial.

Eco-Crimes Police inspects a ger of suspected illegal hunters, confiscates hidden Reindeer meat and opens a criminal case against offenders

Gurwantes soum, Umnugovi aimag

Similar to the Ministry of Environment, staffing and resources of the division has shown a downward trend in the years since its formation. Staffed with 30 officials when created in 2010, this has dropped to just 12 officials in 2016. Key informants from the Division personally believe that this amount of manpower is unlikely to cover all of the Eco-Crimes cases they receive, much less the wildlife cases. Cuts affect other operational budget lines and police officers confirmed that investigations are potentially jeopardized when budget is not available to cover basic needs, such as sending wildlife samples to a lab for determination of species or date of death.[274] Police do not always have resources to face this type of costs, allowing poachers to escape liability solely for lack of funds to adequately enforce.

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[271] WWF Mongolia. The Way Forward: 20 Years in Mongolia.

[272] Key Stakeholder Interview (WWF); Key Stakeholder Interview (OT) and WCS.

[273] Key Informant Interview: Official within the Eco-Crimes Division.

[274] Institute of Biology is the certified lab used by Police to send wildlife sample. The cost of the Species identification test is around 80,000 Tugrik (around USD 35). Key Informant Interview UB#17 (Eco-Crimes Division).

On the positive side, the Eco-Crimes Division has been able to leverage public collaboration in the detection of IWT. Hotlines encouraging the public to offer information on wildlife crimes have been in operation in Mongolia for several years already, with positive results, as many of the interviews with police and other enforcement officials confirmed. Leads have arrived from local herders, clients of restaurants, etc. and have resulted in successful prosecutions, with criminals being punished and fines and penalties collected in several cases. One of the hotlines, sponsored by the mining company Oyu Tolgoi, reports eight calls in the last two years that lead to eight different investigation cases on Ibex, wild ass, gazelle, and snow leopard. These investigations resulted in three convictions, 50 million tugriks in fines and corresponding rewards.[275] Police further report that collaboration with locals to identify and report poachers increases visibly when wildlife populations drop below a certain point. When wildlife numbers are perceived as abundant, it is more difficult to see locals taking action.[276]

Image 5. Poster of WWF-sponsored Wildlife Crime Hotline in an apartment building in UB in the summer of 2016

Collaboration with informants is leveraged in part by a 15% reward established by law[277] paid from the fines collected from the incident. Although the reward policy is a successful approach used in many jurisdictions around the globe, it is also true that implementation procedures are critical for success. Informants report that reward regulations may be vague in key aspects, such as protecting the informant's identity and the payment mechanism, potentially impacting the public's perception of the system and willingness to use it.

The first issue is the division in responsibilities between the Police and Governor's offices that has the potential to lead to corruption and abuse in the process. On the one hand, Police manage wildlife crime hotlines and directly receive leads from informants. They are the ones responsible for protecting the identity of the informant. However, it is the Governors' office that actually collects the fines and manages the budget for the payment of rewards. It is in the exchange of information between the police and the Governors' offices, in particular the identity of the informant, that the survey participants identified several problems. To protect informants, in some cases, police have provided only the first letter of the informant's name. Some policemen have reportedly used this technique, however, to take the reward in place of the informant. When the complete name of the informant was given, other abnormal situations arose including the information being leaked by relatives and friends of the poachers and placing informants at risk. Also, taking advantage of the fact that an informant will not openly claim their reward, staff at the Governor's office could theoretically steal the identity of the informant and cash the reward. Finally, the regulations may lack details in the terms of payment procedures and fail to specify details regarding from what account and to what account payments should be made.[278] While the system has certainly experienced some success, there remains room for improvement regarding its application with respect to protecting the identity of informants and ensuring that they receive rewards as intended.

Beyond bringing increased expertise to the matter, the Eco-Crimes Division is having an impact on the ability to track wildlife crime investigations. Figure 6 provides a summary of this information for the years 2013 to 2016, although only figures for the first five months of 2016 were available at the time of the survey. This is not enough yet to really begin interpreting

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[275] Key Informant Interview UB# (OT Mining Company).
[276] Key Informant Interview UB#17 (Eco-Crimes Division).
[277] Law on Fauna, Art. 38.

[278] Key Informant Interviews #5.1, $5.8, #5.10, #5.12, and #5.13.

trends, but it is informative nonetheless.

Figure 6. 2013-2016 Police Eco-Crimes Division Wildlife Investigation Cases

2013 - 2016
POLICE ECO-CRIMES DIVISION
IWT Criminal Investigations
Illegal Hunting (Art. 203 Criminal Code)

	2013	2014	2015	2016*	
Total Cases Investigated	35	54	56	23	168
Total Cases sent to Court	24	42	33	13	112
	69%	78%	59%	57%	67%

(*) Only 5 months of 2016

Details on IWT Criminal Investigations related to Art. 203 of Criminal Code - Illegal Hunting-)

Conservation Status	Species #	Species Name	2013-2016 Seizures	2013	2014	2015	2016 (*)	2013-2016 Seizures by Conservation Status
VERY RARE	#1	Saiga	21	11	10	-	-	33
	#2	Snow leopard	4	1	3	-	-	
	#3	Musk deer	3	-	-	1	2	
	#4	Argali	3	3	-	-	-	
	#5	Moose	2	-	1	1	-	
RARE	-	Red deer tail	30	-	30	-	-	97
	-	Bear paws	16	-	8	8	-	
	#1	Wild ass	12	8	-	-	4	
	-	Bear bile	8	-	8	-	-	
	#2	Red Deer	8	1	1	3	3	
	#3	Brown bear	7	2	4	-	1	
	#4	Taimen	5	-	4	-	1	
	#5	Wild boar	4	2	1	-	1	
	#6	Ibex	4	2	-	-	2	
	#7	Black tailed gazelle	1	1	-	-	-	
	#8	Pheasant	1	-	1	-	-	
	#9	Sable	1	-	1	-	-	
ABUNDANT	#1	Marmot	6,931	159	5,050	1,722	-	8,060
	#2	Fish	901	901	-	-	-	
	#3	Mongolian gazelle	148	48	100	-	-	
	#4	Wolf's ankle	45	-	-	45	-	
	#5	Cinereous vulture	16	16	-	-	-	
	#6	Saker falcon	13	8	4	1	-	
	#7	Altai snowcock	3	-	-	-	3	
	#8	Fox	2	-	2	-	-	
	#9	Tolai hare	1	-	1	-	-	
				1,163	5,191	1,819	17	8,190

The first thing to highlight is that data on investigations is solely for Criminal Code, Art. 203, which imposes criminal penalties for hunting illegally.[279] According to the Prosecutor's Office, an additional 43 cases were investigated under Article 175, covering illegal wildlife smuggling. These were not part of the information provided by the Eco-Crimes Division. It is also not known to what extent enforcement authorities have imposed administrative and fines and penalties contained in other applicable laws. In the past, these were contained directly in the relevant laws; e.g., Law on Fauna, Law on Protected Areas, Law on International Trade in Endangered Species, etc. Today, they are consolidated within the new Law on Infringements, which contains penalties for wildlife related violations (see Table 8 and Table 9 for a detailed list of wildlife offenses and penalties), some of which can be substantial. However, as stated in the past (and a format maintained under the new legislation), the administrative fines were

to be applied when the incident was not otherwise subject to criminal liability.[280]

Second, the total number of cases investigated seems very low at only 168 for a period of almost 4 years. This likely underrepresents the actual number of cases, as it does not entirely match with data provided by Customs, GASI, the Prosecutor's Office, or with cases discussed by key informants. In 2015, for example, GASI Inspectors report catching a trader with 40 gazelle for sale. The Eco-Crimes Division, however, records no cases of seized gazelle in that year. Similarly, reports by Customs of attempts to smuggle wolf carcasses (presented in the following section) also do not appear in Police records. To some extent, the differences may be due to the fact that the Eco-Crimes Division only deals with cases involving criminal penalties. For example, the Customs Detector Dog Unit reported 310 cases of attempted illegal wildlife trade in the last three years alone (80% of which were illegal skins). This number is almost twice as many as the cases investigated in the last four years, but includes both criminal and administrative cases. As already mentioned, the data does not indicate how many cases were handled as administrative infractions and therefore not reported to the Police for investigation.

Third, the number of cases sent to court after investigation averages 67% in the period (112 out of 168). There are a number of factors that can play into the decision to proceed with prosecution (lack of evidence, missing witness, etc.), but the overall percentage is not low compared to other crimes or the experience in other countries.

Finally, the species still most impacted by illegal hunting is the marmot, making up 98% of all specimens seized. Known to be targeted both for domestic consumption and international fur trade, hunting continues despite the succession of restrictions and bans introduced since the late 90s. Of the Very Rare and Rare species impacted by trade, the Mongolian saiga (VR), snow leopard (VR), red deer (R), and brown bear (R) are the top two in these categories.

CUSTOMS GENERAL ADMINISTRATION
International wildlife trade enforcement begins at the border where customs officials conduct inspections on permits, other paper work such

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[279] Art. 203.1 covers illegal hunting generally (e.g., without permission, with prohibited weapon, etc); Art. 203.2 covers hunting of Very Rare species and their illegal movement 'through the state border.'

[280] See for example: Law on Fauna, Art. 39; Law on Special Protected Areas, Art. 43.

as transport bills, or vehicles certifications, and products to determine the legality of trade. For this reason, the customs administration is set to play a prominent role in CITES enforcement worldwide. In Mongolia, the Custom General Administration[281] is part of the larger Customs and Tax Authority (CTA), overseeing at the same time the Mongolia Tax Administration.[282] Historically a part of different ministries (e.g., the Ministry of Finance, Trade and Industry, Defense and Social Security, Foreign Trade and the Cabinet), its most recent association with tax collection is, in the opinion of customs officers interviewed, a factor that explains why enforcement duties over imports and exports is a major concern. It also explains why it receives most of the attention compared to other issues, such as security or trade norms. In 2011, Mongolia Customs collected over 3 trillion tugrigs (USD 1.3 billion) in customs duties; accounting for 40% of all state revenue and 6% of the GDP.[283] Exports of minerals and imports of oil, vehicles and construction and mining equipment are the primary sources of customs revenue and consequently attract most of the attention. As much as 90% of the export and import commodities cross through Altanbulag (Selenge), Sukhbaatar, and Zamiin-Uud ports, and most of the Customs operational resources are dedicated to these same ports.[284]

A couple of examples illustrate the emphasis on tax collection. One of the most recent training seminars organized at the Zamiin-Uud, Dornogobi province, and bringing together 600 officials from Customs General Administration, GASI and Eco-Criminal Police on 6-7 April, 2017 on "Crime Prevention" focused the syllabus on crimes related to drug trafficking, cybercrime, border quarantine control, offenses prevention and leadership, with no focus on wildlife trafficking issues. As a second example, although Customs has lab capacity in seven different locations and modern equipment thanks to support from the Asian Development Bank, technology is available only to test products with high duties (and therefore income potential) such as drugs, alcohol, cigarettes, minerals, petroleum or cashmere. There are no specialized testing capabilities for wildlife parts. To date, the

customs labs have performed 14,806 tests and helped to uncover the wrong classification of goods made by traders in the attempt to reduce or avoid the payment of their custom duties. At the same time, the Customs Detector Dog unit reports that 80% of the 310 administrative and criminal offenses detected by the dogs in the last 3 years (2013-2015) were related to animal fur and only 20% to other products.[285]

Image 6. Dog inspecting a truck at Customs border crossing

Beyond the headquarter offices in UB, Customs General Administration staff is distributed among 50 physical sites around the country. Those locations correspond to three different categories of facilities, including 14 Customs houses, 20 Custom branches and 16 Border crossing points.[286] Image 7 present some views of the custom's infrastructure visited during the field survey. In these, a first inspection of goods takes place on any import and export, including for wildlife.

Image 7. Custom's infrastructure from 2016 field visits

Custom inspectors make a first determination whether the transaction is legal or not. If legal, goods are referred to GASI Inspectors, who verify standards, quality, certificates, and permits (including CITES and export certificates). If a

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[281] www.customs.gov.mn

[282] www.mta.mn

[283] Information published at the Customs General Authority Site, Support Divisions (www.customs.gov.mn)

[284] Information published at the Customs General Authority Site, Current Environment (www.customs.gov.mn)

[285] Information published at the Customs General Authority Site, Support Divisions (www.customs.gov.mn)

[286] Information published at the Customs General Authority Site, Organizational Structure (www.customs.gov.mn)

custom inspector suspects that a transaction is illegal, goods are referred to Police for further investigation. Transports are also inspected to uncover attempts of smuggling. Image 8 depicts the inspection of vehicles and trucks at the Khavirga border. The custom officer is checking and inspecting before it crosses the eastern border to China. During the inspection, inspectors pull luggage from vehicles and trucks when needed, check underneath using a mirror, and check tires by knocking on them. Given the number of areas that wildlife may be hidden, and the lack of adequate inspection tools, it is likely that these efforts are only finding a small percentage of actual trade. Again, any findings resulting in a violation beyond custom administrative offenses are transferred to the Police staff sitting in the same customs facilities.

Image 8. Inspection process at Khavirga border (November 2016)

The required 'handing off' of the case just described is in contrast to other countries[287] and has been highlighted as a crucial break in the enforcement process. The World Customs Organization (WCO) stated in a recent illicit trade report that this authority "to interdict shipments… can have a dramatic effect on improving the situation for Customs," and encourages administrations to improve their legal frameworks by giving this power directly

to Customs officials.[288] The Customs Office of Mongolia, however, has limited investigative authority and information flows in one direction. As a result, the customs officials who initially discovered an illegal wildlife product is unlikely to know what happens to a case once it has been moved to the Police.

This not only has the potential to impact thorough investigation, chain of custody, and case completion, but also international cooperation. When a customs authority of another country encounters an illegal shipment, they sometimes need to contact authorities in the country of origin for further investigation. Since not every customs office has investigative authority, it is hard to know which agency within a country to call for investigation. Officials at borders around the world do not have the time to call multiple authorities in every country of origin to verify information on potentially illegal shipments.

A further concern is the discrepancy between online records from the Customs website and information available from the Customs official database provided to researchers by Customs authorities. Where the online information reports 234 cases of attempted wildlife smuggling detected by Customs Detector Dog Units, the Customs data from its official database lists only 16 cases from 2014 to the first half of 2016 - three cases in 2014; six in 2015; and seven in the first five months of 2016. Figure 6 offers a detail of the 16 IWT criminal cases included by Customs General Authority in its report. All cases, except one, are related to trade with China, a border that officers confirm concentrates more than 90% of border problems. The species and products trafficked are consistent with the EcoCrimes Division reports and include Mongolian gazelle (horns), gray wolf (whole carcasses and skins), marmot (skins), bear (paws; fresh and dried bile), red deer (blood antlers, genitals and female tails), Dalmatian pelican (beaks), Corsac and Red fox (skins).

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[287] In the US, for example, the customs office (Department of Homeland Security- Immigration and Customs Enforcement- DHS/ICE) has strong investigative authority.

[288] World Customs Organization, *Illicit Trade Report 2012*, (2013) 36.

Figure 7. Customs General Authority, Criminal Incidents Report, 2014-2016

MONGOLIA
CUSTOMS GENERAL AUTHORITY

Criminal Incidents Report

	2014	2015	2016 (*)	
Total Incidents	94	96	31	221
IWT Incidents	3	6	7	16
% IWT/Total	3%	6%	23%	

(*) Only 5 months of 2016

Detail of IWT Criminal Incidents Incidents (All related to Art. 175 (1) of Criminal Code : Iillegal cross border trafficking or attempt of wildlife animals' organs and parts)

TRADE FLOW	#	CUSTOMS AIMAG	DATE	SEIZED PRODUCTS	SMUGGLING METHOD
To CHINA	1	Hovd	1/18/2016	8 Altai snowcocks	n.a.
	2	Dornod	1/15/2014	1 deer testicles	Hidden in a person
	3	Dornogovi	5/24/2014	386 gazelle horns	Hidden inside a vehicle
	4		2/1/2016	21 corsac skins, 4 fox skins, and 1 wolf skin	n.a.
	5		1/12/2016	1 frozen wolf	Hidden in spare wheel
	6		5/24/2015	74 marmot skins	Hidden within cargo
	7	Sukhbaatar	12/5/2014	1 fresh and 1 dried bags of bear bile	Hidden in personal luggage
	8	Zamiin-Uud	11/29/2015	9 wolf skins, 2 frozen birds, and 11 wolf jaws	Hidden inside a vehicle
	9		1/18/2016	1 deer blood antlers	n.a.
	10		3/26/2016	2 deer testicles, and 3 female deer tails	Hidden in a person
	11		2/8/2015	13 bear paws	Hidden inside a vehicle
	12		4/27/2015	18 bone accessories and 11 horns	Hidden inside a vehicle
	13		12/8/2015	3 deer testicles, and 4 deer tails	Hidden inside a vehicle
From RUSSIA	14	Bayan-Ulgii	4/28/2016	4 'Dalmatian pelicans' beaks	Hidden in a person
-	15	n.a.	1/20/2016	1 frozen wolf	Hidden in spare wheel
	16	Govisumber	1/22/2015	3 frozen wolf	Hidden within cargo

Hidden in a person · Hidden in personal luggage · Hidden in spare wheel · Hidden inside a vehicle · Hidden within cargo

The number of administrative offenses (Figure 8) applied by Customs is higher than the criminal offenses, but also appears low compared to the number of IWT detections of the Detector Dog Units. The 11 administrative offenses for trade in wolves, and only for the first half of one year (2016)[289], are already more than twice the total number of criminal incidents involving illegal wolf trade (n=5) reported in the preceding 2.5 years.

Figure 8. IWT Administrative Offenses for CITES Trade, 2016

MONGOLIA
IWT ADMINISTRATIVE OFFENSES UNDER CUSTOMS LAW (Art. 290 -2.2)

As Reported by Mongolia CITES-MA to CITES Secretariat January to June 2016

# of OFFENSES	SEIZED PRODUCTS	TOTAL AMOUNT	CITES APPENDIX	OFFENDER CITIZENSHIP	SANCTION (MNT)	SANCTION (USD)	SANCTION (USD/item)
4	Wolf Skins	15	II	MONGOLIAN (3) CHINESE (1)	MNT 125,000	$ 54	$ 4
2	Wolf Ankle Bones	40	II	MONGOLIAN (1) CHINESE (1)	MNT 90,000	$ 39	$ 1
2	Wolf Teeth	13	II	MONGOLIAN (1) CHINESE (1)	MNT 80,000	$ 35	$ 3
2	Wolf Snouts	14	II	MONGOLIAN (2)	MNT 45,000	$ 20	$ 1
1	Cistanche deserticola	250 gr.	II	CHINESE (1)	MNT 50,000	$ 22	-
11 Offenses	2 Species / 5 Products	92 items	Appendix II	11 Individuals	MNT 390,000	$ 170	$ 8

1 USD = 2,300 MNT

Customs inspectors also shared pictures of a case involving the small-scale smuggling of four Dalmatian pelican beaks from Kazakhstan that transited through Russia, with the final destination being Mongolia.[290] Dalmatian pelicans (Pelicanus crispus) are classified as Very Rare under the Mongolian Law on Fauna and listed on CITES Appendix I. Hunting and all forms of trade in pelican beaks are strictly prohibited in the country. Pelican beaks are prized in Mongolia as traditional sweat blades, used to remove sweat from horses after a hard ride. The smuggler was a Mongolian national who tried to cross the border illegally from Russia at Mongolia's northern Altanbulag port with the contraband hidden under his jacket. This was purportedly a transit case headed to China, previously referred to in this report in Chapter 3 and the only one of its kind involving an Appendix I species so far detected by customs authorities in recent years.

Image 9. Altanbulag Port inspectors identify smuggling of pelican beaks, sourced in Kazakhstan and transiting through Russia

When visiting Umnugobi's border point to China on November 7th 2016, the survey field team witnessed the search of a Mongolian woman trying to smuggle 3 kg of gazelle antlers hidden in under her clothing into China. Image 10 depicts the moment when she was asked to remove her jacket and shoes during the customs search.

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[289] As reported by Mongolia's CITES MA to the CITES Secretariat.

[290] Customs Case #14.

Image 10. Woman discovered attempting to smuggle gazelle antlers to China

Image 11 shows a seizure of mixed wildlife products at the Zamiin-Uud border point that occurred in November 2015 at the beginning of the winter when IWT is known to increase. The dog unit was able to identify, hidden inside black bags among the cargo of a UAZ 469 truck travelling to China, a total of 31 different wildlife products. The shipment included several wolf skins (nine are visible in the photograph), two birds listed as western capercaillie, but identified by Mongolian biologists as either spotted capercaillie or black grouse,[291] wolf canines (9, as reported by customs staff) transported with the snout to, in the words of the smuggler, allow the client to verify that they are not dog canines.

Image 11. Wildlife seizures by the dog unit at Zamiin-Uud port

Image 12 depicts the most common modus operandi when exporting frozen wolves to China. The frozen corpse has the front legs tied and is placed inside a rudimentary bag. In this case, the smuggler used a shipment of beef to hide the wolf, but was stopped by customs officials on January 2016.

Image 12. Confiscated frozen wolf in January 2016, that was hidden among a beef meat shipment in an attempt to smuggle it to China

A key obstacle identified by Customs officers themselves in this survey is their lack of ability to detect IWT, including: i) a lack of investigative capacity, ii) no electronic link with MoE to verify the authenticity of CITES permits, and iii) insufficient training about wildlife laws, species recognition, etc.[292]

GENERAL INTELLIGENCE AGENCY

In 2000, after a long period of reorganization of the intelligence apparatus, Mongolia established a modern General Intelligence Agency (GIA) to support the enforcement of more than 25 different types of laws and regulations related to national security and crime, including wildlife crime. In addition, Article 27 of the Criminal Procedure Code puts the General Intelligence Agency in charge of investigating the illegal passage of items through Mongolia's border. GIA is therefore another key enforcement body relevant to illicit international wildlife trade.

GIA agents gather intelligence on money laundering operations, human trafficking, firearms trafficking, corruption, and smuggling through Mongolia's borders. They share this information with Police and Ministry of Justice for prosecution. GIA also has its own hotline and dedicated email addresses to facilitate

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[291] The western capercaillie is not listed as Very Rare or Rare by Mongolia. Hunting quotas are not issued for this species separately.

[292] Key Stakeholder Interviews (Customs Agency).

collaboration from citizens providing leads and information on such crimes.

GENERAL AUTHORITY FOR BORDER PROTECTION

The General Authority for Border Protection (GABP) holds the mandate and jurisdiction to enforce the law within a 15 km wide buffer zone that stretches the entire 8,252 km perimeter of the country, defining an area of 123,780 km2. In operation since 1933 under different names and ministries (e.g., Defense and Interior), the GABP was reshaped in 2002 as a regulatory agency of the Ministry of Justice. Its primary mission is to prevent the entry of terrorists and terrorist weapons into the country. It is also responsible for deterring the entry of illegal immigrants and for prohibiting the trafficking of illegal substances across the nation's borders. GABP has authority at points of entry, and oversees a total of 46 operative border crossings points, which includes 14 international crossing points, 14 Bilateral permanent ones, 10 two-way temporary crossing points, and 7 transit points. They are charged with handling document inspections. GABP officers do not, however, have the authority to handle customs, immigration, and agricultural inspections. Aside from enforcing laws on national security and border protection, this agency also implements 53 existing bilateral agreements on border protection with other countries (15 of them with Russia and another 13 with China). According to GABP, 3 million people and 1.5 million vehicles cross Mongolia's borders on an annual basis. [293]

A specific example of the role of GABP enforcing wildlife legislation and a positive case of inter-agency cooperation was the MOU signed between the Ministry of Environment, WWF and the General Authority for Border Protection in 2010. The agreement was signed '…in an effort to protect the lives of migratory species such as argali and gazelle and prevention of illegal wildlife trade.'[294] In 2007, WWF developed "SARAN", a software program for monitoring species and tested it in two border areas of the Mongolian side of the Altai Sayan Ecoregion. The following involvement of GABP allowed the scaling of the effort nationwide, creating synergies for wildlife protection while building capacity of border officers in conservation issues.295

Corruption

Similar to many countries, corruption in Mongolia is an issue. With a score of 38 (where 0 is highly corrupt and 100 is very clean) and ranking 87th out of 176 countries on Transparency International's 2016 Corruption Index, Mongolia falls well below the mid-point in the index and is among the "lower ranked" countries along with its neighbors China (40) and Russia (29). According to Transparency International, "lower-ranked countries… are plagued by untrustworthy and badly functioning public institutions,' corruption laws are not implemented, and people frequently face bribes and extortion. This ranking has not changed significantly in the past 5 years, and in 2017 dropped two points to 36 (ranking 103 out of 180 countries; suggesting that anti-corruption efforts will require a long-term effort. Independent surveys in Mongolia put some numbers behind this finding – 31% of businesses expect to give gifts to officials to 'get things done';296 10% of trading companies encounter corruption in the course of their work; 7% percent of the individuals surveyed had paid a bribe in the three months prior to the survey; and Mongolian citizens generally perceive customs officials to be corrupt.297

As attested to by several key informants during the survey, there is potential for instances of collusion, bribes, and embezzlement that are also connected to illicit wildlife trade. Among the practices described, are the following unverified anecdotes:

○ Inspectors that do not issue the actual fine documentation when imposing fines. There is suspicion that the fine receipts are not reported to the governor's office and instead kept by the enforcement agent.[298]

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[293] General Authority for Border Protection site at http://bpo.gov.mn.

[294] Post "General Authority for Border Protection and WWF Mongolia have a Memorandum of Understanding" on June 10, 2011 at WWF Mongolia site (http://mongolia. panda.org/en/?200594/Ge).

[295] Post "General Authority for Border Protection and WWF Mongolia have a Memorandum of Understanding" on June 10, 2011 at WWF Mongolia site (http://mongolia. panda.org/en/?200594/Ge).

[296] Enterprise Surveys 2013, available at http://www. enterprisesurveys.org/data/exploreeconomies/2013/ mongolia.

[297] Asia Foundation, Jun. 2015.

[298] Key Informant Interview UB-Fisher#11 describing

- Government officials issuing hunting permits to staff they hire in public offices in exchange for the meat obtained. In one instance, a key informant reported that meat obtained this way was used to feed children at the soum secondary school.[299]

- Bribing rangers to 'look the other way,' while they hunt or fish illegally. Taking advantage of the low salaries rangers receive, hunters have a number of ways to bribe, including cash payments, providing alcohol, paying for the school tuition of a ranger's child, paying for a wife's medical treatment, etc.[300]

- Rangers engaged in hunting and trade directly to supplement their income.

- Low ranking Customs officials colluding with smugglers to transport products across the border.

Corruption indices by Aimag provide further insight. Of note are the high-levels of corruption in all Aimags (averaging .65 in 2013), which remained relatively unchanged for the years reported (2009-2013). However, during those past years it has also been at its highest in the three Aimags that are also the primary trade and commercial centers – Sukhbaatar (0.77 in 2013), Tov (0.71 in 2009), and Dornogobi (0.65 in 2013). Critical to international wildlife trade, each of these aimags have the most frequently used customs transit points. Only one of these three (Tov Aimag) has shown improvement, which was given a score of 0.58 in 2013.

Corruption, however, is not limited to custom officials. It is normal for Mongolians to use social pressure with friends working in the administration to obtain favors (such as permissions, pardons of a fine, avoid searches, etc.).[301] When it comes to hunting, the chance that a ranger will point to a relative, friend, or acquaintance as an illegal hunter is very low. There is really little to no protection offered for rangers. As they live in the areas where they are expected to enforce the law, they need to maintain good relations with the community. If they fine their friends and neighbors for every illegal hunting incident, they themselves would be unable to cope.

Table 6. Corruption Index by Aimag 2009, 2011 and 2013

Corruption Index by Aimag

Aimag	2009	2011	2013
Bayan-Ulgii	0.54	0.46	0.56
Gobi-Altai	0.59	0.62	0.69
Zavkhan	0.64	0.63	0.46
Uvs	0.54	0.54	0.64
Khovd	0.49	0.49	0.59
Arkhangai	0.47	0.60	0.73
Bayankhongor	0.58	0.58	0.59
Bulgan	0.66	0.66	0.69
Uvurkhangai	0.60	0.66	069
Khuvsgul	0.55	0.53	0.53
Orkhon	0.49	0.56	0.61
Dornogobi	0.66	0.64	0.65
Dundogobi	0.66	0.55	0.63
Umnugobi	0.55	0.53	0.63
Selenge	0.64	0.69	0.58
Tov	0.71	0.68	0.58
Darkhan-Uul	0.60	052	0.64
Govisumber	0.67	0.58	0.61
Dornod	0.59	0.65	0.66
Sukhbaatar	0.58	0.67	0.77
Khentii	0.56	0.68	0.68
Average	**0.64**	**0.63**	**0.65**

Sometimes, they have no choice but to overlook illegal activity. For instance, after fining an individual on several occasions, rangers may often feel pressured to let them go in the future.[302]

Mongolia, however, is making positive progress, the legal environment and some high-level corruption cases have been uncovered.[303] Mongolia is not a party to the OECD Convention on Combating Bribery, but it has ratified the United Nations Convention against Corruption. It also addresses corruption in two national laws; the Anti-Corruption Law (2006) and the Criminal Code (2016). The Anti-Corruption Law establishes the Independent Agency Against Corruption (IAAC) as the principal agency responsible for investigating corruption cases. The IAAC has the power to monitor for corruption and conduct investigations, including customs, border officials, and rangers. The Criminal Code penalizes the abuse of functions,

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how at Lake Uggi, unidentified Inspectors fine fishermen but never hand out the physical documents.

[299] Key Informant Interview UB-Hunter #7.

[300] Key Informant Interview UB-Fisher#8 and #9, Hunter #19.

[301] Key Informant Interview, UB #2 (NGO Director).

[302] Key Informant Interview UB #2 (NGO Director) and UB-Fisher#8 and Hunter #18.

[303] Key Stakeholder Interview (IAAC).

money laundering, as well as active and passive bribes of officials and providers. Punishments include imprisonment for up to ten years as well as fines.

Impeding progress, not uncommon between government agencies, is Mongolia's management and enforcement offices tend to work in silos with a general lack of collaboration. Though there is a working relationship between GASI, Police, Customs, and the Ministry of Environment, there is limited interagency cooperation. This lack of collaboration was a repeated narrative throughout various interviews with government and private stakeholders alike. One major obstacle included the lack of a centralized database to register and monitor 1) all hunting permits given by local authorities; 2) all CITES import/export permits, 3) all assets confiscated in wildlife cases; and 3) all revenue flows from hunting permits and fines to park management budgets, rewards, etc.[304]

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[304] Key Stakeholder Interview (IAAC).

IWT Legal Framework

Supporting the institutional improvements of the last decade described in the previous section have been several legal developments significantly enhancing the normative framework to manage wildlife generally and combat illicit trade. In addition to the creation of a new CITES implementation law in 2002 and a new Law on Infringements in 2015, there have been amendments to four core laws including the Law on Fauna, the Law on Reinvestment of Natural Resource Use Fees, the Law on Advertisement, and the Criminal Code. This section of the report outlines these and other changes and assesses the strengths and weaknesses of the legal system to combat illegal wildlife trade. It is divided into two major sections describing:

The Full Framework – providing description of the framework of laws relevant to wildlife management and the prosecution of wildlife related crimes.

What Constitutes a Wildlife Offense – pulling from the relevant legislation, this section provides a composite view of wildlife offenses as they apply to domestic take and trade, and international trade, including applicable administrative and criminal penalties. It also discusses and analyzes legal gaps for the different sub-sections that call for further legal developments. Each of the gap analyses looks principally at the language of the law, but is supplemented by commentary from key informants on implementation and prosecution practices wherever such information was available.

Before describing the framework of the laws reviewed, it should be noted that Mongolia has made significant changes to its IWT laws. The change to note is the creation of a new Law on Infringements in 2015, replacing the 1992 Law on Administrative Penalties. This law is intended to consolidate all administrative fines that in the past were found in up to 220 separate pieces of legislation. It includes one chapter dedicated to violations of environmental law with subsections on violations of the Laws on Fauna, Special Protected Areas, and International Trade in Endangered Species. Other chapters cover related legislation also identified in this framework including Laws on Customs, Advertising, Anti-

Corruption, and Anti-Money Laundering. With this cross-cutting change, Mongolia improves the consistency and transparency of its administrative penalty system. Among the improvements is the overall increase in fine levels over the previous law, which in some instances were considered insufficient to act as deterrents. Offenses defined by the Law on Infringements that relate to wildlife trade are discussed in the following sections.

The second major development has been the substantial revision of the Criminal Code, with particular implications for the prosecution of wildlife crimes as it covers more parts of the wildlife trade chain, has less ambiguous language, and contains some application of criminal liability to organized crime and legal entities, albeit limited for wildlife crimes. The offenses defined by the Criminal Code with respect to wildlife trade are discussed in the following sections.

The Full Framework

Not including the multiple hunting restrictions and bans issued over the years, or legislation that has been recently superseded, the current legal framework compiled and assessed includes 20 laws and regulations, as well as the most recent examples from two additional categories of periodically issued regulations; hunting bans and hunting quotas. The Criminal Code was analyzed both in its 2002 and its 2015 versions, since the most recent did not enter into force until July of 2017, well after the primary survey was completed.

Figure 9 presents a snapshot of the legal framework, organizing the laws according to basic hierarchical relations with the Constitution at the center; which confirms in one of its initial articles the State's ownership of the resource and, by extension, its power to regulate it.305 The figure also groups laws based on the role they play with respect to wildlife take, trade, and enforcement.

Defining procedures and limitations applicable to wildlife take are three resource-related laws. These include the Law on Forest, the Law on Special Protected Areas; and the Law on Fauna. The Law on Fauna acts as a core legal instrument in the framework, and the umbrella for many others that define, inter alia, status of species, hunting quotas and bans, financial requirements, and permitting processes.

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305 2001 Constitution, Article 6.

Figure 9. IWT Legal Framework Map, Mongolia 2017

In the wildlife trade sphere, another five laws are considered relevant. Belonging to this group are three laws regulating domestic trade including the Advertisement Law, the Medicine and Medical Devices Law (in reference to traditional medicine), and Tax Law. Concerning international trade, the framework includes the Customs Tariffs and Taxes Law and the Law on Foreign Trade of Endangered Species, which implements Mongolia's CITES trade obligations.

The analysis includes five laws relevant to wildlife crime: the Criminal Code, Criminal Procedure Code, the new Law on Infringements and two additional laws that may be useful, but which have no express relation to wildlife crime; e.g., the Anti-Corruption and the Anti-Money Laundering Law. So far as the enforcement and case records indicate, these last two laws have never been used in Mongolia in any wildlife trade cases. Their relationship, therefore, is untested and based purely on an assessment by international and Mongolian legal specialists of their potential application and the example of other countries applying these connecting laws to prosecute wildlife crime. Mongolia's anti-corruption and anti-money laundering laws do not specifically mention wildlife or wildlife trade in any article. Instead, they take a generic approach that theoretically apply, and as attested to by key informants, could include instances of wildlife trade. For this reason, it has

been deemed applicable and therefore included in the framework.

The same legal framework is represented in Figure 10, organized as a chronological list of laws, showing the date of entry into force or last amendment. This complementary display of the framework highlights the important legal developments in the decade (2006-2016) since the first Silent Steppe report. This is especially true for the five laws related to enforcement, all of them approved or updated during the last decade, hinting at the possibility for enforcers to take advantage of modern legal tools in the investigation and prosecution of prosecute wildlife crime.

Finally, Table 7 provides yet another view of the same framework, this time organizing the laws in two broad groups ('primary' and 'related' laws), based on the degree of relevance of each particular law with the topic of wildlife trade. In this case, the framework lists the different laws and provides a brief summary of the role each law plays in regulating IWT.

In presenting these lists and diagrams, the goal is to show as many parts of the system that relate to or can be used to combat illicit wildlife trade. Having a full picture of all parts of the system can support multiple functions, in particular the development of comprehensive investigation and prosecution strategies. True in the legal field as much as other areas of governance, the professionals involved tend to work with silos of information and the parts of the legal system they are directly charged with implementing and therefore most familiar with. Laws that may also be applicable are not always considered, or not considered early enough to make sure that investigations secure necessary evidence in support of these additional prosecution strategies. In Mongolia, for example, cases of international trade in CITES listed species were either prosecuted under the former Criminal Code or dropped, despite applicable provisions in the Law on Foreign Trade in Endangered

Species (see Chapter III A Confirmed Transit Country).

Despite the number of laws and relationships reviewed, there is no claim that this review captures all applicable laws and issues. There are, for example, several laws deliberately not included that might, in some specific instance, have a bearing on the prosecution of a wildlife trade crime (e.g., a labor or transportation law). To keep the list within reason, the laws included in the framework presented have provisions that expressly mention wildlife, or without question regulate some part of the trade chain.

Figure 10. Mongolia's IWT Legal Framework Timeline

Table 7. Mongolia's IWT Legal Framework organized as Primary and Related Legislation

IWT LEGAL FRAMEWORK

Title	Year	Legal Area	Relevance to Wildlife Take & Trade
PRIMARY LEGISLATION			
Law on Fauna	2012	Natural Resources	Mongolia's Law on Fauna is the primary law addressing wildlife take and trade. The entire law has relevance to the management of wildlife, and several specific articles that deal with take and trade: e.g., Article 7 establishes the list of 'Very Rare' species (for which all commercial take and trade is prohibited) and references the creation of a list of Rare species; Article 12 prohibits selling animal raw materials when the animal's origin is not specified. The Law on Fauna superseded the 2000 Law on Hunting, which before 2012 was the primary law regulating take.
Cabinet Ministry Order on List of Rare Species	2012	Natural Resources	Pursuant to the Law on Fauna, the Cabinet Ministry is responsible for issuing the list of Rare Species; a category with heightened protection and limits on take and trade.
Hunting Quotas Government Resolutions	Annual	Natural Resources	The Ministry of Environment issues hunting quotas on an annual basis. This review was able to obtain the resolutions for 2010, 2012, and 2014-2016.
Temporary Hunting Bans and Restrictions	Various	Natural Resources	Over the years, various authorities in the Mongolian government have issued complete or partial bans on hunting. This review obtained seven documents of this type directed at marmots, argali, gray wolf, and fox.
Law on Hunting Resource Use Payments & Fees	1995	Natural Resources; Finance	The law establishes fee requirements for hunting permits, to help monitor hunting activities and fund conservation measures.
Law on Reinvestment of Natural Resource Use Fees	2000	Natural Resources; Finance	This law dictates how the government spends hunting permit fees for environmental protection.
RELATED LEGISLATION			
Constitution	2001	Constitutional	Mongolia's Constitution has one provision directly relevant to wildlife trade. Chapter 1, Article 6 provides that fauna and flora are subject to state sovereignty and state protection.
Law Regulating Foreign Trade of Rare Animals and Plants and their Derivatives	2002	Trade	This law is Mongolia's CITES implementation legislation managing international wildlife trade. As such, it is applicable to wildlife trade in its entirety. The law has three sections. The first contains general provisions dealing with the scope of the law; the second dictates how wildlife trade will be regulated in Mongolia and the parties responsible; and the third addresses what limitations in trade apply to which species.
Special Protected Areas Law	1994	Natural Resources	Establishes protected area types and internal zones where wildlife uses are either strictly prohibited or limited in some way.
Parliamentary Decree #18 on Special Protected Areas	2011	Natural Resources	Included in the framework as it establishes some protected areas and revises the borders of others, all of which have implications for the legality of hunting and fishing in those areas.
Forest Law	2012	Natural Resources	The Forest Law has at least two provisions relevant to wildlife take. Article 18.2.14 grants Soum governments the authority to issue hunting permits, as well as present requests to limit and cease activities during the fire season. Article 29.7 makes it a violation of the law to hunt in forests without permission.
Environmental Protection Law	2005	Environment	Mongolia's overarching environmental protection law establishes the management principles for most natural resources, including wildlife. It has several articles relevant to wildlife trade, among them: Article 4, citizens right to inform authorities about unlawful use of natural resources, damages, or loss; Article 15, state power to establish limits on wildlife resource use; Articles 17 and 18, local government power to issue licenses for natural resource use; Article 19, state required to 'protect the environment' by providing hunting and trapping of very rare animals and collection and preparation of very rare plants, as well as registering very rare plants and animals in the Redbook of Mongolia.

Environmental Measures Decree	2005	Environment	This Decree has one provision related to wildlife trade: Section 1 of the document provides that the government will undertake the passage of legislation to combat illegal distribution of resources related to wild species, including Gobi bear, camel, snow leopard, deer, musk deer, Mongolian saga, and gazelles, as well as endangered plant species.
Advertisement Law	2002	Media; Trade	Mongolia's Law on Advertisement has one provision related to wildlife trade. Article 14, section 1 prohibits advertising "supply, trade, and purchase of rare and endangered species of fauna and flora," as well as specific derivatives enumerated in the law. Section 2 of the same Article further prohibits advertisement of the sale and purchase of wildlife or parts of which hunting or harvesting is prohibited.
Anti-Money Laundering and Anti-Terrorism Financing Law	2013	Finance; Criminal	Mongolia's Anti-Money Laundering and Terrorism Financing Law has no specific provisions directly related to wildlife trade, as the law takes an all-offense approach. To the extent that money laundering and terrorist financing co-exist with wildlife crime, the law is applicable in its entirety.
Customs, Tariffs and Tax Law	2008	Trade; Finance;	This law has three provisions that address wildlife trade: Article 3.1.1 includes animals and plants in the definition of "goods." Article 209 lists "endangered species of animals and plants and products thereof" as goods that may not be destroyed. Pursuant to Article 246.5, Customs officials may inspect goods containing animals without the presence of the declarant.
Tax Law	2008	Finance	Mongolia's General Law on Taxation has several provisions related to wildlife trade: Article 5.7 provides that taxes include payments, defined as capital taken from forest and plant resources as well as animal hunting. Article 7.4 designates the following as local taxes: charges on the use of natural plants (7.4.8); charges on use of hunting reserves and hunting permit fees (7.4.10); and gun duty (7.4.13).
Medicines and Medical Devices Law	2010	Health	Mongolia's Law on Medicines and Medical Devices has two provisions related to wildlife trade. Article 3 defines "traditional medicine" as a natural product used to treat or prevent disease that contains ingredients derived from plants, animals, or minerals. Article 16 requires that non-traditional medicines must be dispensed in a pharmacy, but provides no similar requirement for traditional medicine.
Criminal Code	2015	Criminal	Mongolia's Criminal Code was revised in 2015, with additional amendments added in 2017. It contains one provision (Art. 24.5) that criminalizes the hunting and trapping of animals in State Special Protected Areas, as well hunting and trade related activities involving Very Rare and Rare Animals. Additional articles apply generally to smuggling of prohibited items (which can include wildlife), corruption, and money laundering. In each instance, crimes committed by organized crime groups or on behalf of or in the interest of a legal entity have increased fines and criminal sanctions applied.
Criminal Code	2002	Criminal	Although superseded by the 2015 revised version and the 2017 amendments, the 2002 Criminal Code has been included in this framework as it governed all criminal acts related to wildlife up until the end of 2016. It contains two articles that were the primary grounds for criminal prosecution: Art. 175, criminalizing the smuggling of wildlife, and Art. 203.
Law on Infringements	2015	Criminal	This law supersedes the Law on Administrative Liability adopted on Nov 27, 1992. It consolidates violations formerly specified in 220 different legislative texts. It applies whenever a violation does not constitute a criminal violation. It has several articles specific to wildlife trade, including: Article 6.3, which criminalizes the illegal crossing of Mongolia's border with CITES listed species; Article 6.6 criminalizes several other hunting violations including use, possession or hunting without permission; transfer of licenses, contracts and certificates; hunting in amounts greater than in the contract; hunting in prohibited zones, places, or using prohibited methods; and finally the purchase or sale without the appropriate license. Article 6.16 further criminalizes violations of the Special Protected Areas law.
Criminal Procedure Code	2001	Criminal	Mongolia's Criminal Procedure Code has two provisions related to wildlife trade. Article 26 designates the Border Intelligence Service as the party responsible for controlling illegal passage of items across the Mongolian border. Article 27 puts the General Intelligence Agency in charge of investigating the illegal passage of items through the border of Mongolia.
Anti-Corruption Law	2006	Criminal	Mongolia's Law on Anti-Corruption has no provisions that deal specifically with wildlife take or trade. However, the law creates an anti-corruption agency that monitors and investigates official corruption. Official corruption contributes to illegal wildlife trade, making its control directly relevant to wildlife trade, whether international or domestic in nature.

What Constitutes a Wildlife Offense

The purpose of this section is to take a focused look at what acts constitute a wildlife offense, or a wildlife related crime, how they are penalized (e.g., administrative or criminal sanctions), and the level of the sanction. In the course of this study, the Mongolian government introduced significant changes to the legal framework relevant to wildlife trade making the analysis more complex than it might otherwise have been. These changes took place at the end of 2016 and in some instances have not been fully implemented. This section examines the old and new formats, discussing the improvements and potential issues. Given how recent these changes are, however, this section is unable to assess the performance of the new laws and limits its comments only to anticipated benefits and concerns for enforcement and the courtroom.

Figure 11. Overview of Offenses and Penalties in Mongolia's IWT Legal Framework
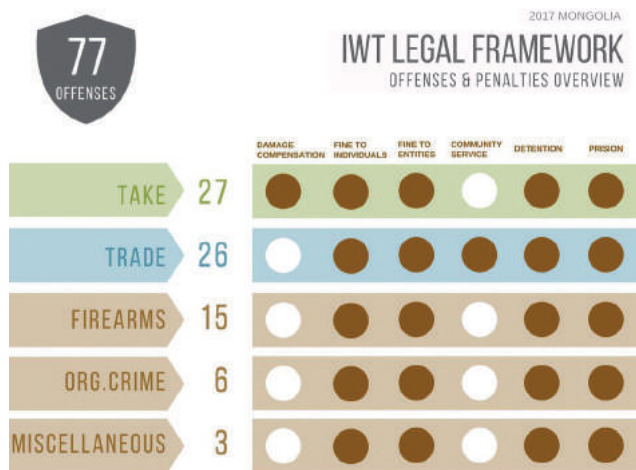
Although some of the areas reviewed overlap with general management concerns (especially the regulatory environment related to 'take'), legal issues that are strictly related to conservation and management of populations are not commented on (e.g., listing procedures, establishing quotas, etc.). In each instance, the focus remains solely on trade and discusses general principles of wildlife management only to the extent they play a role in determining the legality of trade.

ILLEGAL TAKE

As a preliminary point of clarification, the term 'take' as used in this section is a generic reference to the act of taking an animal from the wild whether by trapping, fishing, hunting, or other means, regardless of the intended end use. When used in the broader context of endangered species legislation, 'take' can also include acts that cause the loss of a species (referred to as 'incidental take') caused by loss of habitat or other direct harm, but which are not intended to make beneficial and direct use of the species.

The term "take" is not used in Mongolia's laws, which instead refer to hunting, trapping, and fishing. "Hunting" is defined in the Law on Fauna, in an unofficial English translation, to mean, "hunting and trapping animals in accordance with the time specified by law for the use of raw materials, methods, tools, and permits." Trapping and fishing, on the other hand, are not defined.

Not central to this analysis, but nonetheless worth noting is the fact that incidental take is also associated with criminal penalties. In particular, the Criminal Code establishes criminal liability for the destruction of habitat[306] for animals listed as Very Rare, without special permission.[307] Penalties are high at 10,000 units (min) and 40,000 units (max) and imprisonment from two to eight years. For reasons not clear in the text, and contrary to the liability schemes for other types of violations, legal entities are not mentioned.

Species-Based Offenses

A common approach to managing take and trade at the national level is to establish limits and controls on a species-by-species basis. Several distinct regulatory tools use this approach (e.g., quotas, limits on hunting and fishing methods, trade requirements, etc.), as do the new Law on Infringements and Criminal Code. The starting point for liability under these laws begins with Mongolia's listing process. Mongolia's 2012 Law on Fauna uses a species-based approach to set out three categories of wildlife species:

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[306] In Mongolian: амьдрах орчныг алдагдуулсан.
[307] Criminal Code, Art. 24.5.2, as amended 2017.

1) Very Rare;[308] 2) Rare[309] and 3) Game Animals[310] - and bans, restricts or permits hunting based on these categories. Although the content of the lists has changed with time,[311] the legal format remains essentially the same. The list of 'Very Rare' species is incorporated directly into the law[312] and receives the highest level of protection with uses limited to 'management or research purposes.' The list of 'Rare' animals, as well as the associated hunting rules, are set out separately and approved by the Cabinet.[313] Lastly, the regulatory framework for 'game animals' is also incorporated directly into the Law on Fauna, including the seasons when hunting is permitted, but not the associated quotas.[314] This is new to the Law on Fauna, but not a change in Mongolia's regulatory approach as it was also used in the now superseded Law on Hunting from 2000.

The new Law on Infringements does not have an explicit species-based approach, as its provisions are generally worded to apply to wildlife without distinction. However, to some extent, it operates on a species-specific basis as it applies only to those species not otherwise covered by the Criminal Code. The Criminal Code applies substantially higher fines and criminal penalties for virtually all forms of take and trade that involve listed species. For Rare species, the types of criminal violations specifically identified include hunting, trapping, purchase, sale, processing, transportation, collection, and export.[315] For Very Rare species, the list is the same with the exception of the express reference to 'storage' and 'habitat destruction,' both of which are found in the article governing Very

Rare species, but not Rare species.[316] For Rare species, fines are set at a minimum of 5,400 units (MNT 5.4 million, USD 4,700) and a maximum of 27,000 units (MNT 27 million; USD 23,500); detention from 1 to 5 years; or imprisonment from 1 to 5 years. For Very Rare species, fines are 10,000 units (MNT 10 million, USD 8,700) and a maximum of 40,000 units (MNT 40 million; USD 34,700); or imprisonment from 2 to 8 years; with no provision for detention.

Place-Based Offenses

Place-based approaches are another common approach to managing wildlife take and trade. They can either be specifically delineated geographic areas (with boundaries on a map) or generally defined environments or habitats. In either case, specific limitations or controls are established on the taking of all wildlife in these areas regardless of their status.

There are some benefits to the approach. One is that hunting restrictions can be tailored to the types and numbers of species living in a particular area. Wildlife populations are not uniform across their range. Place-based management regimes, including differing hunting limits, allow for adaptations based on local population levels and trends. They can also help make monitoring and enforcement of illegal hunting more manageable. Depending on the size of the area, having designated areas can contribute to a more manageable mandate for rangers, covering fewer species and territory.

Mongolia uses several place-based tools in managing its wildlife. All of Mongolia's protected areas, for example, are closed to hunting, with one zone within national parks open to fishing for household purposes only.[317] The Law on Fauna includes several place-based tools such as the use of specially designated hunting zones;[318] temporary hunting bans restricted to certain areas; bans exercised by local governments for the area under their jurisdiction; as well as wildlife assessments and hunting quotas for established hunting areas.[319]

Complementing these restrictions, both the Law on Infringements and Criminal Code incorporate place-based offenses and liabilities. Within the Law on Infringements, these include 1) violating hunting rules applicable to the Mongolia border zone[320] and

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[308] Official language version of Article 4.1.3. "**нэн ховор амьтан**" гэж тархац нутагтаа бүхэлдээ, эсхүл ихэнх хэсэгт тоо толгой эрс цөөрсөн, ашиглах нөөцгүй, устах аюулд орсон амьтныг; (**emphasis added**). Mongolian Law on Fauna, revised 2012.

[309] Official language version of Article 4.1.4. 4.1.4. "**ховор амьтан**" гэж тархац нутагтаа тоо толгой цөөрсөн, нөөц багатай, устаж болзошгүй амьтныг; (**emphasis added**). Mongolian Law on Fauna, revised 2012.

[310] Official language version of Article 4.1.7. "**агнуурын амьтан**" гэж арьс, үс, мах болон бусад түүхий эдийг нь ашиглахаар агнаж ирсэн уламжлалтай, агнуурын нөөцтэй амьтныг; (**emphasis added**). Mongolian Law on Fauna, revised 2012.

[311] The 2012 Law on Fauna in fact introduced many changes to existing lists, which were originally defined in 2000.

[312] Law on Fauna, Art. 7.1., revised 2012.

[313] Law on Fauna, Art. 7.6, revised 2012.

[314] Law on Fauna, Art. 9.

[315] Criminal Code, Art. 24.5.1, as amended 2017.

[316] Id. at Art. 24.5.2.

[317] Law on Protected Areas, Art. 16(2), 2012.

[318] Law on Fauna, Art. 4.1.9, 2012.

[319] Law on Fauna, Art. 5, 2012.

[320] Law on Infringements, Art. 16.11.

2) hunting outside hunting areas.[321] Fines for border zone violations are set at 25 units (MNT 50,000; USD 22) for individuals and ten times this amount (250 units = MNT 500,000; USD 220) for legal entities. Fines for hunting outside hunting areas are 6 times as high at 150 units (for individuals) and 1500 units (for legal entities), or MNT 300,000 (USD 130) and MNT 3 million (USD 1,300) respectively. For the special case of hunting and trapping inside protected areas, Article 24.5 of Criminal Code imposes even higher penalties ranging from 5,400 to 27,000 units for individuals; MNT 10.8 million (USD 4,695) and MNT 54 million (USD 23,478).[322] The same violations may also result in 1 to 5 years detention, or 1 to 5 years incarceration. As mentioned before, there is no longer any criminal liability for legal entities under this section.

Violation of Quotas and Bans

The violation of quotas and bans is another type of offense specifically included in the Law on Infringements and the new Criminal Code. The basis for these penalties is contained in the Law on Fauna and the resolutions or decisions issued by the Ministry of Environment and Cabinet Ministry. A permanent ban on domestic hunting is created by Article 7.1 in the Law on Fauna, which lists 30 species as 'Very Rare;'[323] Article 7.2, which permits hunting only for scientific purposes; and Art. 7.3, which expressly bans all other forms of hunting and trade for these species. The Criminal Code is again the reference for violations setting fines at a minimum of 10,000 units and a maximum of 40,000 units; MNT 20 million (USD 8,695) and MNT 80 million (USD 34,782) respectively; or 2 to 8 years in prison.

For all other species, bans come in the form of temporary mandates typically directed at particular species and areas. A 2012 ban on gray wolf hunting, for example, included specific soums within three aimags and was good for one year. According to the records available, marmot, gray wolf, and argali appear to be the most frequent subjects of such bans. The Law on Infringements does not specifically refer to the violation of bans. Instead, it applies fines for hunting at 'other prohibited times.'[324] As the violation of seasons is a separate offense, the assumption is that this provision is a generic reference to these bans as they are all time limited. This is an interpretation of the authors, however, and not supported by any known court decisions or Supreme Court interpretations. Penalties are set at 150 units (for individuals) and 1500 units (for legal entities), or MNT 150,000 (USD 130) and MNT 1.5 million (USD 1,300) respectively. Under the Law on Infringements, there are no detention or prison sentences.

Hunting quotas are used in limited circumstances in the current Law on Fauna.[325] This differs from the 2000 Law on Fauna and 2000 Law on Hunting, which used quotas much more broadly for a wider range of species. The current law limits take for individual household use, depending on the type of species harvested[326] and gives the central government authority to limit fishing on a district-by-district basis. For quotas, the only mention is the violation of hunting and trapping limits as established in a contract.[327] The law does not apply a penalty for the same violation with respect to fishing. As part of the same provision covering violations of 'other prohibited times,' fines for exceeding contract limits have the same penalty levels.

Hunting During Closed Seasons

Closed seasons are used to regulate hunting of a wide range of species in the Law on Fauna. The 2006 Silent Steppe report discussed two problems with how this was implemented in the law. One is that the descriptors used for animals when designating each hunting season were sometimes vague, listing large categories as opposed to specific species. The other is that the fixed hunting seasons designated in the statute were not adaptable based on fluctuations in species' relative abundance from year to year.

The current Law on Fauna contains the same generic and thus problematic species descriptors, such as "ducks, geese, and waterfowl.' However, it now also includes 23 different hunting seasons, as opposed to 13 in the previous Hunting Law, allowing for more individualized treatment of species. The increased specificity of course also means that enforcement personnel need to be equally well trained in species identification and knowledge of applicable seasons.

Violation of hunting seasons is included in the Law on Infringements with a penalty of 150 units (for individuals) and 1500 units (for legal entities), or MNT 300,000 (USD 130) and MNT 3 million (USD 1,300) respectively.

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[321] Law on Infringements, Art. 6.6.3.
[322] Law on Infringements, Art. 6.6.6.
[323] The list actually contains 31 species.
[324] Law on Infringements, Art. 6.6.2.

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[325] Law on Fauna. Article 26. 2012.
[326] Law on Fauna. Article 28. 2012.
[327] Law on Infringements, Art. 6.6.2.

Figure 12. Open and Close Hunting and Fishing Seasons

Close/Open Seasons for Household and Special Purpose Hunting and Fishing

CLOSE | **OPEN**

MAMMALS

Species	Scientific name	Open Season
Argali (male)	Ovis ammon	JUL-AUG-SEP
Argali	Ovis ammon	AUG 20-OCT 20
Siberian ibex (male)	Capra sibirica	JUL 14-OCT 16
Siberian ibex	Capra sibirica	AUG 20-OCT 20
Black-tailed gazelle (male)	Gazella subgutturosa	SEP - OCT
Black-tailed gazelle	Gazella subgutturosa	JUL 15 - OCT 15
Elk or Red Deer (male)	Cervus elaphus	JUL-AUG-SEP
Elk or Red Deer	Cervus elaphus	JUN 20 - OCT 20
Monglian gazelle	Procapra gutturosa	SEP-OCT-NOV
Wild boar	Sus scrofa	SEP-OCT-NOV
Roe deer	Capreolus pygargus	SEP-OCT-NOV
Sable	Martes zibellina	NOV 20 - FEB 11
Beech marten	Martes foina	NOV 20 - FEB 11
American mink	Neovison vison	NOV 20 - FEB 11
Lynx	Lynx lynx	NOV 20 - FEB 11
Wolverine	Gulo gulo	NOV 20 - FEB 11
Red fox	Vulpes vulpes	NOV 20 - FEB 11
Corsac fox	Vulpes corsac	NOV 20 - FEB 11
Eurasian red squirrel	Sciurus vulgaris	NOV 20 - FEB 11
Siberian weasel	Mustela sibirica	NOV 20 - FEB 11
Steppe polecat	Mustela eversmanni	NOV 20 - FEB 11
Least weasel	Mustela nivalis	NOV 20 - FEB 11
Stoat or Ermine	Mustela erminea	NOV 20 - FEB 11
Pallas's cat	Otocolubus manul	NOV 20 - FEB 11
Artic or mountain hare	Lepus timidus	NOV 20 - FEB 11
Tolai hare	Lepus tolai	NOV 20 - FEB 11
Long-tailed ground squirrel	Spermophilus undulatus	AUG 20- OCT 16
Marmot	Marmota spp.	AUG 20- OCT 17
Muskrat	Ondatra zibethicus	NOV 15 - JAN
Asian badger	Meles leucurus	FEB - NOV 15

BIRDS

Species	Scientific name	Open Season (spring)	Open Season (fall)
Saker falcon	Falco cherrug		JUN 20 - NOV 15
Golden eagle	Aquila chrysaetos		OCT
Hazel grouse	Tetrastes bonasia		NOV - MAR 15
Daurian partridge	Perdix dauurica		NOV - MAR 15
Chukar or Rock partridge	Alectoris chukar		NOV - MAR 15
Pallas' sandgrouse	Syrrhaptes paradoxus		NOV - MAR 15
Black grouse	Lyrurus tetrix		NOV - MAR 15
Western capercallie	Tetrao urogallus		NOV - MAR 15
Goose (all)[1]	Anser	APR 1-20	SEP - OCT 20
Lesser whistling duck	Dendrocygna javanica	APR 1-20	SEP - OCT 20
Ruddy shelduck	Tadorna ferruginea	APR 1-20	SEP - OCT 20
Common shelduck	Tadorna tadorna	APR 1-20	SEP - OCT 20
Swan (all)[2]	Cygnus	APR 1-20	SEP - OCT 20
Black-billed capercaillie		APR 1-20	SEP - OCT 20

FISH

Species	Scientific name	Open Season
Arctic Whitefish	Coregonus lavaretus	OCT 20 - JUL
Taimen	Hucho taimen	JUN 15 - OCT
Buir hemiculter	Hemiculter warpachovskii	AUG 15 - MAY 15
Baikal omul	Coregonus autumnalis migra	NOV - AUG
Peled	Coregonus peled	FEB - NOV 5
Potanin's Osman	Oreoleuciscus potanini	SEP - JUN 15
Other fish		JUN 15 - MAR

(1) Including Greylag goose, *Anser anser*; Greater white-fronted goose, *Anser albifrons*; Lesser white-fronted goose, *Anser erythropus*; Bean goose, *Anser fabilis*; Bar-headed goose, *Anser indicus*; and Swan goose, *Anser cygnoides*

(2) Including Mute swan, *Cygnus olor*; Whooper swan, *Cygnus Cygnus*; and Tundra swan (Bewick's swan), *Cygnus columbianus*

Table 8. Offenses related to illegal 'take'

2017
MONGOLIA

TAKE
OFFENSES & PENALTIES

#	Offense	COMPENSATORY PAYMENT	ADMINISTRATIVE FINE (in Units of 2,000 MNT)		CRIMINAL		LEGAL BASIS	
			for INDIVIDUALS	for LEGAL ENTITIES	DETENTION (In Months)	PRISION (In Months)	LAW ON INFRINGEMENTS	CRIMINAL CODE
HUNTING								
DOCUMENTATION								
1	Hunting without permit		75 to open	750 to open			Art. 6.6.1.	
2	Hunting for industrial purposes without a contract		150 to open	1,500 to open			Art. 6.6.2.	
3	Hunting with expired permit		75 to open	750 to open			Art. 6.6.1.	
4	Transfer of hunting permit to a third party		75 to open	750 to open			Art. 6.6.1.	
5	Transfer of hunting contracts to a third party		150 to open	1,500 to open			Art. 6.6.2.	
6	Transfer of special permissions to a third party		150 to open	1,500 to open			Art. 6.6.2.	
7	Transfer of certificates to a third party		150 to open	1,500 to open			Art. 6.6.2.	
PLACE-BASED								
8	Violating hunting rules applicable to Mongolia border zone		25 to open	250 to open			Art. 16.11	
9	Hunting outside hunting areas	Yes	150 to open	1,500 to open			Art. 6.6.3	
10	Hunting wildlife in special protected areas without permission		5,400 to 27,000		12 to 60	12 to 60		Art. 24.5.1
SEASONS								
11	Hunting in prohibited seasons	Yes	150 to open	1,500 to open			Art. 6.6.3.	
12	Hunting during other prohibited times	Yes	150 to open	1,500 to open	12 to 60	12 to 60	Art. 6.6.3.	
METHODS								
13	Hunting using prohibited methods	Yes	150 to open	1,500 to open			Art. 6.6.3.	
14	Hunting over amount stated in contract		150 to open	1,500 to open			Art. 6.6.2.	
SPECIES-BASED								
15	Hunting of rare animals without special permission		5,400 to 27,000		12 to 60	12 to 60		Art. 24.5.1
16	Hunting of very rare animals without special permission		10,000 to 40,000			24 to 96		Art. 24.5.2.
TRAPPING								
17	Trapping wildlife in special protected areas without permission		5,400 to 27,000		12 to 60	12 to 60		Art. 24.5.1
18	Trapping without permit		75 to open	750 to open			Art. 6.6.1.	
19	Trapping with expired permit		75 to open	750 to open			Art. 6.6.1.	
20	Trapping for industrial purposes without a contract		150 to open	1,500 to open			Art. 6.6.2.	
21	Trapping over amount stated in contract		150 to open	1,500 to open			Art. 6.6.2.	
22	Trapping of rare animals without special permission		5,400 to 27,000		12 to 60	12 to 60		Art. 24.5.1
23	Trapping of very rare animals without special permission		10,000 to 40,000			24 to 96		Art. 24.5.2.
FISHING								
24	Ilegal fishing in Protected Areas		250 to open				Art. 6.6.16.	
25	Transfer of fishing contracts to a third party		150 to open				Art. 6.6.2.	
26	Transfer of fishing special permissions to a third party		150 to open				Art. 6.6.2.	
27	Transfer of fishing certificates to a third party		150 to open				Art. 6.6.2.	

TRADE CHAIN OFFENSES

Specific to trade, Mongolia has established fines and criminal penalties associated with several parts of the wildlife trade chain. Between the Law on Infringements and Criminal Code, a list of ten separate acts within the wildlife value chain have been identified, including the illegal:

- sale,
- purchase,
- preparation,
- use,
- collection,
- transportation,
- storage,
- import,
- export, and
- smuggling.

Not all of the acts identified apply to all species, however, and different fines and penalties are applied depending on the act and status of the species involved. To begin with, all prohibited acts that involve species listed as either Rare or Very Rare fall under the jurisdiction of the Criminal Code. For all other species, all prohibited acts are subject to fines levied by the Law on Infringements.

For Very Rare and Rare species, the prohibited acts include those already mentioned with the exception of 'import.' The law does not distinguish the status of the species in this instance, applying the same fine for the introduction of species into the country without permission. Fines are higher for the introduction of alien species; i.e., it does not occur naturally in Mongolia. The law also does not distinguish on the basis of species status for the illegal use of species, applying monetary fines for any unpermitted use. In this instance, fines are the lowest of any applied to the trade chain at 75 units (for individuals) and 750 units for (for legal entities); MNT 150,000 (USD 65) and MNT 1.5 million (USD 652) respectively.[328]

For Rare species, the minimum fine is 5,400 units and the maximum, 27,000 units; MNT 5.4 million (USD 4,695) and MNT 27 million (USD 23,478) respectively. Criminal penalties for the same offence include 1 to 5 years restricted rights of movement, or 1 to 5 years prison.

For Very Rare species, the minimum fine is 10,000 units and the maximum, 40,000 units; MNT 10 million (USD 8,695) and MNT 40 million (USD 34,782) respectively; respectively. Criminal penalties for the same offence include 2 to 8 years in prison.

The law imposes separate fines for unlawfully crossing the border with CITES listed species to the extent they are not otherwise listed as Very Rare or Rare in Mongolia.[329] Fines in this case are established by the Law on Infringements with no associated criminal liability. They are set at 500 units (for individuals) and 5,000 units for (for legal entities); MNT 500,000 (USD 435) and MNT 5 million (USD 4,350) respectively.

The list of prohibited acts applicable to the remaining species does not have the same specificity as it does for Very Rare and Rare species. It identifies only their illegal:

- sale,
- purchase, and
- use.

Missing from the list of trade chain offenses are-

- preparation,
- collection,
- transportation, and
- storage.

The wording of the law makes it unclear whether export is included and to which species the penalties for smuggling might apply. Instead of expressly penalizing the export of any species without the appropriate permit, the Law on Infringements penalizes the smuggling of 'prohibited' or 'restricted' goods.[330] Pursuant to the Law on Customs, Tariffs and Taxes, wildlife constitute 'goods'[331] and require permits issued by the Ministry of Environment. To the extent permits are required, it may be true that all wildlife constitute at least 'restricted' goods, but it is not clear from these texts alone whether the Ministry of Environment actually requires or issues export licenses for all wildlife.

VIOLATION OF ADVERTISING RESTRICTIONS

The Law on Advertisement directly addresses trade in wildlife products and may be helpful

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[328] Law on Infringements, Art. 6.6.1.

[329] Id at. Art. 6.6.3.
[330] Criminal Code, Art. 18.5.1.
[331] Law on Customs, Tariffs and Taxes, Art. 3.1.1.

in curbing wildlife sales. Article 14 of the law provides that "advertisement of supply, trade, and purchase of rare and endangered species of fauna...or wild animal organs such as deer horn, deer genital, deer testicles, female deer's tail, uterus, musk, bear's gall shall be prohibited." It further prohibits advertising the sale or purchase of "organs or raw materials" from wild animals that are not legally harvested. The records obtained from Police and the Courts do not indicate any instances where violation of this provision was either investigated or served as the basis of a prosecution.

The Law on Infringements identifies three types of transactions within advertising specific to wildlife trade to which it applies the same penalty. They include the ordering, creating, and distribution of illegal wildlife related advertisement making anyone in the advertising value-chain liable for the illegal content.[332] At the writing of this report, this provision is still new and it is not known if any fines have been issued pursuant to it. Records of past infringements under a similar provision in the Law on Advertising do not indicate its use in any wildlife trade related case.

MEDICINAL TRADE OFFENSES

A special form of trade in wildlife is medicinal trade. Documented in the first Silent Steppe report and again in this survey, wild animal parts and derivatives are an important part of both domestic and international trade in Mongolia. The Law on Medicines and Medical Devices, though only indirectly related to wildlife trade, is nevertheless unhelpful in its regulation. The law relates to wildlife trade in that it addresses traditional medicine, stating only that such medicine may be dispensed outside a pharmacy. In other words, it exercises no direct control over the sale of traditional medicine products, and thus the sale of traditional wildlife medicine products.

This does not mean that wildlife use in traditional medicines is completely unregulated. For Very Rare and Rare species, criminal liability attaches to the illicit 'preparation' and 'collection' of species parts without permission. While not defined or explicitly tied to medicinal trade, these terms are generally understood to apply to any preparation or collection, regardless of the purpose. For Rare species, the fines are 5,400 to 27,000 units for individuals; MNT 10.8 million

(USD 4,695) and MNT 54 million (USD 23,478).[333] The same violations carry the possibility of detention from 1 to 5 years, or incarceration also from 1 to 5 years. For Very Rare species fines rise to a minimum of 10,000 units and a maximum of 40,000 units; MNT 20 million (USD 8,695) and MNT 80 million (USD 34,782) respectively. Criminal penalties include 2 to 8 years in prison. Legal entities have no liability in either of these offenses.

ORGANIZED CRIME PREDICATE OFFENSES

Mongolia does not have a separate law on organized crime. Instead, what constitutes organized crime and the associated penalties are incorporated directly into the Criminal Code. The law uses a predicate offense approach; meaning that only identified crime types are subject to additional liability if associated with the activities of an organized crime group. In general, the law applies increased prison sentences ranging from one to five or more years.

While the same approach existed in the 2002 version of the Criminal Code, the format and application of such penalties to wildlife crimes has changed. Under the 2002 version, the transport, trade of illegally hunted animals,[334] as well as the smuggling of restricted animals 'in large amounts'[335] were both subject to increased criminal penalties if connected to organized crime. In 2017, there is no longer an explicit mention of organized crime in relation to illicit wildlife trade. Instead, the law creates a generic category that imposes increased prison sentences (5-12 years) for smuggling of 'prohibited or restricted goods' as part of an organized crime group, and makes no mention of a threshold volume.[336] Pursuant to the Law on Infringements, Customs Law, and other provisions of the Criminal Code, the import and export of Very Rare and Rare species,[337] as well as CITES-listed species[338] all require special permission and thus constitute either restricted or prohibited goods.

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[332] Law on Infringements, Art. 9.4.4.

[333] Law on Infringements, Art. 6.6.6.

[334] Criminal Code, Art. 161, 2002.

[335] Criminal Code, Art. 175, 2002.

[336] Criminal Code, Art. 18.5.1, as amended 2017.

[337] Law on Infringements, Arts. 6.6.5 and 6.6.6; Criminal Code, Art. 24.5, as amended 2017.

[338] Law on Infringements, Arts. 6.3.

CRIMINAL LIABILITY FOR LEGAL ENTITIES

With respect to legal entities, the prior versions of the Criminal Code restricted its application to individuals only; an approach consistent with countries like Germany and Sweden. In 2015, however, Mongolia's Parliament introduced sweeping changes that now hold a legal entity (e.g., a business) liable for certain criminal acts committed on behalf of the entity (e.g., an employee or agent) or in its interest, relieving the individual who committed the crime from liability. Under the new Criminal Code and depending on the crime involved, legal entities may be subject to substantial fines, the deprivation of operating rights, and ultimately dissolution.

Similar to organized crime, liability for legal entities operates on a predicate offense basis. In other words, legal entities are not subject to criminal liability in all instances where a crime is committed on their behalf or interest; only where the law provides for such liability. The updated version of the Criminal Code, initially passed in 2015, held legal entities criminally liable for trade in Rare and Very Rare species.[339] In 2017, however, this provision was deleted from the law.[340] Given the reported synergies between trading companies and wildlife trade, the lack of criminal liability in these cases needs to be corrected.

CRIMINAL LIABILITY FOR MONEY LAUNDERING

Money laundering offenses and penalties were already part of the prior Criminal Code, although with no explicit relation to illicit wildlife trade. From the enforcement records provided by the Police, Customs, and Courts, it appears that in no instance was money laundering used as the basis of a wildlife trade related investigation and prosecution. The reasons for this are not clear, but the language of the law and intent requirement in the old Criminal Code may have had some role to play.[341]

The new version similarly makes no reference to any underlying crime type but it has eliminated the intent requirement, creating a form of strict liability for conduct identified in the law as money laundering. It remains to be seen whether these improvements will lead to anti-money laundering investigations connected to wildlife trade seizures.

Money laundering is one of the areas for which criminal liability may be imposed on legal entities. The anti-money laundering provisions directed at legal entities establish both increased fines for the entities and detention, presumably the individuals involved in the money laundering activity.[342] Fines are set at a minimum of 120,000 and a maximum of 400,000 units[343]; equal today to MNT 120 million (USD 104.3 thousand) to 400 million (USD 347.8 thousand).

TABLE OF OFFENSES

The following page contains a table of offenses with reference to the legal provisions that form the basis for either administrative or criminal liability. Each provision in the Law on Infringements and the Criminal Code was reviewed to determine all of the separately identifiable 'acts' that constitute an offense. The law itself does not list everything separately. For purposes of clarity, however, and as each identified act can be prosecuted independently, they have been listed and reorganized accordingly. For example, the sale of wildlife without permission is one form of illegal activity; as is the purchase of wildlife without permission. The law lists them in the same article, whereas this table segregates them.

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[339] Criminal Code, Art. 24.5.3, 2015 (*annulled*).

[340] Criminal Code, Art. 24.5, as amended May, 2017.

[341] Criminal Code, Art. 163.1, 2002; 'knowingly releasing illegally gained property and money into circulation by way of entering into transactions' (unofficial translation).

[342] The law provides for the restriction of movement rights, but does not clarify how this would apply to companies.

[343] One Unit equals MNT 1,000.

Table 9. Trade Offenses and Penalties

TRADE OFFENSES & PENALTIES

		ADMINISTRATIVE FINE (in Units of 2,000 MNT)		CRIMINAL			LEGAL BASIS	
		for INDIVIDUALS	for LEGAL ENTITIES	COMMUNITY SERVICE (In hours)	DETENTION (In Months)	PRISION (In Months)	LAW ON INFRINGEMENTS	CRIMINAL CODE
PROCESSING								
1	Preparation of raw materials of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
2	Preparation of raw materials of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
TRANSPORTATION								
3	Transportation of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
4	Transportation of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
STORAGE								
5	Storage of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
6	Storage of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
ADVERSITING								
7	Order a prohibited wildlife-related advertisement	250 to open	2,500 to open				Art. 9.4.4.	
8	Create a prohibited wildlife-related advertisement	250 to open	2,500 to open				Art. 9.4.4.	
9	Distribute a prohibited wildlife-related advertisement	250 to open	2,500 to open				Art. 9.4.4.	
DOMESTIC SALE								
10	Selling wild animals and their parts without special permits	150 to open	1,500 to open				Art. 6.6.4.	
11	Selling wild animals and their parts without certificates of origin	150 to open	1,500 to open				Art. 6.6.4.	
12	Sale of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
13	Sale of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
PURCHASE								
14	Purchasing of wild animals and their parts without special permits or certificates of origin	150 to open	1,500 to open				Art. 6.6.4.	
15	Purchase of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
16	Purchase of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
IMPORT/EXPORT								
17	Introducing species into the country without permision	250 to open	2,500 to open				Art. 6.6.5.	
18	Introducing foreign species into the country without permission	500 to open	5,000 to open				Art. 6.6.6.	
19	Export of rare animals without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
20	Export of very rare animals without special permission	10,000 to 40,000				24 to 96		Art. 24.5.2.
21	Smuggling prohibited or restricted goods	450 to 5,400	200,000 to 400,000	240 to 720		1 to 12		Art. 18.5.1.
22	Unlawfully crossing border with CITES-protected species (that are not lised as Rare or Very Rare)	500 to open	5,000 to open				Art. 6.3.	
USE & COLLECTION								
23	Using wildlife without permit	75 to open	750 to open				Art. 6.6.1.	
24	Using wildlife with expired permit	75 to open	750 to open				Art. 6.6.1.	
25	Collection of rare animal trophies, raw materials and derivatives without special permission	5,400 to 27,000			12 to 60	12 to 60		Art. 24.5.1
26	Collection of very rare animal trophies, raw materials and derivatives without special permissional	10,000 to 40,000				24 to 96		Art. 24.5.2.

CITES Compliance

The Convention on International Trade in Endangered Species (CITES) is arguably one of the most important international agreements regulating wildlife trade.[344] It is the only treaty that focuses specifically and solely on one point of the value chain (foreign trade) covering a long list of species. Mongolia, along with 183 other countries, is a member of CITES having ratified the Convention in April 1996. With a total of 87 mammals, birds, and fish species that occur within its territory included either in Appendix I or II, it does not rank among those countries with a high number of listed species. It is, nonetheless, home to several high value species impacted by illicit international trade; e.g., Saker falcon, saiga antelope, and brown bear.

Pursuant to this treaty, countries are required to promulgate national implementation legislation. The Endangered Species Foreign Trade Law (ESFT Law) is intended to implement Mongolia's obligation in this regard. First adopted in 2002, the current version of the law is its second iteration in the 20 years since Mongolia became a member.[345] Despite improvement, Mongolia remains a Category II country,[346] meaning that pursuant to CITES own assessment, Mongolia's national legislation does not meet one to three of the four requirements for effective

implementation of CITES.[347]

Article VIII of the convention, "Measures to be Taken by the Parties," delineates the laws that member states must implement in order to be compliant. Certain legal provisions are mandatory under the convention and others are simply permissive. The following sections consider both sets.

PROHIBITING TRADE AND POSSESSION

The first mandatory provision in CITES is its requirement that member States prohibit commercial trade and/or possession in Appendix I species.[348] There are currently 931 species on this list, of which 14 are native to Mongolia. Mongolia complies with this in Article 7 of its Endangered Species Trade Law by stating: 'the sale for profit of species listed in Appendix I of the Convention or of its derivatives is prohibited.' In other words, Mongolia has opted to prohibit trade, excluding the 'and/or possession' language.

As already mentioned, the Law on Infringements and Criminal Code both penalize several parts of the trade chain with respect to wildlife. However, the only instance that CITES listed species are actually mentioned is in the Law on Infringements which penalizes crossing the border with CITES species that are not otherwise listed as Very Rare and Rare.[349] The assumption is that trade in Very Rare and Rare species in any form (which would include crossing the border) is already prohibited by the Law on Fauna and penalized under the Criminal Code in Article 24.5, which would make an additional reference unnecessary. Penalties for trade in CITES species not covered by the Criminal Code are thus covered under the Law on Infringements, but only in the instance of border crossing. Possession of the same or transport within the country would not be covered. The only two species that are CITES

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[344] In the global context, illegal and uncontrolled wildlife take and trade have been the impetus for the creation of national and international legislation for well over a century. The devastating effects of trade in birds for the fashion industry, for example, lead the US to sign the Lacey Act into law as early as 1900, the first in the U.S. to protect wildlife and go beyond national borders to penalize the illegal killing or trading of species in foreign countries. The Migratory Bird Treaty Act (MBTA) (1918) and the US-Mexico Migratory Bird and Game Mammal Treaty (1936) were born out of similar concerns. The International Whaling Convention was created in 1946 in response to the rampant, and by then long-term overexploitation of whales. Many other treaties, regional and global, have followed, including the Convention on Fishing and Conservation of the Living Resources of the High Seas (opened for signature in 1958); the International Commission for the Conservation of Atlantic Tunas (ICCAT) (established in 1969); the Convention for the Conservation of Antarctic Seals (1972); and the Council Regulation (EC) No. 338/97 of the European Union (1996).

[345] Mongolia became the 133rd signatory to CITES in April 1996.

[346] Status of Legislative Progress for Implementing CITES (updated on September 1, 2016 by CITES). Retrieved from www.cites.org on April 21, 2017.

[347] Parties whose domestic measures do not provide them with the authority to i) designate at least one Management Authority and one Scientific Authority; ii) prohibit trade in specimens in violation of the Convention; iii) penalize such trade; or iv) confiscate specimens illegally traded or possessed.

[348] CITES Art. VIII, 1(a). "1. The Parties shall take appropriate measures to enforce the provisions of the present Convention and to prohibit trade in specimens in violation thereof. These shall include measures: (a) to penalize trade in, or possession of, such specimens, or both;"

[349] Law on Infringements, Art. 6.3.

listed and that are not also listed as either Rare or Very Rare in Mongolia are the Baikal sturgeon (Acipenser baeri baicalensis) and the Amur sculpin (Mescottus haitej). Over the last decade, sturgeon has been Mongolia's most important CITES trade species by volume. It is also one of the few species delisted from Mongolia's list of Very Rare species in 2012. It now has no listing status under Mongolian law.

While this is technically full compliance, it nonetheless creates a gap in that 'possession' per se is not addressed; a gap that can make enforcement more difficult. As a practical matter, possession is much more likely to be observed and certainly much simpler to prove. To prove sale, both possession and an established intent to dispose of those items in trade is necessary. Obviously, there are methods for doing this; e.g., surveillance and undercover buys. However, these methods are both costly and time consuming for enforcement personnel that are already working with limited staff and resources. Possession, on the other hand, only requires that an individual be found with the contraband. The fact that most wildlife crime cases appear to be the result of routine traffic stops suggests that criminalizing possession could have immediate positive returns in Mongolia's fight against illicit trade.

That said, simply criminalizing possession without defining what constitutes possession would also be a mistake. Possession can be described in legal terms as "actual" or 'constructive.' Actual possession is when contraband is found directly in a person's hand, clothing, or body. Constructive possession occurs when the contraband is not necessarily on an individual's person, but is within his or her 'control.' For example, if two individuals are riding in a car containing the furs of a prohibited species (no matter where in the vehicle they are stored), both of them could be charged with possession because the furs are under the control of both. Actual possession is easier to prove than constructive possession, because there is less question that the suspect had contraband in his or her possession. Contraband that is constructively possessed, however, significantly increases law enforcement's ability to secure criminal charges, as there is a greater chance that contraband will be within someone's control rather than literally in someone's hands or on their person when law enforcement arrive. Putting the focus on possession, especially the separate elements of actual and constructive possession, obviates the need to find evidence of actual or intended trade, significantly broadening law enforcement's authority to act, and ultimately support the ability of prosecutors to secure a verdict.

REQUIRING CONFISCATION

Mongolia's compliance with the CITES requirement to confiscate prohibited species is less clear. Article VIII, no. 4 of CITES states that:

Where a living specimen is confiscated as a result of measures referred to in paragraph 1 of this Article:

(a) the specimen shall be entrusted to a Management Authority of the State of confiscation;

(b) the Management Authority shall, after consultation with the State of export, return the specimen to that State at the expense of that State, or to a rescue centre or such other place as the Management Authority deems appropriate and consistent with the purposes of the present Convention; and

(c) the Management Authority may obtain the advice of a Scientific Authority, or may, whenever it considers it desirable, consult the Secretariat in order to facilitate the decision under sub-paragraph (b) of this paragraph, including the choice of a rescue centre or other place.

The ESFT Law addresses this in Article 15.2 providing that wildlife and its derivatives that were "obtained by illegal means" will be seized. While this language appears at first glance to be consistent with CITES requirements, it is not exactly the same, adding an element that narrows its application and complicates both enforcement and prosecution. CITES requires confiscation only of 'prohibited species' when discovered. There is no requirement, at least for CITES purposes, or further proof of any kind. Mongolia's Article 15.2, however, limits this by applying only to species that were 'obtained by illegal means.' Just as possession is easier to prove than sale, mere possession is also easier to prove than whether a particular item was obtained using illegal means.

The ESFT Law also may cause issues for its lack of instructions on how to handle confiscated wildlife. Mongolian law provides that confiscated specimens are seized as 'state

property,'[350] but does not specify to whom they should be entrusted. The law also does not include information about what to do with specimens once they are seized. There are no specific actions required of the seizing authority, including shipping the specimen back to its origin state. Placement with a rescue center, or destruction as the case may be.

The problem is not that the lack of instruction in the law prevents action, but it leaves it an open question. The provision that provides for confiscation is important, but without designating that responsibility to a specific entity, it is difficult to ensure that the confiscation will occur and no way of managing how confiscated items will be disposed of. This leaves the potential for no actions to be taken with evidence potentially lost or destroyed, later creating problems for successful prosecution.

CARE AND HANDLING REQUIREMENTS

Care and handling is another requirement that Mongolia's legislation complies with at least in part, but where questions concerning its application remain. CITES requires a provision stating that live specimens must be subject to proper care during transit, holding, or shipment. It does not say how this is to be done or limit the requirement to either import or export. Mongolia's ESFT Law addresses the requirement by providing that its Management Authority be responsible for making sure that "appropriate procedures [are] followed" and "conditions established" for caring for plants and animals during transport when determining whether to issue a license or certificate.[351] Under Article 6(1)(2), the Scientific Council is responsible for determining if parties wishing to import Appendix I species are equipped to care for the animals. There is, however, no similar requirement for export. Further, Article 10(4) provides that no license is required for carrying animals or plants in transit. In other words, the fact that no license is required renders the requirement to establish conditions a moot point. The absence of any reference to exports in Article 9(1)(5) and the fact that no license is required under Article 10(4) both appear to contradict the more general wording and intent of CITES.

Maintaining Records

One requirement under CITES that the Mongolian law misses is keeping records of trade for species in all three CITES appendices. Appendix III, is not mentioned in the law, nor is record keeping. The ESFT Law does require that an annual report be submitted to the secretariat. However there are no explicit requirements about what that report should contain. There is also no requirement included for a biennial report even though a biennial report is mandatory under CITES.

CITES SUGGESTED PROVISIONS

The convention also includes suggested, non-mandatory provisions that aid in effective enforcement. These include:

a. a mechanism for reimbursement of expenses associated with seizures;

b. designated ports of entry;

c. the cooperation of the Management Authority with the Scientific Council concerning the placement of confiscated species; and

d. the designation of a rescue center.

Of these, only the ports of entry are mentioned. Article 11 provides that the Administrative Council will designate ports of entry. The law is silent concerning the other three measures.

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[350] Article 15.1.2., ESFT Law.
[351] ESFT Law, Article 9(1)(5).

Gap Analysis Summary

As a general rule, legal systems resist change. Without intending to debate the exact trajectory of legal and human development, there is little doubt that the pace of change in modern history, advances in communications, travel, business forms, and technology have sometimes outstripped the ability of the legal world to keep up. Mongolia's efforts to adapt its wildlife trade laws are similarly challenged as new forms of trade emerge (e.g. wolf tooth trade to China), new species are targeted (e.g., marmots and squirrels for fur), and new methods to avoid detection are used (e.g., the use of cell phones to coordinate deliveries along the border).

However, to the credit of the government, wildlife conservation and combatting illicit trade have remained on the agenda – resulting in a number of changes in the past decade to its legal framework regulating wildlife trade. Among the more notable improvements are:

- A revised Criminal Code and Law on Infringements that provide a far more comprehensive set of penalties in ranges that, although untested, appear stringent enough to act as a deterrent.

- The application of higher fines and prison sentences for all illegal take and trade involving Very Rare and Rare species:

  - Penalties include fines (ranging from USD 4,700-23,500 for Rare species and USD 8,700-34,700 for Very Rare species. Even at the lower end, fines are greater than the known market value of any of Mongolia's Very Rare or Rare listed species, effectively denying traders of the benefit.

  - Prison sentences range from 1-5 years for Rare species, and 2-8 years for Very Rare species classifying Mongolia's penalty system for take and trade in Very Rare and Rare species as a 'serious offense.'

- The explicit coverage of a greater range of illegal acts that form the value chain associated with wildlife trade, including penalties for the sale, purchase, preparation, use, collection, transportation, storage, import, and export.

- A similarly value chain oriented expansion of the penalty section for wildlife related advertising including the ordering, creation, and distribution.

In addition to these specific points, the new laws and amendments have also targeted several problems inherent in the drafting, including unclear language and the lack of connectors in complex sentences. The 2002 Criminal Code for example, only held an individual liable for smuggling 'in large amounts,' or for illegal hunting that caused 'damage,' neither of which were defined. There were also numerous instances of long, complicated sentences with few connectors creating an environment ripe for legal and factual challenges. The new Criminal Code has eliminated the problematic undefined terms. Both the Law on Infringements and Criminal Code are also more careful in their use of clearer sentence structures, where the conjunctive or disjunctive nature of lists are more apparent.

GAPS AND CONFLICTS

Despite improvements in the legal framework, and whether planned or unplanned, gaps and conflicts remain. Summarizing some of these in visual format is a IWT Legal Framework Monitor (Figure 13). This graphic provides a rapid, but not exhaustive, overview of the major areas of wildlife trade regulated by each of the laws included in the framework.

The X-axis (the rows, listing laws) shows where an individual law has provisions related to one or more areas of wildlife trade; the total number of areas regulated by the particular law is a general indicator of its importance in managing trade as well the major areas of concern. The Y-axis (the columns, listing wildlife trade concepts) indicates which laws have content for the wildlife trade concept listed, indicating possible overlap and/or conflict between laws. In the columns, a total of 21 management and enforcement issues have been selected and organized following value chain logic, from left to right in six major categories:

1. The first category includes generic issues related to ownership of wildlife, its conservation efforts, and research. It also includes the important aspect of categorization of species into status or levels of protection, as this has an impact on what may be legally hunted as well as the level of administrative and criminal penalties that apply.

2. The second category includes In-Situ and Ex-Situ identifying provisions that place protections and apply penalties for activities in specifically defined areas that are either designated for because of their value to wildlife (e.g., protected areas, hunting zones, etc.) or in areas where they have been placed for conservation purposes (e.g., a zoo, or wildlife reserve).

3. The third category includes concepts related to take and trade including domestication, breeding, re-introduction and harvest (including hunting, trapping and fishing). This is a highly summarized set of issues designed to provide a high-level overview. Details, where necessary, are discussed in following sections.

4. The fourth is a summary view of specific elements related to the value chain including wildlife possession, transportation, processing, and storage.

5. The fifth category lists trade-related components including medicinal trade, advertisement of wildlife products, e-commerce, and domestic and international wildlife trade.

6. Lastly, specific elements related to enforcement are listed, including generic provisions related to enforcement powers and authorities and provisions defining administrative and criminal offenses and penalties.

This particular graphic is not intended to provide a comprehensive view of wildlife trade related regulatory elements. As presented, this graphic is intended only as a quick overview and indicator of major patterns that are nonetheless instructive. To this end, a colored box indicates that a particular law contains at least some content relevant to the concept. Where there is no colored box, there is no content in the law indicated for that concept. Just as the presence of a box does not provide an assessment of the quality of the content, the absence of a colored box is not intended to indicate a particular failure for any law by itself. That said, complete absences (where no law addresses a particular concept) may indicate pervasive gaps in the legal framework as a whole. Likewise, whether a given issue is regulated in more than one law is not immediate proof of a gap or a conflict of any kind. It merely indicates the presence or absence of parallel regulatory elements that may in fact work together to create a consistent and cohesive system.[352]

Major patterns observable in this graphic include:

○ Based solely on the number of elements regulated, the most relevant laws for the topic are the Law on Fauna, Law on Infringements, and Criminal Code.

○ The Law on Fauna is the foundation for many of the penalties identified in the Law on Infringements and Criminal Code. It establishes which species are Very Rare and, through a separate Resolution, which are Rare. It also contains the lists of prohibited seasons, methods, areas, and more.

○ The Criminal Code is certainly an important piece of legislation as it touches on almost all of the identified elements. However, this should not be confused with an assessment of its completeness or adequacy. The number of elements it rules on may be misleading, as it is restricted only to defining criminal penalties. As the only law that establishes such penalties, it is more notable that it does not cover all of them. There are, for example, no criminal penalties associated with:

  • illegal possession

  • medicinal trade

  • illegal domestication

While related activities, such as transportation and storage of prohibited species, are covered, outright possession of prohibited species is not criminalized.

○ Harvest of wildlife is still a major area of focus with at least 11 different laws having some relevance. Some of the laws are merely implementing the requirements of others or establishing the necessary permissions and prohibitions. All of this is likely an appropriate focus given Mongolia's main status as a source country, even though it is now also a recognized consumer and transit country.

○ Medicinal trade in species is still not regulated in a specific way. The Criminal Code references several acts that may be related to such trade, but does not

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[352] The static view replicated in this report can also be found online in a dynamic panel in the Legal Atlas platform, providing access to the provisions associated with each area and law, and facilitating independent and ongoing reviews.

criminalize medicinal trade per se. The Medicine and Medical Devices Law also excludes traditional medicine from any regulatory requirements.

- Possession of protected wildlife is still not adequately covered. Chapter III in the Law on Fauna has several articles that describe requirements for possession, none of which explicitly address 'possession' as an actionable offense. The Criminal Code addresses several related concepts, including transportation, storage, processing, use, and collection, but does not include the more general reference to illicit possession.

- Transportation, storage, and processing are criminalized, but not otherwise regulated. In other words, what might constitute legal forms for these should perhaps also be considered.

Other gaps noted in the preceding analysis include and that are not visible directly in the Gap/Conflict Monitor include:

- The lack of liability for legal entities trading in Very Rare and Rare species. Curiously, legal entities are liable for illicit trade for species more generally. The fine in this instance, however, is just over 5% of the maximum fine applicable to Rare species trade, and 3.8% of the maximum for Very Rare species trade. The way the law is structured, it is not clear whether these lower fines would be applied, or whether legal entities would escape liability entirely.

- The application of enhanced penalties for organized crime groups that engage in wildlife trade is not direct. The only related crimes that explicitly reference organized crime are 'smuggling of prohibited or restricted goods' and money laundering. For smuggling, the increased penalties are not triggered if the item smuggled does not fall within the category of 'prohibited' or 'restricted.' For money laundering, there is no further restriction, but the lack of a direct relationship may lessen the chances of its use going forward.

- Not all parts of the trade chain are covered. One of the most important acts associated with illicit trade, possession, is not mentioned in the Criminal Code. Related concepts, such as 'transportation,' 'storage,' and 'collection' are included but

are arguably more limited in scope than the terms 'possession' and 'trade'. 'Possession' is a more general concept and considered a fundamental tool in enforcement, as it is the most likely act to be discovered and does not require proof of a specific use or intent. It thus presents a significant opportunity for successful prosecution of crime.

- Medicinal trade is only covered to the extent concepts like 'preparation,' 'collection,' and 'use' are associated with it. Otherwise, the Law on Medicines creates a potential loophole by expressly excluding traditional medicines from its regulatory framework. This gap may be minimized by the blanket prohibitions on trade for Mongolia's Very Rare and Rare species, but certainly does not cover other species.

- The application of penalties for the export of species not listed as Very Rare, Rare, or by CITES is unclear. The Law on Infringements does not expressly penalize the export of species without the appropriate permit. Instead, it limits its application to the smuggling of 'prohibited' or 'restricted' goods.[353] Wildlife constitute 'goods,'[354] but it is not clear whether all species are subject to permitting requirements.

NOTE ON LEGISLATIVE DEVELOPMENT

Typical of any legal system, amendments to one law can trigger the need to amend related legislation. In the ten years since the first report, many of the main laws related to wildlife trade and management have been amended and in some instances substantially. These amendments typically lead to delays in enforcement and implementation because there is an inevitable waiting period for related legislation to subsequently be amended. This can leave offices and ministries stymied in their daily tasks. This was the case during the survey for some officers at the Ministry of Justice, who were forced to delay the implementation of their legal mandate to monitor legislation pursuant to the adoption of a new Law on the Effectiveness of Laws and Enforcement Efforts, requiring many other legal adjustments.[355]

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[353] Criminal Code, Art. 18.5.1.
[354] Law on Customs, Tariffs and Taxes, Art. 3.1.1.
[355] Key Stakeholders Interview (M. of Justice).

Figure 13. IWT Legal Framework Monitor

2017 MONGOLIA
IWT LEGAL FRAMEWORK MONITOR
Presence/Absence of Major Regulatory Elements in Laws

Law	OWNERSHIP	RESEARCH & CONSERVATION	STATUS	IN SITU	EX-SITU	DOMESTICATION	BREEDING	RE-INTRODUCTION	HARVEST/TAKE	POSSESSION	TRANSPORTATION	PROCESSING	STORAGE	MEDICINAL TRADE	ADVERTISEMENT	E-COMMERCE	DOMESTIC TRADE	INTERNATIONAL TRADE	ENFORCEMENT	ADMINISTRATIVE PENALTIES	CRIMINAL PENALTIES
Advertisement Law															■	■				·	
Anti-Corruption Law																			■	·	
Anti-Money Laundering Law																			■	·	
List of Rare Species			■																		
Constitution	■																				
Criminal Code		■	■	■		■			■		■	■	■		■	■	■	■			■
Criminal Procedure Code																			■	·	
Customs Law																		■	■	·	
Environmental Measures Decree																	■				
Environmental Protection Law		■	■						■										■	·	
Law on Fauna		■	■	■		■	■	■	■	■							■	■		·	
Forest Law		■		■					■												
Hunting Bans			■						■												
Hunting Quotas									■												
Infringements Law											■	■	■		■	■	■	■		■	
Law on Hunting Resource Use Payments									■										■	·	
Law on Reinvestment of N. R. Use Fees		■																		·	
Law on Foreign Trade of Rare Species		■	■															■	■		
Medicines and Medical Devices Law														■							
Special Protected Areas P. Decree		■		■					■												
Special Protected Areas Law		■		■					■										■		
Tax Law									■												

Prosecuting Wildlife Crimes

A Divided System

Wildlife criminal cases begin in the field with the involvement of the enforcement personnel described in the previous section. Commonly this involves an inspection or stop by rangers, customs officials, or border patrol agents, with wildlife-related incidents suspected of constituting a crime referred to the Eco-Crimes Police Unit. The police then initiate an investigation of the incident and collect evidence according to established criminal procedures. If evidence is considered sufficient, the police then make an inquiry to the Prosecutors Office, which has additional opportunities to request further investigations and finally determines if the case has adequate grounds to be brought to trial. At this point, prosecutors represent the state and present the case at trial in one of the ordinary courts, which act as the courts of first instance for wildlife related criminal cases.

Figure 14. Illegal Wildlife Trade Prosecution Process

Prosecution is thus a multi-stepped process involving several entities before a court is in a position to issue a sentence for a wildlife crime (Figure 14). Prosecutors decide whether to prosecute or drop the case based on the quality of the evidence that other agencies have put in their hands. This passing of the inspection, investigation, and prosecuting authority from one agency places a premium on the quality of each stage of the enforcement process with direct implications for the successful use of its criminal laws both to penalize wildlife crime and impose sentences capable of deterring future crimes. Those first on the scene of a suspected crime are in the best position to protect and document the scene; to preserve physical evidence, as well as collect and submit evidence for scientific examination.

The divided format is not unique to Mongolia, but it is also not common to all enforcement and prosecution schemes. Understanding that actions taken at the outset of an inspection or investigation can have a direct impact on the scope and resolution of a case, some jurisdictions (e.g., the U.S., Germany, France)[356] authorize and train frontline enforcement personnel to conduct multi-stage investigations. Mongolia has taken a step in this direction by explicitly permitting Customs Officials to engage in controlled deliveries;[357] a technique that deliberately allows a suspected illegal shipment to pass through customs so that it can be tracked to its final delivery point, increasing the chances that evidence will be gathered tying other, more important members of the illegal trade chain to the crime.

THE PROSECUTORS OFFICE

Tasked with the implementation of criminal legislation, the Prosecutors Office is an independent authority with 85 years of history whose mandate comes directly from the Constitution (Art. 56) and the Law on Prosecutors Office (as per the latest version in 2002). The office is part of the judiciary and thus completely independent from the Executive branch, with the exception of the President's appointment of the General Prosecutor and its two Deputy General Prosecutors (every six years). This means that the Prosecutor's Office is also not subordinate to the Ministry of Justice, which is part of the Executive branch and does not maintain its own prosecutorial unit.

The full separation of the Prosecutors Office from the Executive may have an impact on the already mentioned silo-effect (see Enforcement Authorities section) when it comes to combating IWT. As an example, enforcement staff recalled a situation in 2015, when a criminal investigation was underway in the Prosecutors Office involving the illegal capture of 31 falcons. The case was finally resolved with a fine of MNT 992 million. At the same time, however, the Ministry of Environment re-issued another special hunting permit to the same offenders that were the subject

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[356] In the US, for example, both the National Park Service and Forest Service have specially trained officers authorized to conduct investigations.

[357] Customs, Tariffs, and Tax Law, Art. 252.

of the prosecution.[358] With the administrative segregation of the Prosecutors Office and the Ministry of Environment, this kind of overlap has greater chances of occurring.

Five different units within the Prosecutors Office are directly engaged in prosecuting criminal offenses, with the support of other technical, administrative, and council units. These units are: the Investigations Unit (operating independently within the Office), the State Representation in Court Division, and another three divisions with supervisory roles over inquiries and investigations conducted by police and intelligence agencies, as well as the execution of punishments.

Geographically, the Prosecutors Office is divided into 39 different jurisdictions: 1 Capital Prosecutors Office (CPO), 21 Aimag Prosecutors Offices (APOs), 1 Transport Prosecutors Office (TSO), 8 Districts Prosecutors Office in UB (DPOs) and 8 Inter-Soum Prosecutors Offices (ISPOs), mostly located close to cross border points. Criminal offenses are sent to the closest prosecutors office, with no specific offices being assigned or specialized based on crime types.

As per the institutional report on the occasion of its 80th anniversary in 2011[359] (the only report this survey had access to), the Prosecutors Office is staffed with 381 uniformed prosecutors and 73 prosecutor's assistants, supported by almost 300 technical and administrative personnel.

Image 13. Prosecutors Training Event on June 10, 2016

Although the legal profession is still far from a consensus on defining the ideal caseload for a prosecutor, Figure 15 suggests that the current Prosecutor's team is sufficiently staffed to undertake its role. Statistics on the total number of criminal cases investigated in Mongolia show amounts staying under 20,000 cases a year for the majority of the past decade, with the number surpassing 25,000 cases a year in the last three years. Based on this, it is possible to estimate an average load of 50 cases per prosecutor per year.[360] Every case is different and has different impacts on time and resources, but it can be said that caseload rates in other countries far exceed this number.[361] It is also true that prosecutors have all the tools necessary to manage caseload either by delaying or even dropping cases that have little chance of success. The numbers therefore at least suggest, and those interviewed confirmed, that caseload is not a primary compromising factor in their ability to efficiently do their job.

Figure 15 also shows that the annual number of environmental crime cases investigated by the Prosecutors Office is low, with a minimum of 54 cases registered in 2006 and a peak of 410 in 2012. These levels are relevant since they speak to the insignificance of wildlife prosecution overall. If less than 1% of the criminal cases that the Prosecutors Office handles are related to wildlife, it should be assumed that a similar proportion of resources (in terms of staff and hours assigned, investigative budget dedicated, specialized training, etc.) is being dedicated to their prosecution

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[358] GASI Inspector presentation at the Prosecutors Training organized by UB Prosecutor Office on June 10, 2016.

[359] The State. General Prosecutor's Office of Mongolia, 2011. http://www.track.unodc.org/LegalLibrary/ LegalResources/Mongolia/Authorities/Mongolia%20-%20 The%20State%20General%20Prosecutor's%20Office.pdf.

[360] Estimation is based comparing 2011 Number of Prosecutors (381) and 2011 Criminal Cases Investigated (19,197) from their respective cited sources. This results in 50,8 criminal cases investigated by prosecutor a year.

[361] Gershowitz, A. and L.. Killinger. 2011. The State (Never) Rests: How Excessive Prosecutorial Caseloads Harm Criminal Defendants. Northwestern University Law Review. Vol. 105, No. 1.

Figure 15. Crimes Investigated: Total and Environmental Crimes (2006-2015)

2006-2015
MONGOLIA

CRIME PROSECUTION
CRIMINAL CASES INVESTIGATED

CASES INVESTIGATED

Environmental Crime Cases

410
318
337
277
287
270
231
228
88
54

1%

SOURCE: Mongolia Information Statistics Service (www.1212.mn)

SECURING AND PRESERVING EVIDENCE

Physical evidence of a crime is often a part of a criminal case. For wildlife crime, it is hard to imagine a circumstance where physical evidence is not just important, but a critical part of the case. Illegal wildlife take and trade cases require presenting tangible proof of the illegal behavior in the form of wildlife specimens (e.g., live animals, parts, derivatives), guns, vehicles, documents, and more. When such evidence has not been secured and properly preserved along a secure chain of custody, defendants can easily challenge their validity and authenticity in court. Lacking irrefutable evidence, a prosecutors' ability to secure convictions is compromised.

In Mongolia, the Criminal Procedure Code dictates the practices and techniques used in criminal investigations related to evidence. Chapter 11 (Evidence) and Chapter 12 (Activities of Proof) of the code dedicate a total of 25 articles to the collection, documentation, storage, and disposal of all types of evidence. With respect to physical evidence, unfortunately, the Criminal Procedure Code offers only a generic approach for documenting, photographing, sealing, and storing in a special place all physical evidence that for reason of its size can not be kept within the case files. The

Code falls short of providing specifications on the methods that should be used by law enforcement personnel to conduct those activities. As a result, wildlife cases may be impacted by the preservation and presentation of evidence for which no remedy will be available at later stages of the prosecution. One of the judges of UB Songino Khairkhan District recalled one of his cases where two hunters were charged with the crime of hunting 203 marmots in the off-season. The court found that the lack of evidence concerning the specimens confiscated, the fact that they were no longer available, and that no weapons were identified as being used in the crime meant there was insufficient evidence of a crime. Sentencing was therefore issued in favor of the accused.[362]
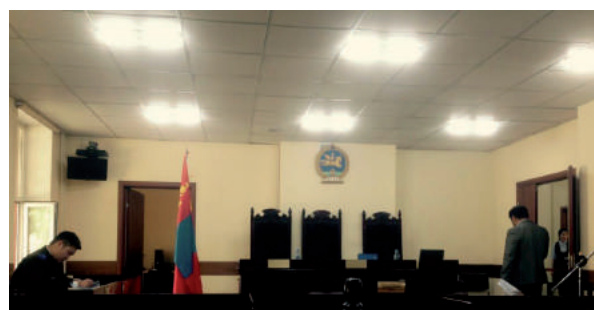
A Prosecutor preparing presentation in a criminal trial about to start in a District Court in Ulaanbataar

The proper storage of evidence is also cited by multiple agencies as a major difficulty in the prosecution of crime in Mongolia. Because of its potential for decomposition, wildlife evidence often needs secure and climate stable storage. It is common for countries to have cold and dry storage facilities with 24-hour surveillance and strict protocols for registration of all physical evidence or staff entering and leaving the facilities. In Mongolia, the Criminal Procedure Code does not describe the chain of custody and does not provide any specific rule for ensuring the preservation of evidence. According to those surveyed, Mongolia does not have storage facilities that would meet the standards necessary to preserve evidence for wildlife crimes and would need resources to build proper facilities.

Lacking clear legal guidance on physical evidence storage, informants from GASI and the Prosecutors Office provided unverified examples on how officers may deal with the loophole on

[362] Presentation of Judge Dashdondov at the Prosecutors Training organized by UB Prosecutor Office on June 10, 2016.

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a case-by-case basis.[363] For injured wildlife that has been seized, officers mentioned that animals have been released back to nature, as no wildlife care facilities are available in the country. When marmot corpses have been seized, animals were remitted to the Contagious Disease Center for disposal due to public health issues. In other cases, wildlife has been sent to research centers or to a sales commission for public auction. When meat is confiscated during the spring or summer, there is the increased potential that it will be stored in the offices of some administration and then destroyed after some hours by officers due to decomposition. The survey also collected personal anecdotes of fish being given back to illegal fishermen after fining them. In the best-case scenarios, when evidence is not perishable (as in the case of wildlife skins or horns) and can be easily saved, the lack of dedicated evidence storage facilities still leaves investigators and prosecutors uncertain as to how to deal with confiscated items. It also opens the door to potential tampering, contamination of samples, as well as the outright loss of evidence.

FORENSIC EVIDENCE

Internationally, forensic science is an increasingly important part of the fight against wildlife crime, critical to determining the source of wildlife parts and thus the jurisdiction and associated legal requirements. While some forensic scientists only perform laboratory tests, others travel to the scene of the crime to ensure that the collection and preservation of evidence meets the standards necessary for testing and, more importantly, its subsequent use as evidence in court.

In Mongolia, limited resources mean forensic scientists do not travel to the scene of the crime. Instead, the police send evidence to the Institute of Biology in UB whenever lab analyses are required to certify facts such as the species of the specimen seized, or the date of death. With no chain of custody rules for evidence, no special containers for handling evidence, and no adequate storage facilities, forensic tests results are also subject to challenge in court based on possible evidence contamination.[364]

Further hindering the application of forensics, the cost of such tests must be covered by the requesting agency. In the absence of budget, they cannot

always be conducted, as attested to by enforcement staff in this survey (see Police section).

In sum, a lack of resources means failure to process, as well as the contamination and even loss of evidence may create major problems and impediments to successful prosecution of wildlife criminals in Mongolia.

THE COURT SYSTEM

Mongolia's judiciary is organized into three levels including the Supreme Court, the Courts of Appeal (at aimag and city level[365]) and the Courts of First Instance, also called primary or ordinary courts (at soum, inter-soum and district levels). The Supreme Court is the highest level and deals with any matters of first instance that do not specifically fall within the jurisdiction of the other courts and also with appeals from decisions of the aimag and capital courts.[366] All three levels specialize by crime types in Criminal, Civil, and Administrative tribunals or chambers. Figure 16 offers a summary of the almost 120 tribunals adjudicating justice in Mongolia across the different court jurisdictions and types.[367]

Figure 16. Organization of Mongolia's Court System

2016
MONGOLIA

COURT SYSTEM

COURT TYPE	COURT JURISDICTION	CRIMINAL TRIBUNALS or CHAMBERS	CIVIL TRIBUNALS or CHAMBERS	ADMINISTRATIVE TRIBUNALS or CHAMBERS	TOTAL
SUPREME COURT	National	1	1	1	3
		1	1	1	
COURTS OF APPEAL	Aimag	8	8	8	27
	City	1	1	1	
		9	9	9	
COURTS OF FIRST INSTANCE	Soum	21	21	21	96
	Inter-Soum	8	8	8	
	UB District	4	4	1	
		33	33	30	

Several performance indicators of the judiciary are worth discussing before coming back to

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[363] Key Stakeholder Interview (UB Prosecutors Office); Key Informant Interview # 4.12 (GASI Inspector) and GASI Inspector presentation at the Prosecutors Training organized by UB Prosecutor Office on June 10, 2016.

[364] Key Stakeholder Interview (UB Prosecutors Office).

[365] Only Courts in UB with jurisdiction over the entire capital city are called 'City Courts.' District courts are also located in UB, but their jurisdiction is limited to a specific district.

[366] The most updated legal framework of the judicial branch came into force on April 15, 2013 and includes the Law on Courts, the Law on Judicial Administration, the Law on Legal Status on Lawyers, the Law on Legal Status Citizens Representatives to the Court, and the Law on Mediation and Conciliation. From the Supreme Court website (www.supremecourt.mn).

[367] Figure based on information obtained from the website of Mongolia's Supreme Court at www.supremecourt.mn.

the specificities of wildlife crime prosecution. The first (Figure 17) shows the conviction rate of Mongolia's criminal tribunals, which for the decade of 2005-2014 averaged 43%. This is the portion of the total criminal offenders with open cases for investigation in the Prosecutors Office (19,927 for the decade or an average close to 2,000 a year) that were finally convicted by a court and a sentence applied (8,248 individuals or close to 800 a year). For the remaining 57% of the criminal investigations, the evidence secured was insufficient to either bring it to court or, once there, to properly demonstrate the culpability of the defendants. Missing from this data is the number of cases actually brought to trial, which would allow comparison with other jurisdictions, as the common measure references cases brought against convictions.

Figure 17. Criminal Convictions compared to Investigations in Mongolia

Another performance indicator in Mongolia's criminal justice system is the effective implementation or enforcement of judicial decisions or court sentences. As shown in Figure 18, from 2004-2014 the annual rate of non-compliance with judicial sentencing for all sentences (including all civil, criminal and administrative related sentences) was close to 30%. The highest level of compliance occurred in 2013 and 2014 with 77% of the sentences

executed; and the lowest in 2010, with only 52% of the court decisions enforced.[368] The enforcement of court judgments is therefore another critical factor when reviewing conviction information related to wildlife cases. A conviction is not the same as compliance with sentencing, and the gap that exists could be improved.

Figure 18. Implementation of Judicial Decisions
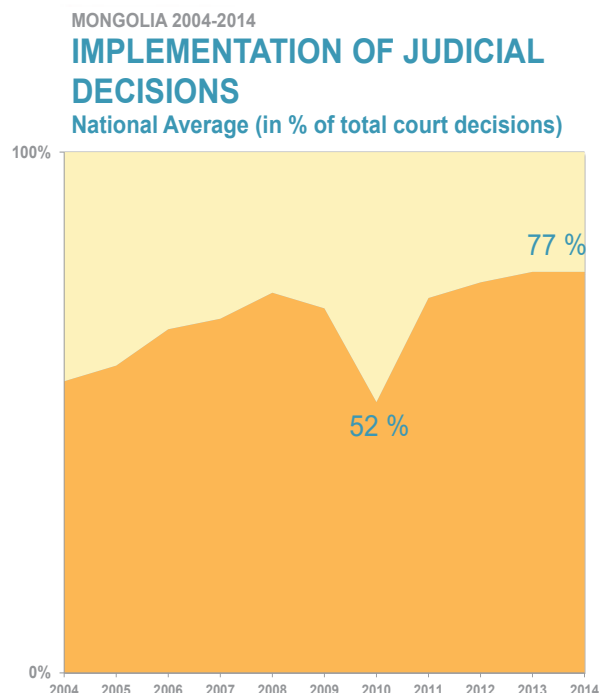
Connected to the preceding indicator (compliance with court decisions) is the proportion of the assessment of economic damage that is finally restituted (to both public and private entities). For the period 2005-2016, the ratio of assessed damage to restitution was on average 3:1, or just 36% of the assessed damages were in fact paid (see Figure 19). In the first part of the decade, total annual damages were appraised at around MNT 40 billion (USD 17.4 million). Starting in 2013, this annual figure more than tripled, surpassing MNT 150 billion (USD 65.2 million), and has not dropped in the years since. In aggregate numbers for the decade, the amount of assessed damages effectively restituted came only to USD 348 million out of the initial assessment of USD 953 million made during investigations. In essence, the difference of around USD 600 million of unpaid damages is the real opportunity cost of not having in place more effective evidentiary protocols, equipment, and infrastructure. Viewed in this light, leveraging

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[368] Mongolia Statistical Information Office (www.1212.mn).

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financial resources to enhance enforcement and prosecution capacity to better secure, store, and handle evidence should be a priority, and an investment that could be supported internally through increases in damage restitution that would follow.

Figure 19. Restitution of Damages in Criminal Prosecutions
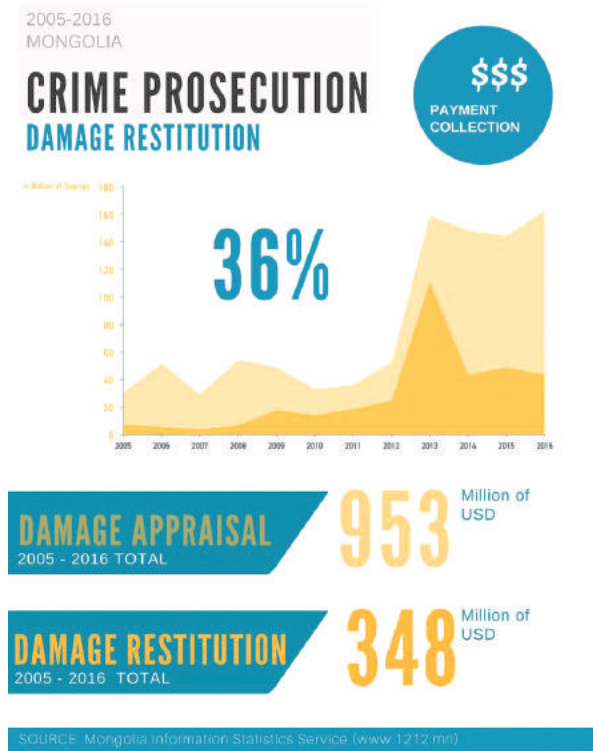
Wildlife Crime Cases

Over the last decade, environmental criminal cases represented an insignificant portion of total criminal cases; around 2,500 out of 250,000 cases or 1% as per Figure 15. The volume of wildlife crime cases is even smaller at just 15% of that 1%, or 1.5 cases per 1,000. Although this survey did not have access to national statistics on wildlife crime prosecution, estimates offered by the Police Eco-Crimes Division indicate that only 15% of their cases are related to wildlife (with mining cases dominating most of their attention and resources). Information on wildlife crime cases from 17 of the 21 aimags provided by the Prosecutors Office and detailed in Figure 20 supports the same estimate. It shows that for the decade 2007-2016 the total wildlife cases investigated were as low as 263 (220 for illegal hunting, plus 43 for wildlife smuggling), which would represent 11% of the environmental cases for the same period. The survey did not have

access to data from the UB Prosecutors Office for the 3-year period from 2013-2015. Staff from that office, nonetheless, were able to confirm that wildlife crimes represented an insignificant part of their caseload compared to the total prosecuting effort, with only 17 wildlife cases out of 8,000 total criminal cases.[369]

Figure 20 also shows that around 65% of the cases made it to court, while the Prosecutors Office dropped the remaining 35%. As explained in the previous section, this occurs when evidence is not considered sufficient to sustain the case in front of a judge. For the 17 out of 21 aimags for which information was available, 142 cases involving illegal wildlife take and 27 involving illegal wildlife trade (more precisely 'smuggling) made it to court.[370]

The difference in the overall number of cases for each type of crime (more hunting related than smuggling related), highlights the fact that enforcement is concentrated precisely in those areas where evidence collection is more challenging – the illegal hunting activity. The fact that both types of enforcement activities have roughly the same percentage of cases that make it to court suggest that both circumstances nonetheless suffer from the inability to secure adequate evidence. Unfortunately, no information on wildlife cases court sentences was available to the survey.

Figure 20. Wildlife Crime Prosecution under Criminal Code Article 203 and Article 175


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[369] Key Stakeholder Interview (UB Prosecutors Office).
[370] Information provided by the Prosecutors Office.

A case study conducted in 5 of the 8 District Prosecutors Offices provides additional insights into what the prosecution of wildlife crime looks like in Ulaanbaatar (see Figure 21).371 The first striking element is the fact that only 17 cases have been prosecuted in a period of 3 years in the city that otherwise concentrates a major part of illegal domestic wildlife trade. The low conversion ratio from investigation to court is another element: only 3 cases or 18% of the total made it to court, a percentage clearly under the national standards shown in the previous section. The profile of the offenders (28 in total for the 17 cases investigated) is predominantly male (26 out of 28) and with Mongolian citizenship (25 out of 28).

Figure 21 also shows detailed information on seizures, and, not surprisingly, wildlife, their parts, and derivatives were not among the items confiscated in any of the 17 cases. The UB cases list also the six aimags where animals were sourced, confirming that wildlife can travel many miles (as many as 1,000 Km from Gobi Altai) to supply the illegal domestic markets in UB. It is also worth noting that almost half of the cases were prosecuted as transportation incidents and only 25% as trade cases. This suggests that, at least in the capital, the already small number of cases prosecuted mostly rely on routine and generic vehicle checkpoints (checking driving permits, vehicle licenses, testing for alcohol, etc.) instead of dedicated anti-wildlife crime enforcement operations in wholesale and retail sale points. Informants in UB referred to the open and common sale of marmot meat at street vendors in accessible places such as the front of the main Department Store. The case study suggests that routine inspections of wildlife trade points at UB need to be more frequent and thorough.

Figure 21. Wildlife Crime Prosecution Case Study of 17 Cases from 2014 to 2016
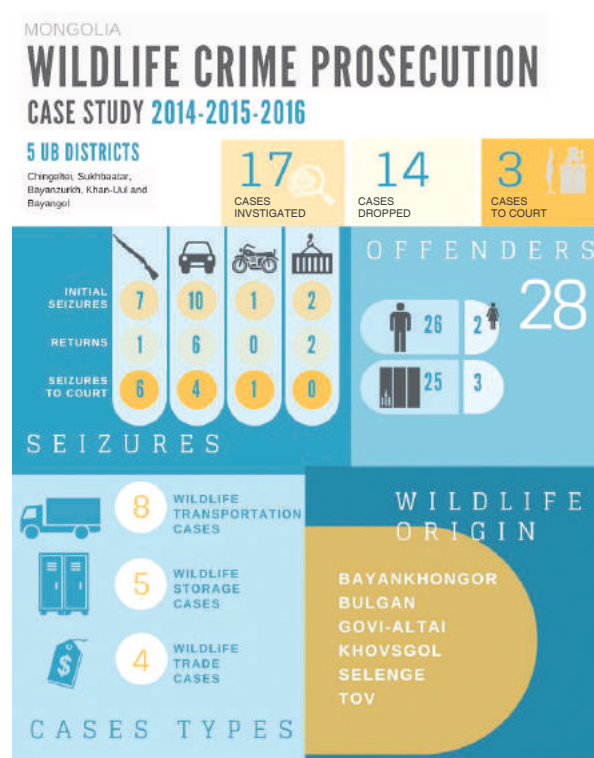
The patterns observed in the statistics provided by the UB Prosecutors Offices are similar to the ones found in Khovd. Staff from the Prosecutors Office of that aimag revealed that of the 14 wildlife cases investigated over the period 2014-2016 (mainly related to illegal hunting of ibex), they were only able to bring four of them to court, mainly due to legal loopholes like the ones presented. [372]

LIMITED APPLICATION OF CRIMINAL CODE

Over the last decade, the prosecution of wildlife crime has been based only on two articles in the Criminal Code that specifically mention wildlife[373] (see Figure 22). Article 175 of the Code criminalized smuggling of wildlife, while article 203 criminalized illegal hunting. As the figure shows, smuggling had slightly superior penalties than illegal hunting, both in terms of economic fines, and for incarceration. Smuggling had the further penalty of forced labor penalties and additional punishments when organized networks of criminals were involved.

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[371] Study Presented at the Prosecutors Training organized by UB Prosecutor Office on June 10, 2016.

[372] Key Stakeholder Interview (Khovd Prosecutors Office).

[373] Criminal Code 2002, previous to the latest 2015 amendments.

Figure 22. Criminal Code Articles Used in Prosecution of Wildlife Crimes

Since the Criminal Code did not explicitly penalize the possession or domestic trade of wildlife illegally hunted, traffickers and even illegal hunters in the past have escaped charges by claiming they did not hunt the animal. Several officials cited this loophole as a common obstacle to a successful prosecution. Without evidence to prove a suspect was in fact the hunter, the judge or prosecutor could decide to drop the case. The same was true if the species was endangered but did not occur exclusively in Mongolia, again because Article 203 only criminalized illegal hunting inside the country. In instances where a species did not occur in the country, illegal traders could rest on its foreign sourcing to escape prosecution. This happened in recent years with a case of Saiga horns from Kazakhstan and a lion pelt from an unknown location; both cases were dropped due to the aforementioned loopholes, despite the applicability of Mongolia's Endangered Species Trade law as previously discussed.

The prosecution of wildlife crimes in Mongolia in the past decade has been done without fully exploring the opportunities potentially offered by the Criminal Code. Many other articles could have been leveraged to fight illegal hunting and trade of wildlife including:

- Art. 155, punishing the sale, acquisition, and storage of illegal products;

- Art. 161, criminalizing the transportation of illegal products;

- Art. 304, criminalizing the mass destruction of animals;

- Art. 163, criminalizing money laundering of proceeds from illegal operations.

None of these articles were used against wildlife offenders. In the UB case study presented above (Figure 21), all 17 mentioned cases were prosecuted under Art. 203 (illegal hunting) in spite of the fact that the offenses involved had several elements (transportation, storage and sale of illegally hunted animals) overlapping with the provisions just mentioned.

FINES VS IMPRISONMENT

Another common fact in recent years is that sentencing has been dominated by fines rather than by detention or imprisonment. Figure 22 shows how detention, forced labor, and incarceration are penalties included in both articles 175 and 203. In reality, prosecutors confirmed that in very few sentences did wildlife offenders receive jail time.[374] It is clear by statements also from managers and enforcers that criminals only face economic penalties, and that even in the case of imprisonment, the Amnesty law is used to pardon illegal hunters or traders from serving time in jail.

The Prosecutors Office illustrated the point with multiple examples of cases of illegal hunting that should have been considered serious offenses, but which ended only with fines. Hunting moose, a species classified as Very Rare and therefore strictly protected, in Khentii aimag in October 2015 ended with a fine of around USD 3,500[375] (plus USD 4,350[376] for the Ecological Value) and no prison time.[377] The same has been true for hunting animals in large numbers, such as marmots, which are commonly confiscated in the order of hundreds; or fishing for catch and release-only species like Taimen. In all cases, sentences include fines and no prison time.

Even fines are subject to dismissal. In reviewing Supreme Court sentences related to wildlife cases, this survey found the pardon of fines previously imposed by the Court of Appeals supposedly as a form of celebrating the 25th anniversary of the

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[374] Key Stakeholder Interview (UB and Khovd Prosecutors Office)

[375] MNT 8 million, converted at the rate of 1 USD = 2,300 MNT

[376] MNT 10 million, converted at the rate of 1 USD = 2,300 MNT

[377] Key Stakeholder Interview (Prosecutor Office)

Mongolian democracy.[378]

A VIEW INSIDE THE COURT ROOM

During the survey, one member of the research team had the opportunity to attend a district criminal court case and observe the proceedings. The case did not involve a wildlife crime, but was nonetheless instructive on the general practices, providing some ability to consider how they would relate to or be applied in a wildlife crime case.

Already a clear issue identified in the preceding section, the types of evidence and evidence handling presented the most obvious pitfalls in the prosecution of the case; ones that would be equally troublesome in a wildlife trafficking case. The case in question was an assault case where neither the victim (i.e., the plaintiff) nor the police or other witness was present. Instead, the three judges who heard the case let it proceed with the Prosecutor presenting evidence, both physical and written testimony. In article 94 of Mongolia's Criminal Procedure Code, there is no distinction made between a court's inquiry and an initial investigation by law enforcement. In basic terms, if evidence is collected "lawfully" and properly by the Police, it can be admitted into evidence. However, none of the evidence was corroborated or verified by the officer who collected it or by any witness.

Despite this being proper procedure under the law, and other prosecutors verifying that this is how a court case would proceed normally at the District level, the judges had clear problems with the evidence collection. They questioned the origin and validity of the evidence multiple times in the case. The lack of enforcement personnel also seemed to play a clear role in the sentencing. Ultimately, the defense in this case successfully argued that much of the physical evidence should not be considered, as there was no proper foundational testimony provided. The court, in fact, agreed that one piece of evidence should not be considered; a decision that appeared to impact the final outcome.[379]

While the majority of the evidentiary problems that came up in this case seemed to favor the prosecution, they could, in other cases, just as easily not favor them. In fact, the low number of wildlife cases brought to court and the low conviction rates suggest that the latter is more common. In the observed case, problems with the evidence, ones that might have been avoided with tighter handling of evidence and the production of necessary witnesses, resulted in a lighter sentence.

Beyond the presentation of evidence, another major issue observed was the format of the testimony presented by the defendant, in particular the lack of any real structure in the questioning and opportunity for cross-examination. The defendant's free-form testimony left no space to manage the introduction of this testimony either through questioning or objections. It also tended to prevent the prosecution's ability to conduct effective cross-examination, and thus to examine the veracity of statements made.

A survey of one case, of course, is not a survey. However, the practices observed and commented on were also ones that prosecutors confirmed as a normal part of criminal proceedings in Mongolia. They point directly to problems related to the legal requirements and practices associated with collection and presentation commented on by virtually all enforcement and prosecutors in the context of this survey. In the end, no case can stand without adequate evidence. Neither the law, nor the actual practices are set up to ensure that the best evidence is being gathered and preserved for presentation when it is most needed in the courtroom.

The Final Challenge to Prosecution

The final hurdle to adequate prosecution of wildlife can sometimes be a function of the overarching legal system, as opposed to any provision specific to wildlife trade. How the system operates as a whole, and especially within the courtroom, can be a deciding factor in securing a verdict. These questions are dictated in part by the type of legal system (e.g., is it a civil law vs common law jurisdiction), the role of judges in the interpretation of law, the format of case proceedings, and some of the instructions

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[378] Three illegal hunters of Dalmatian Pelicans were sentenced in a first instance court to an aggregated fine of 67 Million Tugriks plus 13 Million Tugriks in Damage Restoration (equivalent to 30,000 USD and 5,700 USD). After appealing to a court of appeals based on unlawful evidence procedures, the Court void the first instance decision based on the anniversary of Mongolian democracy. After Prosecutors Office appeal to the Supreme Court, fines were reestablished and Courts of Appeal rule amendment. Criminal Case 153/2015/054/e at www.supremecourt.mn

[379] Judges issue decisions, but no opinions in these instances. There is, therefore, no way to verify the

reasoning behind the decision made. This opinion is based solely on the discussions and comments made at the time of the proceeding.

(or lack thereof) with respect to handling evidence, expert witnesses, and conflicts of law. This section discusses some of these issues as observed during the implementation of the overall survey. It is not meant to be exhaustive, but useful to the extent it highlights additional challenges.

The starting point in this analysis is Mongolia's legal heritage; based on the civil law system used in most European countries, later adapted by Russia, and finally introduced from there to Mongolia. As a result, the civil law system in Mongolia reflects in many ways the Soviet approach to jurisprudence, sometimes referred to as a socialist law system.[380] Although there have been rapid advances in legislation and new influences from other legal systems in the post-soviet era, the base remains the same and informs both the structure and application of law generally. Some of these practices relate to how the legislation is developed and organized. Others concern how they are applied and interpreted by courts. In the fight against illicit wildlife trade and in the process of developing comprehensive and effective legislation, they all matter. The following sub-sections give a brief introduction to some of these for reference in this and later analyses.

LEGISLATIVE HIERARCHY

Legislative hierarchy is a fundamental part of the rule of law. Understanding how it works generally in a given country and in relation to a particular topic matters both to the development and application of law. For legal development, hierarchy is critical to how the system functions as a whole and must be considered to ensure that each level and type of law has appropriate content. In the application of law, the hierarchy instructs the courts on which laws are superior and thus, in some instance, which may take precedence in the event of a conflict of laws.

In Mongolia, the basic hierarchy holds that the Constitution is the supreme law and that all laws[381] and treaties signed by the country[382] must be in conformity with it. This is a common formula similar to most countries in the world.

Where international law fits in this hierarchy is not without debate, but there are several environmental laws that require resolution of conflicts in favor of international requirements. In other words, international agreements that Mongolia has joined, to the extent they do not conflict with the Constitution, are by the terms of many laws legally superior to national legislation. The Civil Code, for example, specifically permits courts to 'apply universally accepted international norms in case proceedings related to international civil law provided that they do not conflict with the Constitution of Mongolia.'[383] In addition to this, a few laws in the compiled IWT legal framework state that if an international treaty to which Mongolia is a party provides 'otherwise than the present Law, then the provisions of the international treaty shall prevail.'[384] Wildlife related treaties to which Mongolia is a signatory include CITES, the Convention on Migratory Species, and the Convention on Biological Diversity. This assessment only discusses Mongolia's implementation of its CITES obligations, as it is specifically dedicated to the issue of international wildlife trade.

National laws (using the term in the broadest sense possible) follow in this hierarchy, but there are many types and relationships between. They can include laws, decrees, and resolutions issued by Parliament, the President's Office, the Cabinet Ministry, and all of the line Ministries. Although the majority of the IWT legal framework compiled in this study was issued by Mongolia's parliament, important wildlife related resolutions and decrees come from other branches and bodies, including the Cabinet Ministry, the Ministry of Environment, and the President's Office. Several other government entities have a mandate related to wildlife trade and at least some regulatory power to further implement that authority. They include the Ministry of Justice (EcoCrimes Division of the Police), the General Intelligence Agency, and the Ministry of Finance (General Customs Authority).

Mongolia's framework of laws relevant to wildlife trade has a foundation in virtually every level of the legal hierarchy. One of the goals of the analysis is to show where in the framework particular aspects of wildlife trade are regulated, to identify areas of known or potential interaction, and provide at least some indication of how hierarchy may play a role in resolving conflicts between laws.

CONFLICT OF LAW

Conflicts between laws are inevitable. They can occur between laws enacted by the same legislature, between regions within the same country, between agencies with overlapping authorities, even within a

[380] "Socialist Legal Systems" lawin.org. 07, 2013. Accessed 06 2017. http://lawin.org/.

[381] Civil Code, Art. 10.1.

[382] Civil Code, Art. 10.5.

[383] Civil Code, Art. 10.5.

[384] E.g., Environmental Protection Law, Art. 2; Law on Fauna, Art. 2; Special Protected Areas Law, Art. 2.

single law. For a legal system to function effectively conflicts must be anticipated and principles in place so that judges can resolve them when they arise.

In Mongolia, however, there are few legal provisions concerning the resolution of such conflicts. The Civil Code itself is mostly silent on the question. Article 10.5 allows courts to apply international norms that 'do not conflict with the Constitution of Mongolia.' Article 10.7 of the same Code states further that courts may not 'refuse to apply a norm of legislation on the grounds that laws are in conflict, unfair or contrary to the universally accepted ethical norms.' It is not clear from the structure of the sentence in 10.7 whether it refers to laws in conflict with each other, or in only conflict with 'universally accepted ethical norms.' In any event, neither 10.5 nor 10.7 are instructive on how to resolve disputes when there is a conflict between national laws.

INTERPRETATION OF LAW

In Mongolian jurisprudence, the 'interpretation' of law and its 'application' are considered separate powers, the first being reserved by the Constitution exclusively to the Supreme Court.[385] Unlike all other court decisions, Supreme Court interpretations (issued in the form of a resolution) become part of the law,[386] and in that sense have precedent for the further application of law in the lower courts. Pursuant to the Civil Code, the remaining courts are instructed to just 'apply' the law.[387] This is a critical distinction that may seem highly legalistic and theoretical, but has direct implications for the successful prosecution in general and of illegal wildlife trade cases in particular.

In many jurisdictions, these two concepts are considered inseparable and fundamental to the operation of any court. In other words, a judge cannot merely 'apply' the law and not inevitably be faced with the necessity of its 'interpretation' as well. In any given law, some provisions will be simple and therefore susceptible of direct application (e.g., hunting a Very Rare species is prohibited). However, it is often the case that the law is silent on a particular point or ambiguous in some way (e.g., causing damaging in a large amount). Mongolia's

Civil Code recognizes this reality and provides judges with certain guidelines. The first instructs judges, '[i]n the absence of legislation that regulates the disputed relation, …[to] apply legal norms that regulate similar relations.'[388] In other words, judges may apply analogous rules whenever the law before them has a gap. Furthermore, in the absence of legislation, courts are to resolve disputes in line with the Constitution.[389] And finally, courts cannot refuse to resolve a case in the absence of a legal norm or where 'such norm is not clear.'[390]

Whether a norm is absent or ambiguous, however, Mongolia's courts are still instructed solely to 'apply' legislation, not 'interpret' it. This division in authority is a foundational element in Mongolian jurisprudence and has particular implications for the application of law and the strength of its legal system. As a practical matter, judges in courts of first instance (trial courts) are the ones that actually handle wildlife trade cases in Mongolia, with only some cases making it to a court of appeals and barely a dozen arriving to the Supreme Court in the last five years.[391] Where ambiguity exists, judges may engage in de facto interpretations. Without guidelines, however, there is the danger of inconsistent decisions, a result that other civil law systems at least partially mitigate against under the doctrine of 'jurisprudence constante.'[392] The only court interpretations available for reference to Mongolia's judges are those issued by the Supreme Court. Equally important, however, this limitation also means that a case may be dismissed where the ambiguity or gap is seen as an absence of a legal requirement. In such instances, the court is technically not refusing to resolve the claim, merely deciding that no cause of action exists.

LARGE AMBIGUITIES IN SMALL WORDS

Ambiguity in law arises any time language used may be understood in more than one way by individuals with the requisite skill and knowledge to understand them. How ambiguities are resolved differs between jurisdictions and can be a complex area of jurisprudence. The goal here is only to highlight ambiguities of particular

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[385] The 1992 Constitution states in Article 50(1) that the Supreme Court of Mongolia is the highest judicial organ with the power to, *inter alia*, issue the official interpretations for correct application of all law, except for Constitution.

[386] Melville, C., O. Erdenedalai, and A. Woolley (2015). Overview of the Mongolian Legal System and Laws. GlobaLex, Hauser Global Law School Program.

[387] Civil Code, Art. 10.1.

[388] Civil Code, Art. 10.4.

[389] Id.

[390] Id. at Art. 10.6.

[391] Online Database of Supreme Court Cases (Supremecourt.mn)

[392] The legal doctrine in civil law jurisdictions holding that a series of previous decisions applying a particular legal principle or rule is highly persuasive, although not controlling in subsequent cases dealing with similar or identical issues of law.

relevance to the prosecution of wildlife trade crimes in Mongolia.

With respect to wildlife trade, Mongolia's 2002 Criminal Code,[393] contained undefined terms that posed problems for investigators and prosecutors. One of the clauses, Article 175, applied criminal penalties to the attempted smuggling of wildlife parts (governed by Art. 18.5 after 2015 Criminal Code entered into force). A portion of that article is quoted below with the language of concern bracketed. Article 175.1 stated that:

> *'Smuggling of prohibited goods or things or restricted animals or currency or other valuables [**in a large amount**] shall be punishable by...'*

At the same time, Article 295 of the Customs Law applied administrative penalties to the same act, but only if the Criminal Code did not cover the incident (now governed by Article 10.20 of the Law on Infringements).[394] The relevant portion of Article 295.1 stated:

> *'In the event...smuggling or attempted smuggling of restricted goods [**does not qualify as a criminal offence**]...'*[395]

As both laws covered the smuggling of 'restricted goods,' the threshold question for the application of the Criminal Code was therefore whether the incident involved '*a large amount*,' a term that could not be applied without interpretation.

As seen in the Customs Agency's enforcement records, it likely resulted in some inconsistency in the prosecution of offenses as either criminal or administrative. The Customs Agency, for example, reported the attempted smuggling of one frozen wolf on two occasions as a criminal incident. However, it also treated the attempted

smuggling of 15 wolf skins in 4 incidents and 49 wolf anklebones (representing the taking of at least 12 wolves) in two separate incidents as administrative offenses. The 2015 Criminal Code has eliminated this undefined term, applying criminal penalties for attempted smuggling without reference to the size of the attempt.

THE SPECIAL CASE OF 'AND' AND 'OR'

The use of connectors is a separate problem that neither the new version of the Criminal Code, nor the Law on Infringements fully eliminates, although there have certainly been significant advances.

At the risk of being technical, understanding how connectors like 'and' (固固固固固) and 'or' (固固固固) can cause legal ambiguities needs some explanation. For starters, these terms have the same function in the Mongolian language as they do in other languages; they can be used as 'conjunctive' or 'disjunctive' connectors. In other words, they tell the reader whether the items contained in a list of things must be considered together (conjunctive) or may be treated as one, among two or more alternatives (disjunctive). The problem is that 'and' can actually perform both functions (whether in Mongolian or in English) and 'or' can be either 'exclusive' (one item, and only one, among the listed alternatives) or 'inclusive' (one item or more among alternatives). In many instances, it is the context of the text that helps us determine which function is intended; and, for the most part, context is all you need.

The best way to show how the problem manifests itself is first to dive into some simplified, mock examples. *These examples are for illustration purposes only and are not found in Mongolian law;* actual examples follow.

a. Using 'and' in the conjunctive sense: 'It is illegal to be in a protected area and carry a gun.' The context tells us that these two things must happen together (conjunctively) in order for a violation to occur. It is not illegal just to be in a protected area; and it is presumably not illegal just to carry a gun. However, it is illegal for these two things to occur at the same time; i.e., conjunctively.

b. Using 'and' in the disjunctive sense: 'It is illegal to hunt at a prohibited time and in a prohibited place.' In this instance, both things may be considered independently (disjunctively) as illegal. You can be found guilty of hunting at a prohibited time; and

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[393] Mongolia passed a new Criminal Code in 2015, which was supposed to enter into force in September of that year. This was delayed until the middle of 2017 to allow for necessary organizational restructuring, training of public officials, and public awareness. The 2002 version of the Criminal Code, therefore, has continuing relevance to the analyses in this report, since it was the applicable law during the decade 2006-2015 this report focuses on.

[394] This provision has since been superseded by the Law on Penalties, but remains relevant to the analysis as it governed the division between administrative and criminal violations of the Customs law until September 2016. From this point, the Law on Penalties applies, but it maintain the basic format in that administrative fines are applied to the extent the violation in question is not otherwise covered by the Criminal Code.

[395] Unofficial translation by Legal Atlas.

you can be found guilty of hunting in a prohibited area. Hunting in a prohibited place and at a prohibited time do not have to happen at the same time.

The term 'or' is not as easily used in anything other than a disjunctive sense. However, it can be used as an exclusive 'or' (denoting "one and only one among alternatives"), or an inclusive 'or' (denoting "one or more, among alternatives"). In texts where ambiguity cannot be permitted (especially true in legal texts), often other words are used to indicate which of the two (inclusive or exclusive) is intended (e.g., "one or the other, but not both").

○ Using 'or' in the exclusive sense: 'It is legal to catch and keep two fish per day or six fish per week.' In this instance, context tells us that the 'or' operates as an exclusive connector. While an individual may catch two fish per day, they cannot continue catching two per day, every day of the week, as this would clearly cause them to be in violation of the 'six per week' limitation. The legal limit of six per week is thus exclusive of the legal limit of two per day.

○ Using 'or' in the inclusive sense: 'In this river, it is legal to fish for lenok or for whitefish.' In this instance, the 'or' is intended as an inclusive connector. An individual may legally fish for lenok and whitefish in the indicated place.

In Mongolian legal drafting, connectors are sometimes not used, or are used much less than might be expected. It is not uncommon, for instance, for a sentence in a law to contain a list, or series of elements that constitute a crime separated by commas, but where no connector is used. In the recently adopted Law on Infringements, for example, the first part of a key provision on wildlife trade (Article 6.6.2) reads:

'Ан агнах, загас барих гэрээ, тусгай зөвшөөрөл, эрхийн бичгийг бусдад шилжүүлсэн … бол'

Observing the non-use of connectors, it would be translated like this:

'For transfer of hunting, fishing contracts, special permissions, certificates to others…'

There is nothing problematic with this sentence. The context alone tells the reader that the transfer of any of the listed items constitutes an infringement by itself, whether the connector 'and' or 'or' is used. It is simply a typical phrase

in a Mongolian law where the connection has to be assumed by the reader. A standard translation of the same sentence into English automatically adds at least one connector to the list.

Assuming connectors may be common practice, but is something that cannot always be done safely when it comes to the application or interpretation of law. An example of this comes from a primary clause used in criminal prosecutions in the prior Criminal Code (Article 203), which applied criminal penalties to various aspects of illegal hunting. A portion of that article is quoted below. Each of the elements of the crime in the article has been bracketed for reference. For those unfamiliar with criminal prosecution, each 'element' represents a separately identifiable part of the crime that, depending on how the list is structured, would potentially need to be supported by evidence before an accused may be found guilty. The elements are in essence the building blocks of a case. Article 203.1 stated in relevant part:

203.1. [Causing damage] [in a large amount] [by hunting or catching animals]) [without an appropriate permission] [during prohibited time] [at prohibited place] [with prohibited weapons, means or methods] shall be punishable by a fine…'

Depending on how the sentence is deconstructed, there are least seven separate conditions listed. It is clear that a combination of factors is intended and, for the most part, context is probably enough to understand. It is probably not a requirement, for example, that an individual be found 1) hunting without a permit and 2) during a prohibited and 3) at a prohibited place for a penalty to be applied. Any one of these is probably an independent cause of action. There is however, a question concerning the first two elements and whether either one of these may operate independently. In other words, is hunting 'in a large amount' without a permit actionable on its own without also having to prove that it 'caused damage'? Conversely, can guilt be predicated on 'causing damage' by hunting without a permit, or must both 'causing damage' and 'in a large amount' be proven before guilt may be established?

The problem caused by the lack of connectors is something the new Criminal Code and Law on Infringements have taken pains to correct. Several provisions explicitly use the term 'or' (эсхүл) to indicate the exclusivity of elements and the penalties that may be applied. There

remain, however, instances where connectors combined with complex sentence structures open the door to ambiguities. Article 24.5.1 of the 2015 Criminal Code, for example, contains a list of several elements, which again have no connector. Without suggesting that this provision in fact presents an issue, the fact remains that the drafting style is still used and should be carefully considered in legislative development exercises. Where ambiguities exist, the risk of inconsistent interpretations or dismissal of cases remains.

Conclusion

In conclusion, the prosecution of wildlife crime in Mongolia over the last decade needs to continue improving. In the field, enforcement personnel in hunting areas lack operational capacity and investigative powers; while customs officials may give priority to the smuggling of taxable items such as tobacco and alcohol; and Eco-crimes Division of the Police mostly target mining crimes, which implicate the government's collection of mining royalties. As a result, a relatively tiny number of wildlife crimes were detected, which, due to a myriad of problems (e.g., structural, procedural, and logistical problems in evidence collection and handling, the lack of expert capacity to care for seized wildlife, inadequate forensic testing, insufficient coordination between domestic and foreign enforcement authorities), have all translated into a small number of cases being brought to court with the potential for many offenders to escape justice.[396] Even where court sentences were firm, prison sentences were usually appealed under the Amnesty Law, and economic penalties were likely not paid in full as suggested by the effective damage payment ratios shown in Figure 19.

The end result is that illegal hunting and trade in Mongolia are still today, unfortunately, a low risk activity which is difficult to detect or result in either financial or criminal penalties. While the most recent legal reforms are increasing penalties and explicitly criminalizing more wildlife related activities, raising hopes of higher conviction rates, continued reform is required.

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[396] Key Stakeholder Interview (UB Prosecutors Office)

Wildlife Take and Trade

Wildlife Take

Estimating Hunters and Fishers

More than a decade ago, the combination of relaxed controls on weapons, cheap ammunition, and sparse enforcement helped fuel a wildlife harvesting spree of unequaled proportions. In 2005, over 30% of men over the age 15 claimed to participate in wildlife harvesting, almost all of them as hunters and very few as fishers. The results for 2015 show a similar number of individuals engaged in hunting, but also a high degree of reluctance to self-report. It also shows a substantial increase in the number of fishers.

REPLICATING 2005 ESTIMATION METHOD

To obtain results comparable to the 2005 survey, this reports replicates the same method for estimating the number of hunters. In 2005, as no women claimed to hunt or fish, the estimate first selected only male respondents. Extrapolating results obtained exclusively from males and applying it to females would have distorted estimates substantially. This reduced the original sample from 4,021 to 2,995 individuals (74% of the original sample) and was the base for calculating the percentage of hunters from each class age. The 2005 estimate also excluded respondents below the ages of 15 and above 65 (n=4), as they were age classes with insufficient observations for analysis. The percentages of hunters by age class were then used to derive age class estimates. The results for 2015 using this method follow.

FISHERS

To estimate the number of fishers, the survey replicates the method used in 2005 and uses only the results from the direct questioning in the survey (6%) and is does not correct for assumed under-reporting as is done with hunter estimates. It uses the responses obtained in the direct questioning to extrapolate the number of people that fish and estimate total harvest volumes.

Table 1 provides the breakdown of this estimate

by age class, with a total estimate of 69,988 individuals.

For fishers, the survey did not anticipate either the increase in those participating in this activity, or the reluctance to self-report. Results from the direct questioning, however, demonstrate a significant increase compared to 2005; while the household survey indicated some level of reluctance to report income generated from fishing activity. None of those questioned, for example, claimed to sell any of the fish they caught, even though harvest levels for some were suggestive of commercial fishing (e.g., 500 lenok per year). At the same time, a significant number of households claimed to purchase fish on the market. In addition, some restaurants claimed to obtain fish directly from fishers. In other words, both the household and market surveys point to some level of commercial activity associated with individual fishers, none of whom self-reported this in the direct questioning.

Table 1. Fisher estimates by age class for 2015.

Age class	Number of Males	Male Respondents in Age Class	Fishermen Respondents in Age Class	% Fishermen Respondents in Age Class	Estimated Total Number of Fishermen
(i)	(N_{mi})	(m_{ai})	(m_{hi})	(m_{hi}/m_{ai})	(N_h)
15-19	121,780	170	16	9.412%	11,462
20-24	135,073	172	16	9.302%	12,565
25-29	157,118	298	27	9.060%	14,236
30-34	130,591	291	20	6.873%	8,975
35-39	114,492	292	26	8.904%	10,194
40-44	100,801	265	8	3.019%	3,043
45-49	84,610	219	15	6.849%	5,795
50-54	71,155	279	4	1.434%	1,020
55-59	51,524	198	4	2.020%	1,041
60-64	28,448	130	3	2.308%	656
65-69		(a)	(b)		
70+		(c)	(d)		
	995,592	2,314	139	6%	68,988

Data for respondents over 65 discarded for analysis as follows: a=79, b=2, c=125, and d=1.

HUNTERS

In 2015, the estimate of hunters is roughly the same as it was in 2005 in absolute terms at almost quarter of a million persons. To arrive at the estimate and to allow for comparison with the 2005 results (i.e., with a principal focus on the number of hunters), a two-pronged approach was used. The first involved the use of direct survey questioning and the replication of the 2005 extrapolation method. The second involved indirect questioning (in the form of Unmatched Count Technique questions) introduced to

compensate for the reluctance of respondents to self-report hunting activities.

Table 2. Hunter estimates by age class for 2005 and 2015.

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Age class	Number of Males	Male Respondents in Age Class	Hunter Respondents in Age Class	% Hunter Respondents in Age Class	Estimated Total Number of Hunters
(i)	(N_{mi})	(m_{ai})	(m_{hi})	(m_{hi}/m_{ai})	(N_h)
15-19	121,780	170	7	4.118%	5,014
20-24	135,073	172	11	6.395%	8,638
25-29	157,118	298	16	5.369%	8,436
30-34	130,591	291	18	6.186%	8,078
35-39	114,492	292	11	3.767%	4,313
40-44	100,801	265	7	2.642%	2,663
45-49	84,610	219	7	3.196%	2,704
50-54	71,155	279	5	1.792%	1,275
55-59	51,524	198	4	2.020%	1,041
60-64	28,448	130	4	3.077%	875
65-69		(a)	(b)		
70+		(c)	(d)		
	995,592	2,314	90	4%	43,038

Data for respondents over 65 discarded for analysis as follows: a=79, b=0, c=125, and d=1.

2 0 0 5

Age class	Number of Males	Male Respondents in Age Class	Hunter Respondents in Age Class	% Hunter Respondents in Age Class	Estimated Total Number of Hunters
(i)	(N_{mi})	(m_{ai})	(m_{hi})	(m_{hi}/m_{ai})	(N_h)
10-14		(a)	(b)		
15-19	149,199	154	40	25.974%	38,753
20-24	134,528	315	98	31.111%	41,853
25-29	114,801	458	160	34.934%	40,105
30-34	98,999	410	152	37.073%	36,702
35-39	89,901	410	151	36.829%	33,110
40-44	73,299	444	138	31.081%	22,782
45-49	50,801	344	105	30.523%	15,506
50-54	33,901	235	58	24.681%	8,367

Under the first approach, female respondents (nf = 1,552) were excluded (although five did claim to hunt or fish), reducing the sample from 4,070 to 2,518 individuals (62% of the original sample). Males under 15 and over 65 (n15>m<65 = 204) were similarly removed for a final sample of 2,314 (or 52% of the original sample). Age classes were then stratified using the same 2005 divisions, percentages for each class were calculated, and age-classes derived. The national estimate sums the age-class estimates, which in this case came to 43,038, or just 4% of the male population over 15 (see Table 2).

ADJUSTED ESTIMATES USING UCT

As anticipated and later verified by the use of the Unmatched Count Technique (UCT),[397] the results from the direct questioning appeared to be a sizable underestimate of reality. For this reason, a second approach to estimate hunter prevalence was implemented. Figure 2 shows this second estimate based on a UCT question that focused solely on eliciting the number of hunters, a figure that could be compared to the 2005 result, which included almost exclusively hunters,[398] as opposed to fishers. The UCT question was administered separately to a group of 1,500 respondents over the age of 15 randomly selected from across Mongolia. Half of this group was asked a 'case' question, containing the sensitive question concerning hunting, and the other half, the 'control.' The sensitive question in the 'case' group asked whether the individual hunted in 2015. Analysis was based solely on data from 553 male respondents aged 15 to 65 (see Table 3).

Table 3. Estimate of Hunters using UCT

Using this approach the estimate of hunter prevalence is 24.83%. Extrapolating this estimate

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[397] See Chapter II. Methods.

[398] In 2005, 15% of respondents claimed to fish, but none claimed to be exclusively engaged in fishing.

to the male population between the ages 15 and 65 in 2015 (N15>m<65 = 995,592 individuals), results in an estimate of 247,205 hunters; a figure that is almost equal to the 2005 results in absolute terms. In relative terms, it represents a 7% decrease due to a 19% increase in the population of Mongolian males from 2005 to 2015.

COMPARING DIRECT QUESTIONING TO UCT RESULTS

The following figures compare the results obtained through direct questioning in 2005 to 1) direct questioning in 2015 and 2) indirect questioning in 2015. Figure 1 shows the 2005 estimate as it compares to the 2015 direct questioning estimate; Figure 2 the same 2005 estimate as it compares to the 2015 UCT-based estimate. Note that the 2015 UCT results represent only the number of hunters, while the 2005 results contain a small percentage of individuals that claimed to only to fish.

In sum, the UCT method results in an estimate that is almost six times greater than the direct questioning results. Stated differently, only 1 in 6 hunters (or 17% of the hunter population) are willing to self-report this activity. The vast majority of Mongolia's hunters (83%), for one reason or another are unwilling. Key informant interviews indicate that this is largely due to increased enforcement.

Figure 1. Estimate of Hunters based on Direct Reporting
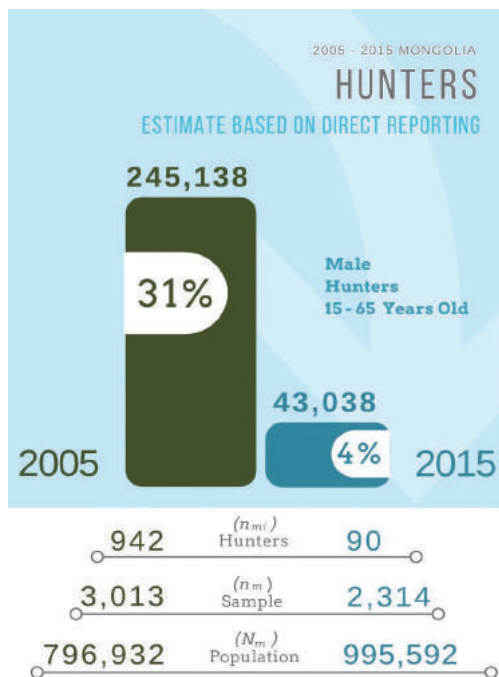
Figure 2. Estimate of Hunters based on Indirect Reporting
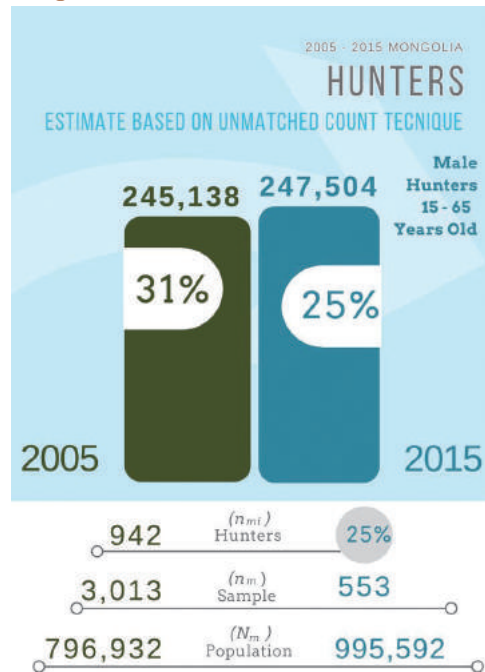
For purposes of extrapolating related results, the report uses the 2015 UCT estimate of 247,504. However, this too, as high as it is, may be an underestimate for two reasons.

The first reason is the degree to which the sensitive question is obvious to the respondent. The UCT is a recognized technique for eliciting a higher percentage of truthful answers to sensitive questions. However, depending on how it is administered, it may still result in either under or over estimations. One factor that may result in underestimates is the degree to which the sensitive question stands out; in other words how obvious is the sensitive question to the respondent. As designed in this survey, the only question in the list that is sensitive is about hunting. Given the enforcement environment and the extreme reluctance documented by surveyors and the Household survey results, it is plausible that an unknown percentage of respondents were still reluctant to answer the question truthfully. As a result, some bias may have been introduced because of the obviousness of the question.

The second reason is due to the way the question was phrased. As stated, it is intended only to refer to hunting activities, not fishing. The survey revealed that an important portion of wildlife harvesting is by fishers and that there is some reluctance to self-report as well. As previously noted, other elements of the Household and Markets surveys point to some level of commercial fishing activity by individuals, and yet none of the respondents claimed to sell any of the fish they caught. It is likely that if the

question had included hunting and fishing last year, the percentage would have increased.

Limitations of the UCT Questions

As structured in this survey, the UCT question was limited in its application solely to estimating the number of people actively hunting. Any further results, for example, the estimate of the percentage of individuals that target a particular species, are drawn solely from the direct questioning; e.g., the estimated 19% of hunters that target marmots comes from the responses of the 90 hunters that were willing to respond in the Household Survey. As explained in detail in the following section, this 19% is applied to the corrected estimate of the total number of hunters to arrive at an estimate of 46,969 hunters targeting marmots nationwide. That they take on average seven (7) Siberian marmots is similarly derived from the responses to the direct questions.

Whether there is an impact or not, however, the results are still useful as they represent at least minimum values. In other words, if reluctance had an impact, it means that the numbers presented in this report are underestimates. There are also several areas where absolute numbers are less important, e.g., whether a particular species is in fact targeted, whether it is harvested in a particular season, etc. Wherever appropriate, the base results are used to advance the understanding of legal and illegal wildlife harvests.

To compensate for the impacts of anticipated respondent reluctance, the survey design included from the beginning numerous additional quantitative and qualitative methods in the form of key informant interviews, stakeholder interviews, observation sheets, follow-up calls, surveyor debriefings, as well as wildlife trade related data from management and enforcement agencies. The combined weight of that information indicates that there are indeed more hunters active than those admitting to it in direct questioning, and possibly in the context of the UCT.

Variety of Species Targeted

Based solely on the responses to the Household Survey, 24 different species were reported as being harvested in 2015. Of these, 10 are mammals, 3 birds, and 11 fish. Not only the absolute number, but also their division among classes of species represents a marked difference

compared to 2005 (see Table 4), which recorded 34 species in trade. At first glance, the survey shows a significant decrease in Mongolia's wildlife harvest and trade activity. As explained further in this section, these results may be impacted by the differences in sensitivity in self-reporting hunting and fishing activity.

This figure is, however, not the entire picture. Market surveys, observational sheets, key informant interviews, and official enforcement data all show that several other species are also targeted by poachers and traders (e.g., snow leopard, brown bear, musk deer, Altai snowcock, and Asiatic wild ass). In fact, the majority of mammals known to be traded, but which were not self-reported in 2015, are those for which criminal penalties apply (as opposed to just administrative penalties). Of the 16 mammals that do not appear in the Household survey, 11 were either found in official enforcement records or discussed by key informants. Of these, nine (or 81% of the unreported mammals) are listed as Very Rare or Rare and hunting them carries criminal penalties. Most of these same species were also listed as Very Rare and Rare in 2005. That specifically those species are not mentioned is likely due to increased awareness of illegality among the population.

Table 4. Harvested Species by class in alphabetical order, 2005 and 2015

HARVESTED SPECIES
By Alphabetical Order

			2005	2015
MAMMALS	American mink	*Mustela vison*	●	
	Altai marmot	*Marmota baibacina*	●	●
	Argali	*Ovis ammon*	●	
	Asiatic wild ass	*Equus hemionus*	●	
	Black-tailed gazelle	*Gazella subgutturosa*	●	
	Brown bear	*Ursus arctos*	●	
	Corsac fox	*Vulpes corsac*	●	●
	Daurian hedgehog	*Mesechinus dauuricus*	●	
	Eurasian badger	*Meles meles*	●	●
	Eurasian Lynx	*Lynx lynx*	●	
	Gray wolf	*Canis lupus*	●	●
	Ground squirrel	*Citellus undulatus*	●	
	Mongolian gazelle	*Procapra guttorosa*	●	●
	Moose	*Alces alces*	●	
	Musk deer	*Moschus moschiferus*	●	
	Muskrat	*Ondatra zibethicus*	●	
	Pallas's cat	*Otocolobus manul*	●	●
	Red deer	*Cervus elaphus*	●	
	Red fox	*Vulpes vulpes*	●	●
	Red squirrel	*Sciurus vulgaris*	●	
	Roe deer	*Capreolus pygargus*	●	●
	Sable	*Martes zibellina*	●	
	Siberian ibex	*Capra sibirica*	●	
	Siberian marmot	*Marmota sibirica*	●	●
	Snow leopard	*Uncia uncia*	●	
	Wild boar	*Sus scrofa*	●	●
BIRDS	Altai snowcock	*Tetraogallus altaicus*	●	
	Cinereous vulture	*Aegypius monachus*		●
	Daurian partridge	*Perdix dauuricae*	●	
	Greylag goose	*Anser anser*	●	
	Pallas's sandgrouse	*Syrrhaptes paradoxus*		●
	Willow ptarmigan	*Lagopus lagopus*	●	●
FISH	Altai osman	*Oreoleuciscus potanini*		●
	Amur catfish	*Parasilurus asotus*		●
	Arctic grayling	*Thymallus arcticus*		●
	Artic lamprey	*Lampetra japonica*		●
	Common carp	*Cyprinus carpio*		●
	Grass carp	*Ctenopharyngodon idella*		●
	Lenok	*Branhymystax lenok*	●	●
	Northern pike	*Esox lucius*	●	●
	River perch	*Perca fluviatilis*	●	●
	Taimen	*Hucho taimen*	●	●
	Whitefish	*Coregonus lavaretus*		●

The difference in which classes of species were reported is also telling. In 2005, mammals represented more than three quarters of the variety of species harvested (26 out of 34 or 76% of the total), while fish species represented only 12% (4 species out of 34). This relationship has changed significantly, with at least 11 different fish species being harvested, including seven that were not reported in the past. Among the new species are Altai osman, Amur catfish, Artic grayling, common and grass carps and whitefish.

Reported Harvest Volumes

Respondents to this survey self-reported the take of a total of 3,698 specimens in 2015. For purposes of extrapolating total harvest volumes, this number was reduced to just 1,893 after discarding outlier data. In both cases, these figures are substantially lower than the self-reporting estimates given by respondents in 2005. There are corresponding differences in the estimated take for individual species as well.

Among the important trends is the proportion of fish comprising 78% of total take, or almost 4 out of every 5 animals taken (Figure 3). That there are more fish taken in wildlife harvests should be an expected result. It is not uncommon for fishermen to catch and keep several fish in a single outing and laws typically allow for greater catch rates. What makes it interesting and surprising in the Mongolian context is how limited fish used to be in overall wildlife harvest and in the Mongolian diet generally. In 2005, 15% of the individuals harvesting wildlife claimed to fish, but take represented a small portion of the total reported harvest and, in general, Mongolians have never consumed much fish. Neither the 2005 nor 2015 surveys estimate the proportion of fish in the Mongolian diet, but their general aversion to fish is of common knowledge.

It must be acknowledged that the potential increase in fishing may be partly a result of the fact that fishing is a less sensitive (mostly legal, depending on the species) activity compared to the hunting of most protected mammals. This likely explains in part, the greater self-reporting of fishing than hunting in 2015. Furthermore, in 2005, when hunting was a less sensitive (and enforced) and still proud activity to undertake, interviewees were perhaps more likely to freely mention their hunting, in place of fishing, potentially resulting in fishing's then underreporting.

Regardless of these potential biases, the data still suggests that fish appear to be more a part of Mongolia's wildlife take and trade regime, in what is actually an incredible shift that, as yet, has unstudied implications. It is also not quite in the conscience of Mongolia's policy makers. The new Law on Infringements and the Criminal Code, for example, only have a few provisions

that expressly penalize illegal fishing (see Chapter 4) compared to the detail directed at hunting and trapping crimes.

TAKE BY SPECIES CLASS

2015 MONGOLIA

78%

22%

NOT AVAILABLE

SOURCE : Household Survey (Question #12) n= 1,893

Estimating Harvest Volumes

Extrapolating survey data in 2015 to estimate harvests at a national level is significantly more challenging than it was in 2005. Not only are there the standard cautionary notes about sampling and non-sampling errors, but also the extreme reluctance to respond resulted in a much smaller number of individuals claiming that they hunt and smaller reported harvests. The number of male respondents (age 15-65) claiming to have hunted in the previous year (n=90 hunters) was <10% of the number found in 2005 (n=949 hunters). Whereas in 2005, estimates for some species were based on the responses of hundreds of people (e.g., Siberian marmots, n=479) responses in 2015 have to be based on the answers of relatively few (e.g., Siberian marmots, n= 19).

Low observation numbers pose the problem of non-response bias – i.e., errors that result when those that did respond are significantly different from those that did not. It cannot be assumed, for example, that fewer people admitting to hunting activity would automatically mean lower estimates in actual take volumes. As happened in 2005, there are still hunters that claim to hunt in large quantities (e.g., 70 marmots in a single season). With fewer observations, it is easier for these large volume hunters to have a greater impact on overall estimates. Therefore, before extrapolating, each record was reviewed

for outliers and for values that, while considered plausible, were clearly, or at least reasonably outside the take levels of other respondents for that same species (e.g., 500 lenok compared to a mean of 8.2). In instances with few observations, this mattered more and thus take volumes that were discernibly above the mean (even if not extreme) were eliminated. For example, the one wild boar hunter that claimed to hunt eight in one season was eliminated, as the remaining four hunters averaged just 1.8 per hunter. Finally, all species with a single observation, whether the take volume was high or low, were also removed from consideration. The total number of animals taken after this process is 411 mammals (from an initial total of 761), and 1,482 fish (from 2,937). Both sets were thus effectively reduced by 50% or more before the extrapolation of any results.

Harvest estimates in Silent Steppe I were further refined based on a calculation that considered the location of the harvest. This was done to account for the uneven distribution of species across Mongolia, but also to limit any bias introduced by sampling distribution, as discussed in Chapter 2. To estimate take, the method began with estimating the number of hunters in each aimag, then multiplying this by the proportion of hunters in the aimag that reported hunting a given species, and again by the adjusted mean harvest level for that species in the aimag. Adding the aimag level results for each species produced an aggregated result for the country and was done for 12 out of the 34 reported species. Of the 22 species for which no estimate was made, 21 had less than 10 hunters (considered a minimum threshold for estimation purposes). The exception was the gray wolf, which had numerous hunters, but also exaggerated responses that would have resulted in a national harvest estimate greater than the highest possible population for the species.

In 2015, estimating hunter numbers based on aimag is neither possible, nor considered necessary. To begin with, the estimate of total hunters based on self-reporting results in the Household survey (4%) was adjusted using a UCT question, as explained in the previous section. As a result, the only estimate of hunters available for extrapolation is a national rate (24.83% of males between 15 and 65 years) that does not come from the aggregation of aimag rates. The power of the 2015 survey to represent Mongolia's population is nevertheless considered superior to the one in 2005 as explained in Chapter 2, and

is the reason the national estimate of hunters has been used to extrapolate hunters by species and harvest values.

As with estimates of the number of hunters, the harvest estimates are still considered important despite the low number of responses, as they most likely represent minimums and are based on the best information currently available. Given that there are no official records for the level of take of any of the species reported, this information can be an invaluable starting point for the review and revision of conservation and management approaches, as well as legal mandates.

THE TOP TEN SPECIES

In a significant shift from 2005, six of the top ten species in 2015 as measured by estimated harvest volume (including the UCT correction for mammals) are fish. Without the UCT correction, only Siberian marmot at an estimated total harvest in 2015 of 147,764 specimens would be among the top ten. In 2005, several species of fish were also found in domestic markets including all of the species listed in 2015. However, the number of individuals out of the total sample of hunters (n=949) that specifically listed the species targeted came to just four for lenok; three for taimen and river perch; and one for northern pike. At 0.04% or less than the total number of hunters, their harvest levels were considered so insignificant that no estimates were possible, or attempted.

The results in 2015 are dramatically different. Based solely on self-reporting and with the exception of two mammals (Siberian marmot and gray wolf), fish are consistently targeted by a larger number of people than any other species. Recorded take levels for fish on an individual basis are not substantially different when compared to the few records available from 2005 (e.g., 10 per fisher for lenok in 2005, compared to 9.5 in 2015). However, the larger number of people targeting them translates into harvest estimates that are, in most instances, larger than any of the other mammals and all birds.

Top 10 Harvested
by Estimated Harvest Volumes, 2015

			Estimated Total Harvest (*)
1	Siberian marmot	*Marmota sibirica*	849,764
2	Lenok	*Branhymystax lenok*	216,890
3	River perch	*Perca fluviatilis*	192,075
4	Gray wolf	*Canis lupus*	99,002
5	Northern pike	*Esox lucius*	96,782
6	Altai marmot	*Marmota baibacina*	82,501
7	Amur catfish	*Parasilurus asotus*	75,440
8	Common carp	*Cyprinus carpio*	46,654
9	Whitefish	*Coregonus lavaretus*	43,676
10	Corsac fox	*Vulpes corsac*	41,251

(*) Estimates for mammals are based on UCT question. Estimates for fish are based on direct reporting.

NOTE: The survey did not obtain significant data on bird trade in Mongolia. Anecdotal information suggests that both Altai snowcock and ptarmigan are traded in large numbers in Mongolia's western region.

MOST TARGETED MAMMALS

In 2015, it is hard to talk about a top ten among the mammals as data is really only available for eight. Non-response rates among hunters resulted in several species only being identified by one or two individuals making estimates difficult. Nonetheless, the list of the most targeted mammals remains similar to those listed in 2005, with a few minor changes.

Siberian marmot and gray wolf are still clearly the preferred mammal species, a fact that is supported by enforcement records from both Customs and Police, interviews with key informants, and market observations. Based on the direct responses to the survey, at least 48% of the hunter respondents take marmots, and 17% hunt wolves. Extrapolated out to the estimated total population of hunters (without UCT correction), there are roughly 21,000 marmot hunters and 7,600 wolf hunters. If the UCT estimate is used, these figures raise to 121,000 and 44,000 respectively.

Average take per hunter for both species is down compared to 2005, but total estimated take volumes still suggest significant levels of illegal hunting (see Estimated Trends). Even with reductions in take, estimated harvests still far exceed quotas by many orders of magnitude and are still likely an exaggerated result for wolves given population estimates. Estimated take in 2015

(Table 6) for marmots ranges between 150,000 (self-reporting estimate) to as many as 850,000 (based on UCT). For wolves, it ranges between 17,000 and 99,000. The second figure is likely an extreme exaggeration, but both estimates are still at odds with wolf population estimates of between 10,000-20,000. That two separate surveys (the one conducted in 2005 and this one) obtain similar, if exaggerated, average take levels, however, suggests that people still strongly identify themselves with wolf hunting and that detailed wolf population studies are needed to determine scientifically sound off-take levels. The current quota of 20 per year is certainly being exceeded by hunters; probably by as much as 1,000 times the permitted amount.

Trends 2005-2015

The following three tables provide comparative estimates for the number of hunters targeting mammals (Table 7); the average take per hunter (Table 8); and the estimated annual take (Table 9). The figures obtained for the same species in 2005 are included in each table. Fish are presented separately. Birds are not included, as there is little to no data beyond the CITES and enforcement information already reported on.

Table 6. Estimated Number of Hunters and Harvest Volumes, Most Targeted Mammals, 2015

MONGOLIA 2015

ESTIMATED NUMBER OF HUNTERS AND HARVEST VOLUMES

			SAMPLE			POPULATION			
						Direct Reporting		UCT Question	
		No. of Hunters	% of Total	No. Taken	Average No. by Hunter	Estimated Hunters based on Direct Reporting	Estimated Harvest based on Direct Reporting	Estimated Hunters based on UCT question	Estimated Harvest based on UCT question
		n_{hi}	$(n_{hi})/h_h$	t_i	t_i/n_{hi}	N_{hi}	T_i	N_{hi}	T_i
	Siberian marmot	*Marmota sibirica*	44	48.8889%	309	7.0	21,041	147,764	121,002	849,764
MAMMALS	Gray wolf	*Canis lupus*	16	17.7778%	36	2.3	7,651	17,215	44,001	99,002
	Altai marmot	*Marmota baibacina*	3	3.3333%	30	10.0	1,435	14,346	8,250	82,501
	Corsac fox	*Vulpes corsac*	6	6.6667%	15	2.5	2,869	7,173	16,500	41,251
	Wild boar	*Sus scrofa*	4	4.4444%	7	1.8	1,913	3,347	11,000	19,250
	Roe deer	*Capreolus pygargus*	4	4.4444%	6	1.5	1,913	2,869	11,000	16,500
	Mongolian gazelle	*Procapra guttorosa*	3	3.3333%	5	1.7	1,435	2,391	8,250	13,750
	Red fox	*Vulpes vulpes*	3	3.3333%	3	1.0	1,435	1,435	8,250	8,250
			90	100%	411	4.6	43,038	196,540	247,504	1,130,268

TREND IN NUMBER OF HUNTERS

The first major trend analyzed is the number of hunters targeting each species. Recognizing that most numbers are likely underestimates, it is still probably true that all species are targeted at lower levels in 2015 compared to 2005. For the

seven mammals that appear in both the 2005 and 2015 survey results, the estimated number of hunters is down between 13% and 87%. For three species among the top ten in 2005 (red deer, red squirrel, and Eurasian lynx), there is no hunting activity reported in 2015.

Table 7. Estimated trend in number of hunters, 2005 to 2015

MONGOLIA

ESTIMATED TREND IN NUMBER OF HUNTERS
2005-2015 Comparison

2005 Ranking			Estimated Hunters		2005-2015 Trend
			2005	2015 (*)	
#1	Siberian marmot	*Marmota sibirica*	139,000	121,002	↓ 13%
#2	Gray wolf	*Canis lupus*	75,000	44,001	↓ 41%
#3	Red fox	*Vulpes vulpes*	44,000	5,500	↓ 87%
#4	Mongolian gazelle	*Procapra guttorosa*	34,000	8,250	↓ 76%
#5	Roe deer	*Capreolus pygargus*	29,000	16,500	↓ 43%
#6	Corsac fox	*Vulpes corsac*	25,000	19,250	↓ 23%
#7	Wild boar	*Sus scrofa*	20,000	13,750	↓ 31%
#8	Red squirrel	*Sciurus vulgaris*	6,500		
#9	Red deer	*Cervus elaphus*	5,000		
#10	Eurasian lynx	*Lynx lynx*	3,000		

(*) Based on UCT question

TREND IN AVERAGE TAKE

The second notable trend is related to the average take per hunter. After removing outliers, numbers appear to be down for all mammals roughly 70%-80%. In the case of Siberian marmots, the estimated drop in average take by hunter is 70%; estimated at just 10 in 2015 compared to 24 in 2005. Average take for Altai marmot is down 79%; Mongolian gazelle, 74%; red fox, 79%; corsac fox, 75%. Although not listed in the table, a similar drop is true for wolves (32%) going from an estimated 3.4 in 2005 to 2.3 in 2015.

There is an underlying suspicion that all of these values are as affected by the general reluctance to self-report as is the number of people that admit hunting in the first place. They may in fact be significantly higher, as the outliers removed were in some instances only marginally above the mean even though they were consistent with reports from other respondents in the survey. All take of marmots, for example, above thirty were removed despite there being several that reported taking 40 and 50 animals each. In other words, some of the higher reported take volumes may in fact have been part of the normal pattern, but have not been included for purposes of estimating average take.

Table 8. Estimated trend in average take per hunter, 2005 to 2015

MONGOLIA

ESTIMATED TREND IN AVERAGE TAKE by HUNTER

2005-2015 Comparison

2005 Ranking			Average Annual Take		2005-2015 Trend
			2005	2015	
#1	Altai marmot	*Marmota baibacina*	47	10	↓ 79%
#2	Red squirrel	*Sciurus vulgaris*	27		
#3	Siberian marmot	*Marmota sibirica*	24	7	↓ 70%
#4	River perch	*Perca fluviatilis*	15	10	↓ 33%
#5	Corsac fox	*Vulpes corsac*	10	3	↓ 75%
#6	Lenok	*Branhymystax lenok*	10	10	↓ 0%
#7	Mongolian gazelle	*Procapra guttorosa*	7	2	↓ 74%
#8	Muskrat	*Ondatra zibethicus*	5		
#9	Northern pike	*Esox lucius*	5	9	↑ 80%
#10	Red fox	*Vulpes vulpes*	5	1	↓ 79%

Table 9. Estimated trend in annual take, 2005 to 2015

MONGOLIA

ESTIMATED TREND IN ANNUAL TAKE

2005-2015 Comparison

Ranking			Estimated Annual Take		2005-2015 Trend
			2005	2015	
#1	Siberian marmot	*Marmota sibirica*	3,300,000	849,764	↓ 74%
#2	Mongolian gazelle	*Procapra guttorosa*	250,000	13,750	↓ 94%
#3	Corsac fox	*Vulpes corsac*	200,000	41,251	↓ 79%
#4	Red fox	*Vulpes vulpes*	185,000	8,250	↓ 96%
#5	Red squirrel	*Sciurus vulgaris*	170,000		
#6	Roe deer	*Capreolus pygargus*	100,000	16,500	↓ 83%
#7	Altai marmot	*Marmota baibacina*	66,000	82,501	↑ 25%
#8	Wild boar	*Sus scrofa*	30,000	19,250	↓ 36%
#9	Altai snowcock	*Tetraogallus altaicus*	14,600		
#10	Red deer	*Cervus elaphus*	6,000		

TREND IN TOTAL TAKE

Even with these substantially lower numbers compared to 2005, estimates of the total take still exceed anything permitted by Mongolia's hunting and trade laws. Marmot is the most extreme example. As there was no quota for Siberian marmots in 2015, whether using the direct reporting estimate of 150,000 or the UCT corrected estimate of 800,000+, all harvest is illegal. The same is true for roe deer whose 2015 quota was just 10 animals for the entire country. Estimated take is in the thousands. Total wolf take in 2005 could not be estimated and this may be the case in 2015, but there is still a difference in the numbers obtained. According to the UCT corrected numbers, wolf hunters are down 41% (est. 44,000) from 2005 (est. 75,000), but may be down as much as 90% (est. 7,600) based on direct reporting. Using the direct reporting estimate and the average take of 2.3, the number of wolves that may have been hunted in 2015 is almost 2,000 times more than the national quota of 20 for the same year. There is in fact, no species that is not being hunted, and in many instances traded, in volumes that still exceed permissible levels and likely represent continuing threats to their survival.

Table 10. Estimated Number of fishers by species, 2015

EXTRAPOLATION OF FISHERMEN BY SPECIES

n_f=139, N_F=68,988

			SAMPLE		POPULATION
			No. of Fishermen	% of Fishermen	Estimated Fishermen based on Direct Reporting
			$a = (nf_i)$	$b = (nf_i)/nf$	$c = b * N_F$
FISH	Lenok	*Branhymystax lenok*	46	33.0935%	22,831
	River perch	*Perca fluviatilis*	40	28.7770%	19,853
	Northern pike	*Esox lucius*	22	15.8273%	10,919
	Amur catfish	*Parasilurus asotus*	21	15.1079%	10,423
	Common carp	*Cyprinus carpio*	13	9.3525%	6,452
	Whitefish	*Coregonus lavaretus*	10	7.1942%	4,963
	Taimen	*Hucho taimen*	9	6.4748%	4,467
	Arctic grayling	*Thymallus arcticus*	7	5.0360%	3,474
	Grass carp	*Ctenopharyngodon idella*	5	3.5971%	2,482
	Artic lamprey	*Lampetra japonica*	5	3.5971%	2,482
	Altai osman	*Oreoleuciscus potanini*	1	0.7194%	496

Table 11. Estimated Harvest Volumes for fish, 2015

EXTRAPOLATION OF FISHING HARVEST VOLUMES BY SPECIES

			SAMPLE				POPULATION	
			No. of Fishermen	% of Total	No. Taken	Average No. by Fishermen	Estimated Fishermen by Direct Reporting	Estimated Total Harvest
			n_{fi}	$(nf_i)/nf$	t_i	t_i/nf_i	N_{hi}	T_i
FISH	Lenok	*Branhymystax lenok*	46	33.0935%	437	9.5	22,831	216,890
	River perch	*Perca fluviatilis*	40	28.7770%	387	9.7	19,853	192,075
	Northern pike	*Esox lucius*	22	15.8273%	195	8.9	10,919	96,782
	Amur catfish	*Parasilurus asotus*	21	15.1079%	152	7.2	10,423	75,440
	Common carp	*Cyprinus carpio*	13	9.3525%	94	7.2	6,452	46,654
	Whitefish	*Coregonus lavaretus*	10	7.1942%	88	8.8	4,963	43,676
	Taimen	*Hucho taimen*	9	6.4748%	41	4.6	4,467	20,349
	Arctic grayling	*Thymallus arcticus*	7	5.0360%	37	5.3	3,474	18,364
	Grass carp	*Ctenopharyngodon idella*	5	3.5971%	30	6.0	2,482	14,889
	Artic lamprey	*Lampetra japonica*	5	3.5971%	21	4.2	2,482	10,423
			139	100%	1,482	10.7	68,988	735,541

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Harvest Seasons

Harvest activity is spread across the year, although summer and fall are the two most active seasons, with 17 and 20 species targeted respectively. Winter is the next most active season with 14 species; followed by the spring with 12 species targeted. Take volumes drop substantially in spring, but in all seasons there is a percentage of hunters and fishermen declaring to be engaged in some level of wildlife take.

Figure 4. 2015 Harvest seasons for reported species

When compared to the open and closed seasons as established in the Law on Fauna, even without knowing total numbers of hunters or levels of take, it is clear that poaching is essentially constant for most targeted species. Out of season hunting impacts, for example, roe deer (permitted only in fall, but hunted all four seasons); corsac fox (permitted in two seasons-late fall through the winter, with some claiming to hunt all year despite it being known that fur quality is poor out of season); Siberian and Altai marmot (permitted late summer through the fall, but reported year round, including during the Altai marmot's winter

hibernation); Taimen (permitted summer and fall, taken in all four seasons). For further reference to open and closed seasons for all species in the Law on Fauna see Chapter 4.

A normal part of hunting is the oscillation of harvest volumes, as reported in Mongolia. As expected, fall is the peak season for mammals and birds, while summer is the peak for fish. Relative to other seasons, harvest numbers in the spring are almost insignificant.

Figure 5. Take volume by season, 2015
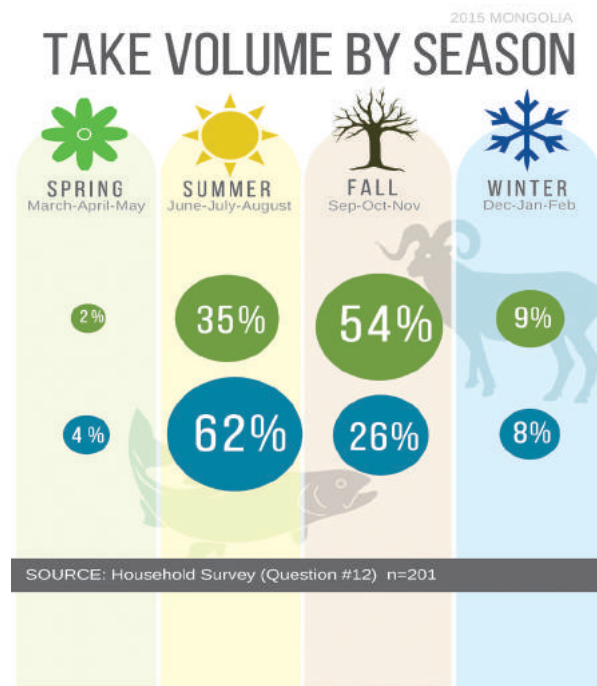
Old Times, New Times

The respect that Mongolians have for the environment is an oft-repeated theme. They are taught from the earliest ages about the spirits that protect the trees, the rivers, lakes and mountains; and about the respect that must be shown to keep bad luck from following. No wonder the stories told by elders about the hunting traditions they grew up with sound like a magical tale. Remembering their hunting teachers with devotion, elders in this survey shared stories of their childhood hunting trips, as early as 9 years old. Early mornings, silent days; long cold hours of waiting; and finally the prayers after each animal was harvested are common memories. They recalled the teachings from their masters while horse and camel riding, of weather patterns, and the use of guns and traps. Their masters taught them to identify the

oldest and the weakest within a group to minimize hunting impacts. For some species, they learned also to distinguish males from females at a distance, avoiding in this way harming population growth rates by targeting males only. Hunting in the past, as told through the stories of elders, was a hard, physical activity requiring substantial skill and personal commitment to nature.

It is this past experience that causes many of them to express dismay at today's hunting methods. Horses, they say, have been widely substituted by motorbikes and cars as a primary means of hunting, and with them, the arrival of a new era of effortless and 'skill-less' hunting. They lament that it is no longer about the hunt, but about the kill and the money that can be made. It is also a more elitist era, where hunters lacking vehicles and the budgets necessary for gas are at a clear disadvantage as wildlife populations dwindle in many areas. Elders see today's younger generations of hunters as mostly disconnected from nature, uncommitted to sustainability, and having a frivolous attitude toward wildlife.

Illegal Hunting Methods Taking Over

Indeed, this survey documents a disturbing trend in the use of illegal and highly destructive hunting methods that not many years ago were rare or even unheard of. Among them are intentional vehicle-wildlife collisions and the use of cars to run animals to exhaustion. The wide-open and relatively flat ground in Mongolia's vast steppe and desert regions make both methods possible. The first is what it sounds like, and does not necessarily occur on established roads. Instead, animals are chased across the ground wherever they happen to be and if the ground permits; on or off road. After being hit, animals on the ground are finished off with axes or knives. This method was repeatedly reported for hunting Mongolian gazelle using motorbikes. Chasing animals until exhaustion is a practice for hunting faster species such as antelope, black-tailed gazelle, red fox, corsac fox, and gray wolf. After long-term pursuits, the animal eventually collapses from exhaustion and the hunter requires little effort to collect the collapsed individual.

Image 1. Images of gazelle reportedly killed by deliberate collision with vehicles

In February 2015, illegal hunters from Bayankhongor aimag came to hit gazelles with their motorbikes. They killed 6 Goitered Gazelles, mostly females and calves. After the hit, they broke their necks and took their bodies for meat, leaving behind heads and fur.

Resident

Gurvantes soum
Umnugov Aimag

Intentional collisions were identified as an emerging practice for Saiga antelope hunting in Silent Steppe I. Ten years later; multiple key informants refer to the method in this survey. Illegal vehicle-based methods are now so widespread in Mongolia that many admit that they may have become one of the top hunting methods. One GASI Inspector[399] in Dornod aimag estimates that at least 70% of all hunting may be based on motorbikes or cars chasing and deliberately colliding with animals; and that actually shooting animals may represent less than 20% of the hunting.

Night lighting is another illegal technique mentioned by informants. This particular illegal method was pre-identified during the survey development phase as a candidate for the UCT survey to help develop a quantitative estimate of at least one banned hunting method. Results from the UCT suggest that over 8% of hunters use night lighting. This extrapolates to 10,790 hunters at the national level.

The degree to which firearms are still a prevalent factor in hunting, however, is difficult to confidently

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[399] Key Informant Interview #6.7 (Dornod-GASI Inspector).

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assess. Only 58% of the hunters claimed to have a firearm. This is a dramatic change from 2005, where almost all hunters (96%) claimed to own a firearm. This level of change can be partially explained by increased seizures, but seems unlikely to explain it all. Seizures in Mongolia tend not to be permanent, with the same confiscated items finding their way back to the offenders or into the hands of others. Restrictions on gun permits, and difficulties with the legal purchase of ammunition at the local level are more likely factors pushing the transition in take methods, at least partially explaining why motor vehicles may be overtaking firearms as a widespread hunting method.

> **We confiscated these weapons because owners did not have permits or they were used in illegal hunting.**
>
> **Baasanjargal**
> Police Officer
> Taragt Soum
> Övörkhangai Aimag

More likely related to the transition from firearms is the distinct increase in the ownership of traps. In 2005, the reported rate of trap ownership among those harvesting wildlife was 8%. In 2015, this percentage had increased to 21% (figure 6). Corroborating this result is the increase in the import of traps identified by a Mongolian Customs official. This individual was so concerned about this trend that it was suggested that regulations should be drafted. This opinion is not consistent with other informants who commented on the decline of trapping activities, particularly with respect to marmot and wolf hunting.

Image 2. Sample of the guns encountered by the field team during Household and Market Surveys.

Image 3 shows images of what appear to be leg hold traps confiscated in Khovd aimag. No information was provided concerning the wildlife targeted by the individual. In general, this type of trap is used on fur bearing animals and placed on paths where such animals are expected to pass. The trap is designed to restrain the animal by the leg without damaging the fur for later use or sale. In Mongolia, known targeted furbearers include red fox, corsac fox, lynx, snow leopard, and wolves.
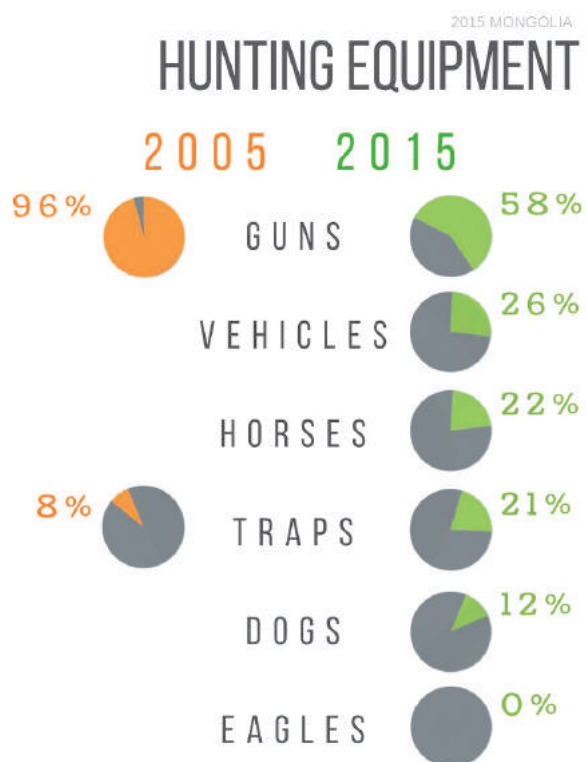
Image 3. Images of traps taken in Khovd, Aimag

The survey also found that 26% of hunters own vehicles, 22% own horses, and 12% hunting dogs. Since this information was not collected in 2005, it is not possible to identify if a significant change took place. The real transformation is in the use of cars, which are no longer just a means of transportation to and from hunting areas. Instead, they are increasingly used as the weapon itself, either to run animals to exhaustion or to literally run them over.

Although eagles were mentioned by informants and are known to be used for hunting by ethnic Kazakhs in Mongolia, the survey did not register any cases of their use within the sample. This is a bias introduced into the sampling method that stems from the exclusion of the far western aimag where a majority of the Kazakh population lives.

Figure 6. Hunting Equipment (% of Hunters that own equipment type)

2015 MONGOLIA

HUNTING EQUIPMENT

2005   2015

96%   GUNS   58%
       VEHICLES   26%
       HORSES   22%
8%   TRAPS   21%
       DOGS   12%
       EAGLES   0%

SOURCE: Household Survey (Question #10) n=91

Fish: The New Marmot

In simplistic terms, world news reporting illegal wildlife trade tends to comprise two camps – those that talk about iconic terrestrial mammals (e.g., rhinos and elephants); and those that talk about marine species. Some of this focus is often more about the headlines rather than reality. The number of species in trade, however, is many times greater than what is usually reported. CITES, for example, lists more than 30,000 species that its Member States consider threatened by international trade. There are many more not listed, but which scientists argue should be. We hear about just a few.

What is actually happening, occurs in relative obscurity until it eventually gains media attention. Pangolin is an excellent example of this. Virtually unknown until recently, the Pangolin has gone from complete obscurity to the undesirable title of wildlife crisis celebrity in the space of a few years.

Marmot is Mongolia's first version of the Pangolin, albeit on a much smaller scale and still only of concern to national news outlets. Similar to Pangolin, marmots can occur in large numbers and while known to some, they are typically not thought of when discussing hunting. Although overhunting may have been mentioned by few people in the mid-90s, the issue was otherwise rarely discussed – until it was considered a crisis and frequented Mongolia's headlines. Now, they are the subject of significant regulatory and enforcement attention in the form of stricter quotas, complete and partial bans, with some visible enforcement results.

Fish may be 'the new marmot.' With the potential exception of the Taimen, it would be fair to say that Mongolia's fish draw little attention. They are, however, a major part of the new wildlife story in Mongolia, a critical part of its biodiversity heritage, and an increasingly important part of local diets. As widely documented in this survey and report, fish are being taken and traded in increasing numbers, and at levels never before seen – including Rare species like the Taimen. Many more people now claim to fish, with volumes of take approaching those of species like the marmot a decade ago. The question is, how long it will take for fish to gain the attention required to prevent another wildlife crisis.

'We Fish Like Thieves…'

Currently, fishing in Mongolia is occurring in relative obscurity. Granted, there are a few studies on fish, but as a whole, little is known about the overall resource and the levels of take that may or may not be sustainable.400 Furthermore,

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400 A. Dulmaa. 1999. Fish and Fisheries in Mongolia. in

little is known about the degree of illegal fishing currently occurring. The wildlife enforcement and prosecution efforts discussed in Chapter 4 indicate that almost all criminal cases brought to court involve mammals.

What this survey found is that violations are widespread or as one fisher put it 'we fish like thieves.' Interviewees complain that because obtaining a permit is difficult, if not impossible, they essentially have little option but to fish illegally. If information obtained from restaurant, retail shop, and outdoor market surveys are any indication, a lack of permits is not a yet a serious impediment to fishing activities.

Image 4. OLD HUNTERS, NEW FISHERMEN /2016 Mongolia/

Fishing uses modern techniques and equipment and is no longer a low-yield recreational activity. Figure 10 presents the results of the survey, showing the overwhelming ownership of rods (74%) over handmade equipment (15%), and artisanal nets (13%) see figure 7.

Figure 7. Fishing Equipment (% of Fishers owning equipment type)
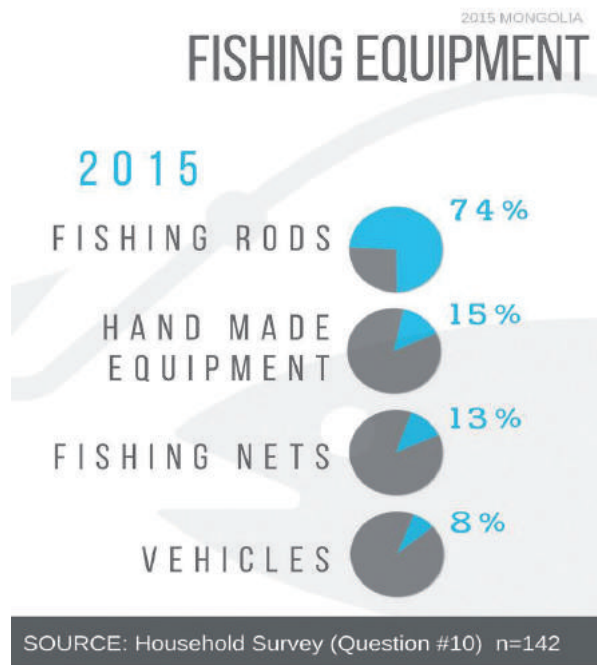
Visits to shops in UB supplying a variety of top brands and world-class imported fishing equipment and supplies, provide some observational evidence consistent with the survey's results. The fishing value chain today includes commercial supply partners that could play a role in management schemes of fishing resources, something that did not exist in the past.

Image 5. World –class fishing gear is available at UB shops.

Among the 74% of fisherman who own fishing rods, it was common to find persons possessing more than one (27% of the total who fish). On average, fishermen own 1.6 rods each. These overall results are in alignment with statements by informants, which suggest that methods like dynamite-fishing

Fish and Fisheries at Higher Altitudes: Asia. FAO Fisheries Technical Paper No. 385. by T. Petr Toowoomba, Queensland 4350 Australia.

may have fallen out of practice over the past 7-8 years (although this is questionable), and that only illegal fishermen and those dedicated to commercial fishing are using nets as the standard fishing method. Household fishing is primarily conducted with rods. Not surprisingly, car ownership among fishermen is substantially lower - three times lower – when compared to hunters.

Image 6. Fisherman own more than one fishing rod
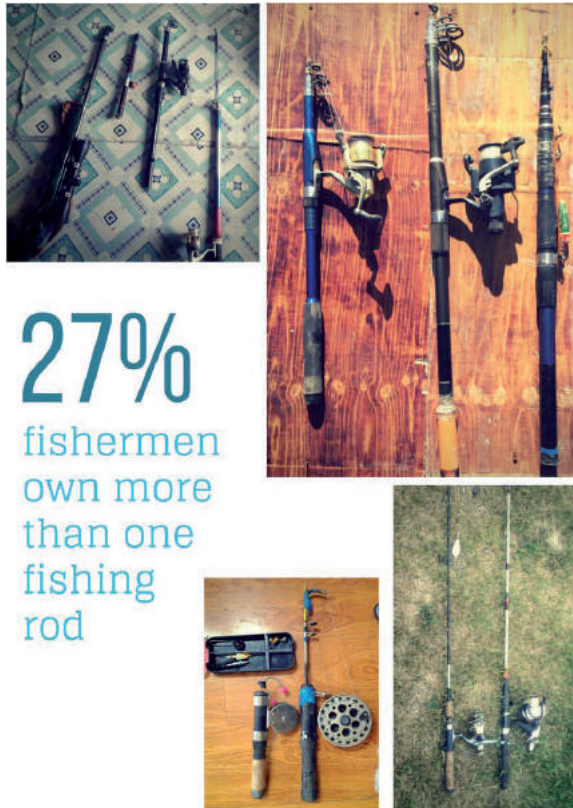
27% fishermen own more than one fishing rod

Hunter and Fisher Profiles

Non-response bias is of greater concern when trying to describe hunter and fisher profiles than it is for estimating hunter numbers. The fact that a large percentage did not admit to hunting in the direct questioning only results in lower estimates of the number of hunters. With respect to reporting on the profile of these individuals, however, the low response rate has greater implications. To obtain results with a confidence interval of 95% and a margin of error of 5%, the sample size required for a population of 247,504 (the number of hunters estimated by the UCT survey) would be 384. In 2005, the survey exceeded this sample size by almost 300%. In 2015, the sample of 195 hunters and fishers falls short and leaves a margin of error of 7.02%, or just over 2% more than the accepted standard for statistical analyses.

In simpler terms, the issue is that the profile of those that responded could be different from those that did not. Estimates based only on those that responded could therefore miss important elements of the actual profile associated with hunters and fishers. Results are nonetheless presented as they highlight potential changes in profiles that fit with the overall pattern of less hunting and more fishing.

First of all, looking only at the direct responses (ignoring for a moment the UCT survey) the results show that 32% of the sample (of n=195) exclusively hunt; 13% hunt and fish; and 55% only fish. As stated previously, extrapolating this out to the entire population gives an estimate of 43,038 hunters and 69,988 fishers. The UCT results already demonstrate that the number of hunters is likely significantly more at over 247,504. However, the more important part of this result may be that, despite underreporting, it confirms that a significant portion of those engaged in wildlife harvesting are fishers, and not hunters. The number of fishers in 2005 was considered so small, it could not be fairly estimated. Again, the implications of this shift have not been adequately studied.

Another result that seems to reaffirm the general shift from hunting to fishing comes from the average years of experience. According to the survey, those that hunt have more years of experience (on average 12 years) compared to those that fish (8 years) (Figure 8). More telling is the percentage in each group of those with less than 5 years of experience, representing the newcomers to the activity. For hunters, this figure is 38% of the group; for fishers, it is 68%. In other words, both in relative and absolute terms many more people have entered the world of wildlife take and trade as fishers in recent years than as hunters. In 2005, hunter age quartiles showed 44% of all hunters were between the ages of 15 and 28. In 2015, those aged 15 to 30 are only 30% of the total. Reflecting the shift in average years of experience, the bulk of the hunting population (41%) is now older and between the ages of 31 and 50.

Figure 8. Experience of hunters and fishermen, 2015
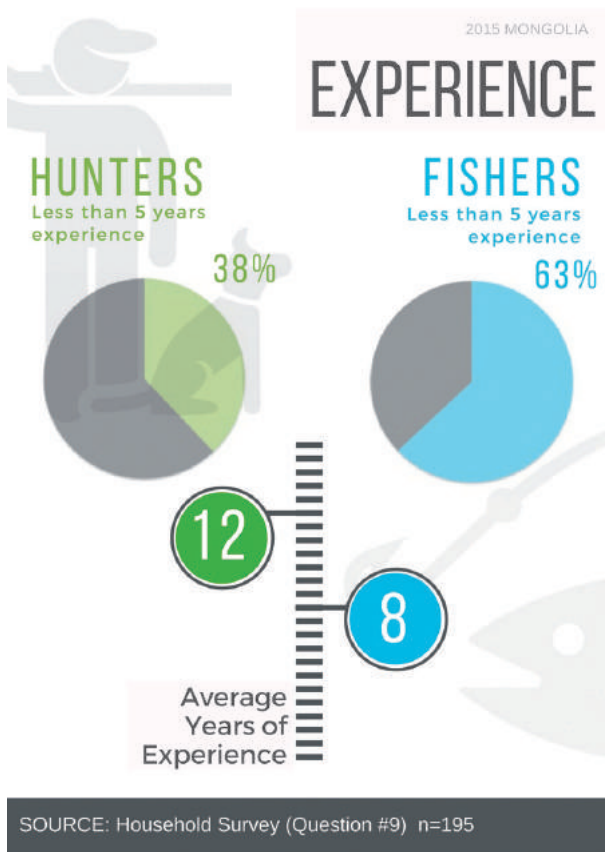
Consistent with key informant interviews and market surveys, the hunter profile statistics also indicate that a large percentage of the hunting and fishing population is based in UB (41%) compared to the remainder of the country (59%) (Figure 9). The total number of respondents in this instance is nevertheless too small to engage in any serious assessments. These numbers suggest, but in no way confirm, that wildlife harvesting is more and more an activity of the wealthiest, the very local, or the professional.

Figure 9. Division of hunters and fisher between UB and rest of country

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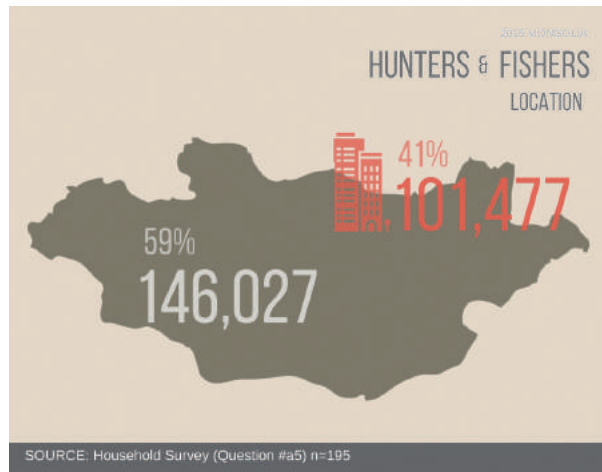
Wildlife Trade Markets

Household Sales

> I fish in the Tuul River and I usually catch 30-60 fishes the day I do it. We eat fish at home but I also sell it in the market for 1,000-15,000 MNT, depending on the size.

Onoroo
Fisherman

Gachuurt Soum
Tuv Aimag

VOLUMES

Contrary to the 2005 results, households rarely declared selling any of the wildlife they harvested. The preceding quote is the single exception among a sample of almost 1,000 people that self-reported fishing activity. Self-reporting of purchases (described in a separate section), however, tells an entirely different story, as do observations in markets, restaurants, and retail shops. While the household sales data obtained during the survey are presented here, it is clear that the enforcement environment has had an impact on respondents involved at this end of the trade chain. The entire fish take volume, for example, was claimed as household consumption only. As previously presented in Table 11, this would correspond to as many as 736,000 locally caught fish consumed by roughly 30,000 households, for an average of 24 fish per household. With these numbers, the households involved would be eating fish almost every other

day during the summer months when fishing is permitted, and at its peak. The consumption of fish certainly appears to be increasing, but this level is suspect, when every indication is that fish consumption in Mongolia is still very low across the country; e.g., less than 1 kg per person per year.401

This part of the analysis initially considered n=1,893 specimens after removing outliers. This was further cleaned to discard an additional six observations that did not have information on use, bringing the total sample to n=1,887. Despite clear trade in several mammals and birds, only marmots and wolf were reported as being sold, and even then only in small amounts compared to what was claimed as household consumption. Only 4% of the marmots (Siberian marmot) and 10% of wolfs skins were reported as sold. Using these percentages over the estimated number of specimens taken nationally in a year (see Table 13), household sales would extrapolate to just 15,431 marmots and 4,422 wolves for 2015.

Table 12. Household Wildlife Sales Amounts

2015 MONGOLIA

HOUSEHOLD WILDLIFE SALES VALUES
Extrapolation

		SAMPLE			POPULATION		
	n	No. Taken	No. Consumed	No. Traded	Estimated No. Taken	Estimated No. Consumed	Estimated No. Traded
Siberian marmot	44	309	297	12	392,199	376,768	15,431
Marmota sibirica		100%	96%	4%	100%	96%	4%
Gray wolf	16	31	28	3	45,693	41,271	4,422
Canis lupus		100%	90%	10%	100%	90%	10%

PRICING

Estimating the market value of these household sales was calculated using information on purchase prices provided in the same household survey.

For Siberian marmot, the survey captured 279 price observations across the country with an average price close to MNT 32,000 (equivalent to USD 14) and a price range between MNT 7,000 and MNT 70,000 per marmot. The high variability in prices appears to be associated with multiple factors including: i) seasonality, ii) weight of the animal, iv) whether the meat is purchased raw or prepared,

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401 Dulmaa, A., 1999. Fish and fisheries in Mongolia. p. 187-236. In T. Petr (ed.) Fish and fisheries at higher altitudes: Asia. FAO Fish. Tech. Pap. No. 385.

v) the number of intermediaries involved and v) location. In general, prices increase in soum and aimag centers, and were highest in UB. In UB, households are paying an average close to 35,000 MNT per marmot while outside the capital the average the price is close to 25,000 MNT, starting as low as 7,000 MNT. This variability and range in prices was also confirmed by qualitative data collected from informants.

For wolf skins, the survey collected only five price observations, with average prices close to MNT 150,000 (equivalent to USD 63). Informants confirmed this as the average price for hunters, with prices ranging between MNT 100,000 and MNT 250,000. The case study for the wolf presented towards the end of this Chapter provides further detail on prices of wolf skin along the value chain. For household analysis purposes, the lower price associated with the hunter is used for extrapolation.

Image 7. Images of marmot and wild boar hunted for personal consumption

ESTIMATED TOTAL SALES VALUES

Total sales for households as self-reported by respondents barely reached half a million dollars (Table 15). Using an average figure of USD 14 per marmot, the 15,431 marmots estimated as total annual take for Mongolia would result in a household income around USD 216,000, while the 4,422 wolves would result in around USD 280,000 additional income derived from trade in skins at USD 63 per wolf.

Table 13. Household Wildlife Sales Values

2015 MONGOLIA

HOUSEHOLD WILDLIFE SALES VALUES
Extrapolation

	AMOUNT	PRICES			TRADE VALUE
	Estimated No. Traded	n	Average Price (MNT)	Average Price (USD)	
Siberian marmot *Marmota sibirica*	15,431	279	MNT 31,749	$14	$ 216,034
Gray wolf (skin) *Canis lupus*	4,422	5	MNT 146,000	$63	$ 280,701
					$ 496,735

Household Purchases

VOLUMES

The results for household purchases of wildlife present a substantially different perspective of wildlife trade at the household level. While hunters only claimed to have sold two species (wolf and marmot), households reported purchasing a total of 34 different species. Where only 60 out of 4,070 households declared selling wildlife (1.5%), a total of 791 households (19%) shared information regarding their wildlife purchases. Obviously, when it comes to reporting purchases (even banned species such as marmots), respondents felt more secure. The assumed reason for this is that only recently has Mongolia imposed strong penalties for these parts of the trade chain, including the procurement, use, and storage of illegally harvested wildlife. In other words, there is less awareness of the illegality and therefore sensitivity to this line of questioning.

In general, the participation of households in wildlife purchase appears to be active. For extrapolation purposes, location was taken into account since the average of households purchasing wildlife in UB was 22% while outside UB this proportion drops to 18%. Using the total number of households registered by the official census in 2015, more than 170,000 households or 20% of the total are engaged in purchasing wildlife (Figure 10).

Figure10. Household Wildlife Purchases, No. of Purchasing Households

Figure 11. Household Wildlife Purchases by Income Level

2015 MONGOLIA
2015 MONGOLIA

HOUSEHOLD WILDLIFE PURCHASE

Extrapolation of Purchasing Households

	SAMPLE		POPULATION	
	n	No. Households Purchasing Wildlife	N	Estimated No. of Households Purchasing Wildlife
Outside UB	1,771	18%	376,419	67,755
Inside UB	2,299	22%	482,687	106,191
	4,070		859,106	173,947
			100%	20%

20% of Mongolia's Households Purchase Wildlife
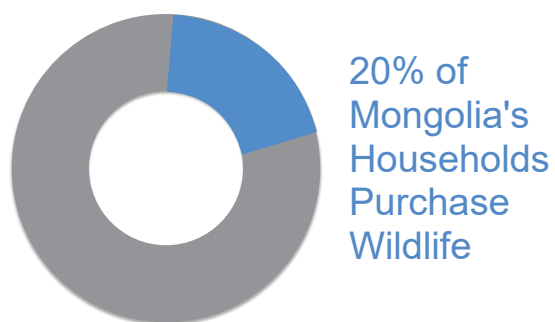
To further refine estimates and the understanding of wildlife purchasing patterns, household purchases were analyzed to account for the purchase power of households. Results are presented in Figure 15. For this analysis, the survey used the five official census categories classifying household purchase power. These categories do not refer to quantitative amounts of income, but refer to the ability of households to cover different levels of expenses, from basic daily needs, to clothing, to the purchase of valuables, and finally the ability to generate savings. As this approach does not ask about specific values, it results in higher response rates and a greater percentage of true answers, especially in economies with a certain degree of domestic consumption of its own wildlife resources, as is the case in Mongolia. This survey had 100% response rate to this question and representativeness from each category that significantly aligns with official records.

Figure 11 shows that as households increase their purchase power and are able to spend money beyond basic needs, the percentage of households purchasing wildlife also increases. Where only 11% of the poorest households buy wildlife, this percentage steadily increases as purchase power rises with 34% of the wealthiest households purchasing wildlife.

2015 MONGOLIA

HOUSEHOLD WILDLIFE

% of Purchasing Households by Income Level

n = 4,070

11 % — Insuficient Income for Daily Basic Needs

17 % — Barely Suficient Income for Daily Basic Needs

25 % — Suficient Income for Daily Basic Needs and Clothing

27 % — Suficient Income for All Needs and Valuables

34 % — Suficient Income for All Needs Valuables and Savings
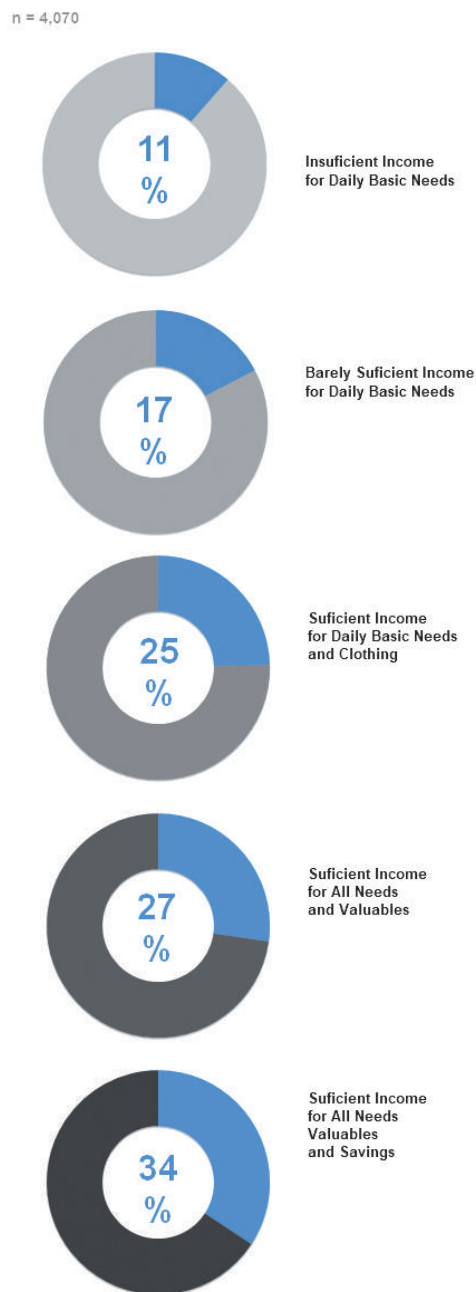
This wildlife purchasing behavior is important to consider when forecasting future trends in wildlife consumption. Economic development, including urbanization and increased income, has traditionally being understood as "an essential first step to win-win solutions for poverty alleviation and biodiversity conservation

by breaking rural reliance on wildlife."402 However, different studies across the world in native populations in Latin America and Africa are reporting that "increases in wealth may accelerate consumption and extend the scale and efficiency of wildlife harvest."403 This pattern appears to be occurring in Mongolia. Mimicking its neighbor China, urbanization and wealth appear positively correlated with increased wildlife consumption, reflecting a society where wildlife consumption is a status symbol. It is not clear to what extent these trends (the increase in wealth and wildlife consumption) will continue in Mongolia. There are, however, indications of continuing urbanization, as well as increasing wealth based principally on the strength of the mining sector.

> We are seeing a disturbing shift in demand for some species from health to wealth – driven by the motivation of displaying new wealth rather than by use in traditional medicine (...). This is part of a shift from traditional culture-related consumption to conspicuous consumption.
>
> **John E. Scanlon,**
> **CITES Secretary-General**

SPECIES AND PARTS

In the proceeding questions for those that claimed to purchase wildlife, the survey inquired about the specific parts purchased. From these responses, trade terms and values were derived for 31 of the 34 species purchased by households and are presented in Table 19, including 16 mammals, 7 birds, and 11 fish species. Food consumption is the most common use of wildlife, with animals being purchased whole or per kilogram of meat and also raw or processed (i.e. cooked marmots, smoked fish). The purchase of skins or furs and oil are the next most common trade terms. Purchase of

internal organs such as bile, brains, stomachs or livers appear in the survey for three species (gray wolf, European badger and brown bear). Taimen, a catch-and-release-only species, was reported purchased during 2015, both for its meat and for its oil.

ESTIMATING TOTAL PURCHASES

Estimation of trade value of household purchases from the survey and extrapolation to the entire household population is detailed in three separate tables; mammals (Table 16), birds (Table 17) and fish (Table 18). Respondents provided information on prices and amounts purchased for a total of 31 species of the 34 traded. No estimation of trade value was possible for Dalmatian pelican, American mink and great bustard. In addition, some parts, such as wolf tongue or Siberian marmot liver, also did not have values associated and are therefore also missing from the analysis. The tables detail how many households engaged in the purchase of each species, the total amounts acquired and the total value of the species purchases. This value results from the aggregation of the expenditures made by each household for each species, derived from the multiplication of the amount purchased and the prices reported. The average annual expenditure per household is offered in MNT and in USD. The top five mammals being purchased are marmots, gray wolf, Mongolian gazelle, roe deer and wild boar. The top five fish species are whitefish, lenok, carp, perch, and taimen.

For extrapolation purposes, the analysis calculates the percentage of households purchasing a particular species out of the total number of households surveyed (n=4,070). This percentage is applied to the total number of households at the national level (n=859,106) to extrapolate how many households nationally purchase any given species. Using the average annual purchase value per household per species, the annual expenditure of all households is extrapolated for each species. The aggregated value at the national level is close to 4 million dollars annually.

The results in this instance, although higher than the estimates obtained from sales, should still be viewed with caution. This section of the survey was tedious in the number of follow-up questions for each species about trade parts, prices, and amounts. It is possible that respondents limited the number of species they reported in

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402 Brashares, Justin & Golden, Christopher & Z Weinbaum, Karen & Barrett, Christopher & V Okello, Grace. (2011). Economic and geographic drivers of wildlife consumption in Africa. Proceedings of the National Academy of Sciences of the United States of America. 108. 13931-6. 10.1073/pnas.1011526108.

403 Id.

response to the burden of the questionnaire, avoiding the effort to recall so many details concerning purchases. The fact that only 11% of respondents provided information of more than one species purchased calls for caution and for understanding that this aggregated value may be a significant underestimation.

One notable result visible in the tables is that the total household wildlife purchases are roughly eight times the total household wildlife sales, which only came to USD 0.5 million around. This speaks to the degree of underreporting clearly associated with sales and probably associated with purchases. Sales are a clear underestimate as they can be directly compared to purchases. Given reluctance overall, there is also likely a degree of underreporting on purchases as well. The disparity in the self-reporting of sales and purchases also underscores the impact of an uneven regulatory approach. Even when hunters show extreme reluctance, households openly report the purchase of illegally harvested wildlife in an environment where the use, purchase, and consumption of those products is still not illegal.

The other notable result is the significant concentration of household purchases of relatively few species out of the 35 species in trade. Table 15 presents the top ten, comprised of those with the highest total purchase values after aggregating all values for the different parts traded. These top ten represent 90% of the total trade value. Of these, just three species (marmot, wolf, and Mongolian or white-tailed gazelle) represent 60% of all wildlife purchases. Of the remaining seven species (all fish), just two, whitefish and lenok, constitute another almost 25% of total trade value. In the end, three mammals and two fish represent almost 85% of all trade – a pattern so embedded in cultural practices and emerging trends that it does not appear likely to change in the near future.

Table 14. Top 10 Species Purchased by Annual Expenditure Estimates

2015 MONGOLIA

HOUSEHOLD WILDLIFE PURCHASE
Top 10 Species by Annual Expenditure

Code	Common Name	Scientific Name	Average Annual Expenditure by Household (USD)	Estimated No. of Purchasing Households	Estimated Annual Expenditure by Specie (USD)	% over Total
1	Siberian marmot	Marmota sibirica	$29	61,847	$1,796,129	46%
2	Common withefish	Coregonus lavaretu	$18	31,451	$570,565	15%
3	Lenok	Brachymystax lenok	$19	17,520	$335,759	9%
4	Mongolian gazelle	Procapra gutturosa	$44	5,910	$264,954	7%
5	Gray wolf	Canis lupus	$65	1,689	$203,006	5%
6	Common carp	Cyprinus carpio	$17	5,488	$92,050	2%
7	Common perch	Perca fluviatilis	$11	7,810	$84,552	2%
8	Amur catfish	Parasilurus asotus	$16	4,222	$68,005	2%
9	Siberian salmon	Hucho Taimen	$13	4,433	$59,929	2%
10	Northern Pike	Esox lucius	$11	3,588	$42,308	1%
					$3,517,259	90%

Table 15. Household Wildlife Purchases: Annual Expenditures, Mammals

HOUSEHOLD WILDLIFE PURCHASE

Extrapolation of Annual Expenditure

Mammals

				SAMPLE						POPULATION		
				No. of Purchasing Households	% Purchasing Households over Total	Annual Purchases by Species and Term	Total Annual Purchases	Average Annual Expenditure per Household		Estimated No. of Purchasing Households	Estimated Total Annual Expenditure	Estimated Total Annual Expenditure by Species
								MNT	USD			
Code	Common Name	Scientific Name	Trade Term	$(a) = n_{pi}$	$(b) = (a)/4{,}070$	(c)	$(d) = e_i$	$(e) = (d)/(a)$	$(f) = (3)/2{,}300$	$(g)=(b) * 859{,}106$	$(h) = (g) * (f)$	$(i) = \Sigma h_i$
1	Altai marmot	*Marmota balbacina*	Meat	4	0.0009828	12	185,000	46,250.00	$20	844	$16,978	$21,567
			Fur	1	0.0002457	1	50,000	50,000.00	$22	211	$4,589	
2	American mink	*Mustela vison*	n.a.	1	0.0002457	n.a.	n.a.	n.a.	n.a.	211	-	-
3	Argali	*Ovis ammon*	Antlers	2	0.0004914	2	160,000	80,000.00	$35	422	$14,684	$14,684
4	Brown bear	*Ursus arctos*	Bile (grams)	5	0.0012285	1300	28,450	5,690.00	$2	1055	$2,611	
			Fur	1	0.0002457	1	80,000	80,000.00	$35	211	$7,342	$12,247
			Oil (grams)	1	0.0002457	100	25,000	25,000.00	$11	211	$2,294	
5	Corsac fox	*Vulpes corsas*	Meat (n.a.)	1	0.0002457	1	30,000	30,000.00	$13	211	$2,753	
			Fur	6	0.0014742	8	86,000	14,333.33	$6	1266	$7,893	$10,646
6	European badger	*Meles Meles*	Oil (grams)	5	0.0012285	265	80,000	16,000	$7	1055	$7,342	$7,342
7	Goitered gazelle	*Gazella subguttorosa*	Meat	2	0.0004914	2	65,000	32,500.00	$14	422	$5,965	$5,965
8	Gray wolf	*Canis lupus*	Meat	8	0.0019656	7	1,200,000	150,000	$65	1689	$110,130	
			Fur	6	0.0014742	6	680,000	113,333	$49	1266	$62,407	
			Bone	1	0.0002457	1	10,000	10,000	$4	211	$918	
			Brain	3	0.0007371	3	260,000	86,667	$38	633	$23,862	$203,006
			Stomach	1	0.0002457	2	50,000	50,000	$22	211	$4,589	
			Testicle	1	0.0002457	1	12,000	12,000	$5	211	$1,101	
			Tongue	2	0.0004914	2	n.a.	n.a.	n.a.	422	-	
9	Mongolian gazelle	*Procapra gutturosa*	Meat	28	0.00687961	91	2,857,000	102,035.71	$44	5910	$262,201	
			Fur	1	0.0002457	1	30,000	30,000.00	$13	211	$2,753	$264,954
10	Muskrat	*Ondata zibathicus*	Meat (kg)	1	0.0002457	1	3,000	3,000	$1	211	$275	$275
11	Red deer	*Cervus elephus*	Fur	2	0.0004914	3	350,000	175,000.00	$76	422	$32,121	
			Antlers	1	0.0002457	1	20,000	20,000.00	$9	211	$1,836	$36,251
			Bile (n.a.)	2	0.0004914	1	25,000	12,500.00	$5	422	$2,294	
12	Red fox	*Vulpes vulpes*	Meat (n.a.)	2	0.0004914	2	50,000	25,000	$11	422	$4,589	
			Fur	4	0.0009828	5	275,000	68,750	$30	844	$25,238	$29,827
13	Sable	*Martes zibellina*	Fur	1	0.0002457	1	450,000	450,000.00	$196	211	$41,299	$41,299
14	Siberian marmot	*Marmota sibirica*	Meat	293	0.07199017	649	19,451,000	66,386	$29	61847	$1,785,116	
			Skin	4	0.0009828	8	120,000	30,000	$13	844	$11,013	$1,796,129
			Liver	1	0.0002457	n.a.	n.a.	n.a.	n.a.	211	-	
15	Siberian roe deer	*Capreolus pygargus*	Meat (kg)	5	0.0012285	20	291,250	58,250.00	$25	1055	$26,729	
			Fur	1	0.0002457	1	25,000	25,000.00	$11	211	$2,294	$31,777
			Oil (grams)	1	0.0002457	n.a.	30,000	30,000.00	$13	211	$2,753	
16	Wild boar	*Sus scrofa*	Meat	14	0.0034398	15	255,000	18,214	$8	2955	$23,403	
			Oil (grams)	1	0.0002457	100	20,000	20,000	$9	211	$1,836	$37,169
			Liver	1	0.0002457	1	130,000	130,000	$57	211	$11,931	
												$2,513,140

Table 16. Household Wildlife Purchases: Annual Expenditures, Aves

HOUSEHOLD WILDLIFE PURCHASE

Extrapolation of Annual Expenditure

Birds

				SAMPLE						POPULATION	
Code	Common Name	Scientific Name	Trade Term	No. of Purchasing Households	% Purchasing Households over Total	Annual Purchases by Species and Term	Total Annual Purchases	Average Annual Expenditure per Household MNT	USD	Estimated No.of Purchasing Households	Estimated Total Annual Expenditure
				$(a) = n_{pi}$	$(b) = (a)/4,070$	(c)	$(d) = e_i$	$(e) = (d)/(a)$	$(f) = (3)/2,300$	$(g)=(b) * 859,106$	$(h) = (g) * (f)$
17	Altai snowcock	Tetragallus altaicus	Meat (kg)	13	0.0031941	5	130,750	10,057.69	$4	2744	$12,000
18	Black kite	Milvus lineatus	Liver	1	0.0002457	1	20,000	20,000.00	$9	211	$1,836
19	Common raven	Corvus corax	Meat	1	0.0002457	2	50,000	50,000.00	$22	211	$4,589
20	Dalmatian pelican	Pelecanus crispus	n.a.	1	0.0002457	n.a.	n.a.	n.a.	n.a.	211	-
21	Great bustard	Otis tarda	n.a.	1	0.0002457	n.a.	n.a.	n.a.	n.a.	211	-
22	Greylag goose	Anser anser	Meat	3	0.0007371	7	210,000	70,000.00	$30	633	$19,273
23	Ptarmigans	Lagopus lagopus	Meat	2	0.0004914	2	73,000	36,500.00	$16	422	$6,700
											$44,396

Table 17. Household Wildlife Purchases: Annual Expenditures, Fish

HOUSEHOLD WILDLIFE PURCHASE

Extrapolation of Annual Expenditure

Fish

				SAMPLE						POPULATION	
Code	Common Name	Scientific Name	Trade Term	No. of Purchasing Households	% Purchasing Households over Total	Annual Purchases by Species and Term	Total Annual Purchases	Average Annual Expenditure per Household MNT	USD	Estimated No.of Purchasing Households	Estimated Total Annual Expenditure
				$(a) = n_{pi}$	$(b) = (a)/4,070$	(c)	$(d) = e_i$	$(e) = (d)/(a)$	$(f) = (3)/2,300$	$(g)=(b) * 859,106$	$(h) = (g) * (f)$
24	Northern pike	Esox lucius	Meat	17	0.0041769	67	449,000	26,411.76	$11	3588	$41,207
			Oil (grams)	1	0.0002457	100	12,000	12,000.00	$5	211	$1,101
25	Lenok	Brachymystax lenok	Meat	83	0.02039312	447	3,658,500	44,078.31	$19	17520	$335,759
26	Altai osman	Oreolàuciscus potanini	Meat	10	0.002457	120	385,000	38,500.00	$17	2111	$35,333
27	Arctic grayling	Thymallus arcticus	Meat	5	0.0012285	15	111,000	22,200.00	$10	1055	$10,187
			Oil (grams)	2	0.0004914	100	15,000	7,500.00	$3	422	$1,377
28	Amur catfish	Parasilurus asotus	Meat	20	0.004914	118	741,000	37,050.00	$16	4222	$68,005
29	Arctic lamprey	Lampetra japonica	Meat	1	0.0002457	1	25,000	25,000.00	$11	211	$2,294
30	Common withefish	Coregonus lavaretus	Meat	149	0.03660934	660	6,217,000	41,724.83	$18	31451	$570,565
31	Common carp	Cyprinus carpio	Meat	26	0.00638821	153	1,003,000	38,576.92	$17	5488	$92,050
32	Common perch	Perca fluviatilis	Meat	37	0.00909091	234	921,300	24,900.00	$11	7810	$84,552
33	Siberian salmon	Hucho Taimen	Meat	21	0.00515971	80	646,000	30,761.90	$13	4433	$59,287
			Oil (grams)	2	0.0004914	7	7,000	3,500.00	$2	422	$642
34	Grass carp	Grass carp	Meat	13	0.0031941	42	314,000	24,153.85	$11	2744	$28,817
-	Fish (Generic)	-	Meat	11	0.0027027	40	381,000	34,636.36	$15	2322	$34,966
											$1,366,145

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Table 18. Household Wildlife Purchases, Traded Parts

2015 MONGOLIA

HOUSEHOLD WILDLIFE PURCHA
Traded Parts

			Meat	Oil	Skin/Fur	Antlers	Blood Antler	Bone	Blood	Liver	Lung	Brain	Stomach	Testicle	Tongue	Bile	Tale
MAMMALS & BIRDS	Altai marmot	*Marmota baibacina*	●		●												
	Altai snowcock	*Tetragallus altaicus*	●														
	Argali	*Ovis ammon*				●											
	Black kite	*Milvus migrans*								●							
	Brown bear	*Ursus arctos*		●	●											●	
	Common raven	*Corvus corax*															
	Corsac fox	*Vulpes corsas*	●		●												
	European badger	*Meles meles*		●					●		●						
	Goitered gazelle	*Gazella subguttorosa*	●														
	Gray Wolf	*Canis lupus*	●		●			●					●	●	●		
	Greylag goose	*Anser anser*															
	Mongolian gazelle	*Procapra gutturosa*	●		●												
	Muskrat	*Ondata zibathicus*															
	Red Deer	*Cervus elaphus*			●	●	●										
	Red Fox	*Vulpes vulpes*	●		●												
	Sable	*Martes zibellina*			●												
	Siberian Roe Deer	*Capreolus pygargus*	●		●												
	Siberian Marmot	*Marmota sibirica*	●		●					●							●
	Wild Boar	*Sus scrofa*		●					●	●							
	Willow ptarmigans	*Lagopus lagopus*															
FISH	Sharp-snouted lenok	*Brachymystax lenok*	●														
	Common whitefish	*Coregonus lavaretus*	●														
	Common Carp	*Cyprinus carpio*	●														
	Northern Pike	*Esox lucius*	●	●													
	Grass carp	*Grass carp*	●														
	Siberian Salmon	*Hucho Taimen*	●	●													
	Arctic lamprey	*Lampetra japonica*	●														
	Altai Osman	*Oreolåuciscus potanini*	●														
	Amur catfish	*Parasilurus asotus*	●														
	Common perch	*Perca fluviatilis*	●														
	Arctic grayling	*Thymallus arcticus*	●	●													
	Fish (Generic)	-	●														

(*) Data on traded parts not available for 3 species (Great bustard, Dalmatian pelican and American mink)

Restaurants

The significance of fish harvesting and purchases in the Household survey triggered further inquiries in the context of the Market survey into fish consumption in Mongolia, a country where meat and milk products have traditionally been the dominant source of protein. Although no households claimed to sell the fish they caught, the fact that locally caught fish are found in markets and restaurants was visible in 2005 and in 2015. The number of fishers and the harvest volume, however, significantly changed between the two surveys. As one way of measuring the level of fish consumption and trade volumes, the survey decided to look more specifically at restaurants that offer fish on their menu.

SURVEY SAMPLE

A total of 108 restaurants offering fish were found and interviewed in the sampling areas defined for the Market survey. Most of these were located in UB (87 out of the 108 or 81% of the sample), a result that by itself suggests that the vast majority of fish consumption in restaurants is UB-based. Expecting that restaurants offering foreign cuisine and mostly catering for foreigners would be dominating this particular market segment, each restaurant surveyed was classified by the dominant category of ethnic cuisine (herein, cuisine style) offered. The results are shown in Table 20.

Although restaurants offering Mongolian cuisine dominate the sample, they may not represent the largest volume of fish that is served in restaurants overall. At 42% of the total sample, traditional Mongolian restaurants are the top cuisine style category selling fish. The next highest cuisine style is Korean (30%), followed by Chinese, Italian, and European (each at 17%). The remaining styles constitute minor percentages of the total sample. Not having an estimate of all restaurants, or knowing how many of each cuisine style there are means that extrapolation for the total population is not feasible. It is to be expected, however, that Mongolian cuisine restaurants dominate the market.

This dominance of the market, however, may not translate into a similar dominance when it comes to the total volume of fish sold. This comes from the fact that foreigners are a disproportionately large percentage of those ordering fish compared to their population base and that the combined percentage of foreign cuisine restaurants is actually 58% of the sample. Stated another way, even though foreigners represent a vanishingly small percentage of Mongolia's residents (0.6%),[404] they are nonetheless a large portion of those that order fish. Inquiring about the most common clients that order fish, 40% of the restaurant respondents claimed that it was roughly equal between Mongolians and foreigners. Another 37% claimed that Mongolians were the most common; 20% listed foreigners; and 3% were uncertain.[405]

Table 19. Restaurants selling fish listed according to ethnic cuisine type.

2015 MONGOLIA

RESTAURANTS SELLING FISH BY CUISINE STYLE
n=108

CUISINE STYLE	% of Restaurants
Traditional Mongolian	42%
Korea	30%
China	17%
Italy	17%
European	17%
Japan	7%
Russia	6%
Ireland	4%
Mexico	4%
India	3%
Hungary	3%
Asian	3%
Turkey	2%
Azerbaijan	2%
German	1%
Ukraine	1%
USA	1%

SPECIES VARIETY

Asked about the species of fish they buy to supply their restaurant, respondents referred up to 37 different species. Contrary to what happened in the household survey, all respondents were able to identify the names of the species and no responses such as "big fish" or "small fish" were recorded. Although this is certainly

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[404] United Nations Department of Social and Economic Affairs, Trends in International Migrant Stock: The 2015 Revision.

[405] Restaurant Survey (Question 3, n=108).

not a comprehensive restaurants' survey, the observed trend is that only the top four species are commonly used in the restaurant sector. The remaining 33 species were mentioned by less than 5% of the restaurants surveyed. In the full list, there are several marine species (e.g., tuna, octopus, anchovies, shrimp) that are foreign to Mongolia and thus imported. In fact, only seven out of the 37 species mentioned are native to Mongolia. These include common whitefish, taimen, perch, Artic grayling, common and grass carps, and lenok. Restaurants reported sourcing these only in country, with the exception of a couple of species that are sourced both domestically and internationally (whitefish is sourced locally in 56% of the cases and from abroad in 44% of the cases; Perch is sourced 50% locally).

Taimen continue to be part of restaurant's menu in Mongolia. In 2005, the survey documented its presence in markets and restaurants, but was unable to provide any specific numbers due to low response rates. In 2015, 9% of the restaurants surveyed reported serving taimen. Listed as Rare, taimen is legally restricted to catch-and-release only. That it is openly part of any restaurant menu is surprising, let alone 9% of those surveyed. Criminal penalties now apply not only to its illegal catch, but also to its trade (both sale and purchase) ranging between 1 to 5 years incarceration and administrative penalties of 5,400 to 27,000 units (MNT 10,800 to 54,000). As reported in the 2005 survey, 'little is known about the life history of taimen in Mongolia,' where they over winter, or whether they return to the same areas during the rest of the year. What is known is that they do not breed until the age of 6 or 7 and have long lifespans of 30 years or more. As a result, they are considered extremely vulnerable to overfishing.

Table 20. Fish purchases in restaurants by species

2015 MONGOLIA
RESTAURANTS FISH PURCHASES
Ranking of species
n = 108

#	Fish Species	% Restaurants adquiring the species	Mongolia native species
#1	Whitefish	44%	⊙
#2	Salmon	27%	
#3	Tuna	13%	
#4	Taimen	9%	⊙
#5	Tilapia	4%	
#6	Gunchi		
#7	Perch		⊙
#8	Arctic grayling	3%	⊙
#9	Eastern brook lamprey		
#10	Asian common carp		⊙
#11	East asian catfish		
#12	Grass carp		⊙
#13	Lenok	2%	⊙
#14	Octopus		
#15	Selid		
#16	Tuntei		
#17	Zagas		
#18	Altai's osman		⊙
#19	Anchovies		
#20	Cololabis		
#21	Fanga		
#22	Gudin		
#23	Guyun		
#24	Hamachi		
#25	Hango		
#26	Hargai		
#27	Hirami	1%	
#28	Kalchigui		
#29	Kudunogui		
#30	Nertei		
#31	Pike		⊙
#32	Saba		
#33	Shrimp		
#34	Solongosoos		
#35	Tsamtsi		
#36	Tsubodai		
#37	Uden		

In an attempt to quantify the value of fish-related business to restaurants, respondents were asked about what they considered their average sales figure from their best selling months. Restaurants were allowed to answer an array of options including the number of fish plates sold, kilos of fish used, amount of fish sold, or income generated by selling fish-based dishes. Results indicate that, on average, fish-related business translates to a monthly income of up to USD 355 per restaurant (for n=99), 55 plates sold (for n=96), or 2,000 fish (for n=59). Assuming that in a year, all months perform at 80% of the best case scenario (i.e., USD 280 per month), the aggregated trade value of the 99 restaurants providing a monthly value would come to USD 337,000 a year.

It is not possible to extrapolate this survey data to the entire population of restaurants, since neither the total number of restaurants operating in Mongolia nor the number of restaurants that sell fish are available. Official statistics estimate the 2015 aggregated annual revenue for the sector at MNT 205.5 billion or around USD 90 million, with 86% of this revenue being generated in UB.[406] These levels of

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[406] Mongolian Statistical Information Service (www.1212.mn).

income suggest that fish related business could be several times greater than the survey results.

SEASONALITY OF PURCHASES

Analysis of purchase seasonality reveals that local markets offer fish across all seasons, and restaurants are able to source their local fish all year. Only Arctic grayling and Altai osman appear to be restricted in the market to the spring, and Arctic grayling again to the fall. As most, if not all of the fish procured by restaurants is reportedly frozen (see next section), it is possible that the seasons of sale do not match up with catches. The frequency of purchases and the fact that even frozen product is not kept for long periods suggest that at least a portion of the fish sold have been harvested outside of the legally permitted season. Fishing seasons for all but Taimen are generally long, extending for most species from early summer through the winter. The frequency of fish purchases completed daily by 4% of the restaurants, weekly by 55%, and monthly by the 36%. Only 11% declare to buy fish depending on the season. Taimen, for example, apart from being a catch-and-release only species, is apparently sold in every season when the open season is restricted to summer and fall.

Figure 12. Seasonality of fish purchases by restaurants
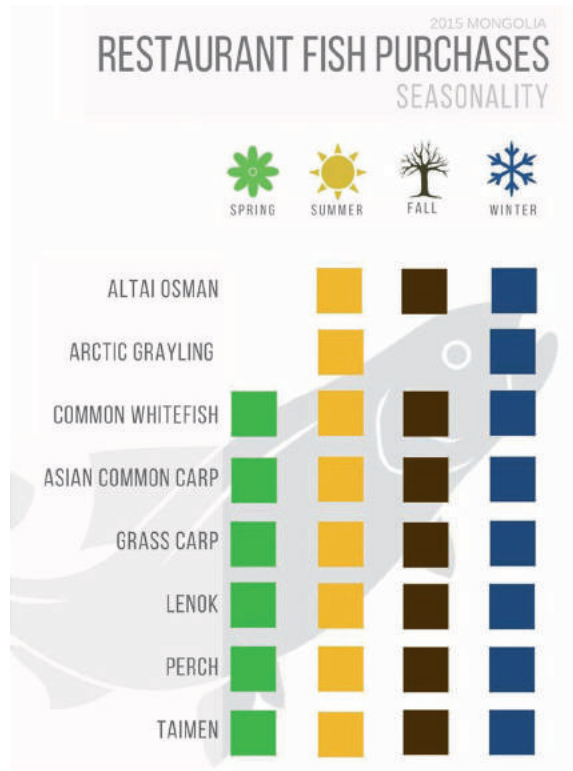
PROCESSED FORM

Frozen fish is the dominant form purchased by the restaurants in the sample. Among all the fish purchases reported (n=159), 70% involved frozen fish (see Figure 13) including all eight Mongolian species. Fresh fish is the second most important form, but constitute just 13% of all purchases. Five of the Mongolian species were reported among fresh fish procurements. These species are Arctic whitefish, grayling, taimen, lenok and osman. Without refrigerated shipping capacity, fresh fish procurements indicate at least some degree of proximity to harvesting locations. The next form of fish procurement is canned fish, constituting 8% of total purchases. No Mongolian fish were found in relation to canned purchases. This is also true for pickled fish, a processed form representing 4% of the purchases. Both canned and pickled forms require more sophisticated equipment that does not yet seem to be available for the fish sector in Mongolia. Purchases of smoked fish, a more rudimentary process that is possible to produce even at the household level, constitute 6% of purchases and includes three Mongolian species; Arctic whitefish, taimen, and pike.

Figure 13. Restaurant fish purchases by processed form
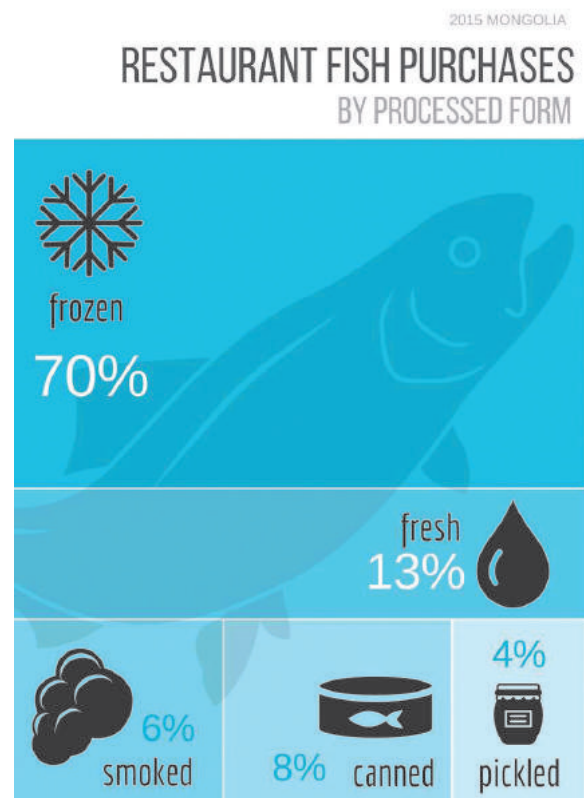
PURCHASE SOURCES

The following figures reveal that, when examining the sourcing of Mongolian species, suppliers to restaurants are mostly wholesalers (67% of the purchases), with direct purchasing from fishermen relatively low (15%) and similar to that of retail traders (17%) (See figure 14). The assumption is that UB restaurants are mostly sourcing from wholesalers, while outside UB restaurants may have greater opportunities to purchase directly from fishers. It is worth remembering that none of the fishermen interviewed in the household survey admitted selling any of their capture.

Figure 14. Suppliers of Mongolian Fish to Restaurants
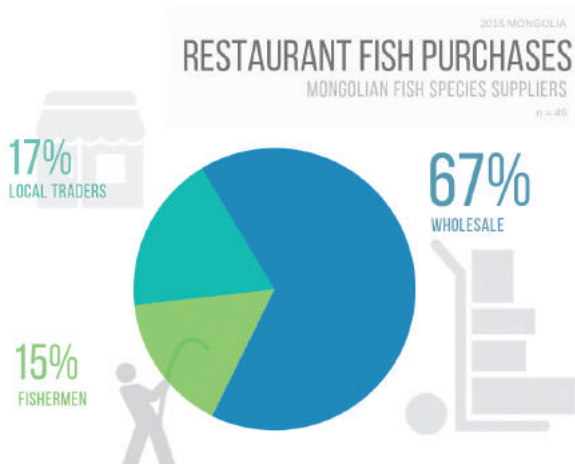
Concerning the supply of foreign fish species, restaurants buy directly from importers in 55% of the cases, from wholesalers in 33% of the cases, and directly from foreign exporters in 12% of the cases (figure 15).

Figure 15. Suppliers of Foreign Fish to Restaurants
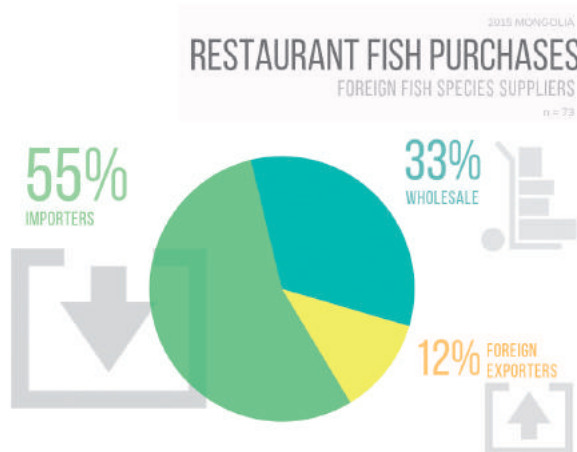
All of this data describes a supply chain for fish products that is relatively mature and includes many actors. Prices and product presentations, however, reflect a certain market immaturity with national fish being sold by the piece and not by the kilo, resulting in a pricing system that is not entirely objective or transparent. Restaurants report paying between MNT 5,000 and MNT 60,000 (USD 2.17 and USD 26.08) for locally sourced Artic whitefish, with the price more dependent on the size than on its processing (fresh, frozen or smoked, n=38). For taimen, purchase prices can range between MNT 17,000 and MNT 48,000 (USD 7.39 and USD 20.87).

Image 8. Fresh fish procured directly from fisher by a restaurant in Uvs aimag

A Restaurant in Ulaangom soum (Uvs aimag) sources Khyargas Lake's fish directly from fishermen at 2,000 MNT each.

Traditional Medicine

Mongolian Traditional Medicine Hospitals and practitioners rely primarily on herbal preparations for their treatments, with wildlife fauna playing a distinct, but minor role by comparison. A long list of health issues are handled by TM practitioners using flora-based preparations to treat internal organ diseases, as affecting for example, the heart, kidneys, liver, bile, lungs and stomach. They are also used to treat certain diseases related to bones, blood, colds, arthritis, and neurological problems. Flora-based remedies are also prescribed for general health prevention (hair strengthening, healthy sleep, or internal cleansing), as well as natural painkillers. Both practitioners and end

users usually pick their own supply to do the preparations, with almost all parts of the plant (i.e. seeds, stems, leafs, roots and flowers) used.

Fauna-based products, on the other hand, were reported by just over half (55%, n=34) of the TM survey respondents. The survey identified six species of fauna as the most commonly used. Information was vague on the origin of the wildlife, as TM practitioners appeared to be more familiar with their uses than their place of origin. Evidence was collected about imported and locally prepared TM product types though pictures, but no purchase volumes or prices were collected in the survey. The results nonetheless offer information on the wildlife parts used and their properties. Species are listed according to the number of times they were mentioned.

Image 9. Imported Russian TM products
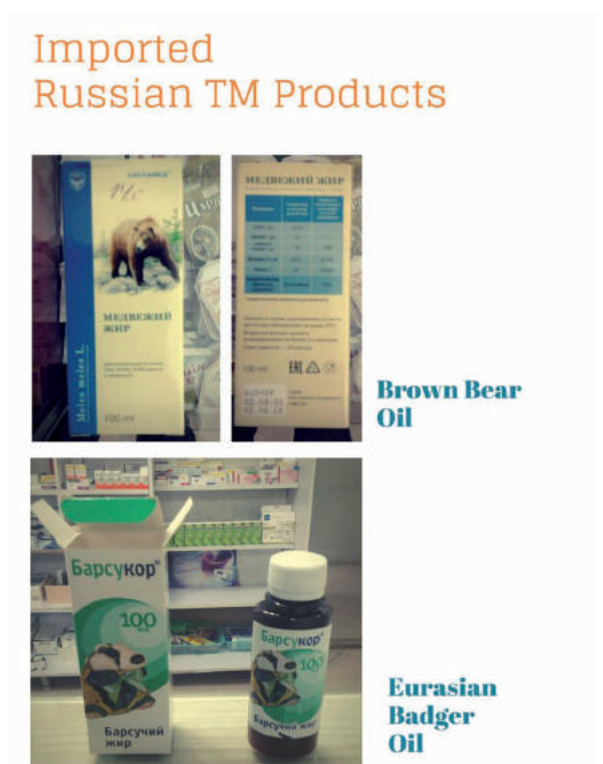
Brown Bear. Brown bear oil and brown bear bile are used to treat joint pain, chronic diseases, inflammations, skin burns, and stomach problems. Respondents unanimously mentioned the client preference for brown bear products of Mongolian origin, but that more affordable Russian TM products are also commonplace on the market.

Eurasian Badger. The use of Eurasian badger oil to treat skin burns, stomach ulcers, and colon inflammations were mentioned as common in UB and Selenge.

Marmot. Marmot oil was cited as used in cases of stomach ulcers and joint problems (arthritis pain and bone calcification).

Red Fox. Red Fox lung was mentioned to treat lung problems.

Gray Wolf. Two respondents identified gray wolf meat as a product commonly used in UB for preventing diseases, and for treating cold and lung inflammation. Respondents mentioned Sukhbaatar as the source aimag and local traders as the suppliers.

Musk Deer. Respondents from UB identified musk deer products (testicles and wombs) as used in the capital, although not commonly. These products are used for preventing diseases and boosting the immune system, they are also used for the treatment of neurological diseases, paralysis, and inflammatory processes.

Image 10. Mongolian homemade TM products

Retail Markets

SURVEY SAMPLE

The retail market survey was conducted in 106 stores trading wildlife, 63% of them located in UB. The survey team targeted many types of stores, including those selling gifts and souvenirs, clothing, antiques, traditional medicine products, household decorations, fish vendors, and jewelry stores. Rather than try to identify and quantify sales for all wildlife trade products, the focus was on what stores self-reported as their top sellers. When asked about top sellers, shops reported information on 64 different products in total. Of these, several shops reported that more than one was considered a top seller resulting in 175 observations in 106 shops.

Image 11. Wildlife-based clothing and jewelry found in Mongolia's retail shops

Domestic clothing products from wolf, sable, fox, reindeer and marmot furs

Jewelry and decorative products made out of wolf , fox, deer, gazelle and marmot parts

Table 23 presents the complete list of wildlife related products, organized by market segment. These include 1) clothing and shoes, 2) jewelry, 3) food products, 4) medicinal products, 5) gifts and souvenirs, 6) religious artifacts, and 7) furniture and decoration. In addition to the column listing the wildlife product, another eight columns record:

- the number of shops reporting the product as a bestseller
- the percentage of all stores surveyed that were active in a particular market segment
- the country of origin for each product listed, including Mongolia, Russia, China, and Other
- the combined 'best month' sales for all stores that identified a particular product as a top seller; e.g., 13 stores self-reported their 'best month' sales volume for fox fur hats; the sum of all estimates for this product is listed in this column.
- the average sale price
- the estimated maximum monthly income for each product, aggregated result for all stores,
- the percentage this revenue represents of the total sales from all wildlife products in all segments

ESTIMATING SALES VOLUMES

Estimating sales volumes is based entirely on respondent recall. No additional observations or data were requested or recorded. Stores were asked about the maximum number of items sold (units) for a given wildlife product in a month, with results registered in the seventh column. The same column sums the total number of units sold for the 106 respondents (n=1,860 products). Some were not able to provide a number and in those cases, the table shows not available (n.a.). The total in this column references only the number of price 'observations' relative to the sample size. It is not intended for use to estimate total sales either for individual products or the market as a whole.

PRICING AND SALES VALUES

To estimate the total sales value for each product and market segment within the survey, stores were asked to state the average price for the product identified as a best seller. As happened for several products, when more than one shop was found to sell the same product, an average price was calculated using only the observations available. Because total sales volumes could not be readily verified, averaging of the prices does not account for differences in volume of items sold, only the price per unit. This information was used to make a rough estimate of the aggregated monthly trade value for these best sellers.

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For the shops surveyed and including all market segments, the total came to almost MNT 170 million or USD 74,000 a month. Extrapolated out for the entire year, sales were estimated at $888,000 for the top selling products, including Mongolian and foreign sources.

As noted, this figure only accounts for the bestsellers in each shop; mostly one product, but on some occasions two were recorded. In most instances, however, surveyors observed many more products, suggesting that the total income for this part of the survey is much higher. Another factor that would likely increase the current estimate substantially is that the 106 shops surveyed were located in UB and another eight aimags. The remaining 13 aimags were not surveyed and therefore no further figures were presented. As with the restaurant survey, extrapolation of these results is not possible as the total number of shops in each category in Mongolia that trade wildlife-based products is not known.

TOP SELLERS

As a whole, the top selling market segments within the sample are, in order of prevalence:

- **Clothing and Shoes:** Among the shops surveyed, this is by far the most important category. Just over half (54%) of the shops claim that wildlife-based apparel is one of their best selling products. Based on estimated maximum monthly sales, this market segment also represents 83% of the revenue generated by all market segments combined.

  Clothing articles reported include hats, coats, jackets, and boots. The most commonly used wildlife for these products are wolf, sable, reindeer, and badger. With the exception of two product types (crocodile skin boots and snake skin shoes), all of the wildlife in this market segment occurs in Mongolia. In most cases, stores also claim sourcing wildlife locally. Some stores also stocked imported apparel from China and Russia, in particular fox and sable fur products.

- **Jewelry:** The next most common top seller is jewelry, with 40% of the sample self-reporting this as an important category. As a function of overall revenue generation, it runs a distant second at just 8.76% of the revenue generated by all market segments.

  Unlike clothing, however, all products reported by retail shops include wildlife

sourced exclusively in Mongolia. In order of the frequency of observations, they are gray wolf (canines and ankles), followed by eagle, buzzard and vulture claws, wild boar canines, bear canines, and saker falcon claws.

- **Fish:** Already reported in the Restaurant survey, fish is another important wildlife trade segment in Mongolia's retail shops. Just under one third (28%) of the shops surveyed sell fish. With mostly low prices, overall revenue, however, is just 2.16% of the combined sales results.

  Of the 13 species identified by the shops, eight of them are sourced in Mongolia. The only species with a clear prevalence above all others is locally-sourced lenok.

- **Traditional Medicinal Products:** Not as common as other market segments, nonetheless 16% of stores reported TM products as top selling items. This portion of the survey described some of the same species and products revealed in the survey of TM hospitals (e.g., bear oil). Similar to the hospital survey, the actual species and sources were not always known (e.g., in some instances only 'fish', 'bird', and 'bear' are mentioned). Species specifically identified include red deer, Altai snowcock, and Eurasian badger.

  Sources of TM products are predominantly Mongolian, with the exception of bear oil that was reported as a top seller in two shops, but where the source in both cases is classified as 'other.'

- **Gifts and Souvenirs:** Present in 13% of the stores, this category is another important market segment. Total sales volumes, however could not be estimated as no information was offered for three of the four Mongolia sourced products.

  Of note in this market segment is the open sale of wildlife listed as Very Rare and Rare, including snow leopard and argali products.

The last two segments, **Religious Artifacts** (10%) and **Furniture and Decoration** (4%) comprise another 14% of the observed wildlife trade in retail shops. With the exception of Peafowl feathers, all species in these segments are sourced locally and include wolf, fox, marmot, red deer, and Mongolian gazelle. Several other species and parts are known to be on the market, but were not independently verifiable by surveyors. These include, in particular, bird feathers from eagle owl, raven, saker falcon, steppe and golden eagles, and ruddy shelducks.

Table 21. Wildlife products, sources, prices, and sales in retail shops[407]

WILDLIFE TRADE IN RETAIL SHOPS
Top Products, Sources, Prices and Sales
n=106

#	Product Category	Wildlife Related Product	No. of stores that sell product n_{ij}	% of all stores that sell product $\Sigma n_{ij}/n_i$	Mongolia	China	Russia	Other	Combined 'best month' sales for all stores $\Sigma s_{ij}/n_{ij}$	Average Price $\Sigma p_{ij}/n_{ij}$	Estimated Max. Monthly Income for Product $(\Sigma s_{ij}/n_{ij})^*(\Sigma p_{ij}/n_{ij})$ MNT	Max. Monthly Income for Mongolian Products MNT	Estimated Max. Monthly Income for Mongolian Products by Category MNT	Monthly Income for Mongolian Products by Category %
1	CLOTHING & SHOES	Fox fur hat	13		■	■			53	107,500	5,697,500	5,697,500		
2		Sable hat	12		■	■	■		28	333,000	9,324,000	9,324,000		
3		Sable coat	10		■	■	■		49	1,485,000	72,765,000	72,765,000		
4		Rabbit fur coat	5		■	■			10	186,000	1,860,000	1,860,000		
5		Reindeer fur boots	5				■		25	588,000	14,700,000			
6		Crocodile skin shoes	2					■	3	535,000	1,605,000			
7		Fox fur coat	2		■				1	100,000	100,000	100,000		
8		Eurasian badger hat	1	54%	■				2	40,000	80,000	80,000	93,956,500	82.84%
9		Fox fur vest	1		■				10	200,000	2,000,000	2,000,000		
10		Marmot fur belt	1		■				6	30,000	180,000	180,000		
11		Rabbit fur hat	1				■		3	30,000	90,000			
12		Snake skin boots	1					■	1	1,300,000	1,300,000			
13		Wolf fur coat	1		■				1	1,500,000	1,500,000	1,500,000		
14		Wolf fur hat	1		■				1	150,000	150,000	150,000		
15		Wolf fur jacket	1		■				1	300,000	300,000	300,000		
16	JEWELRY	Wolf canine	9		■				44	25,200	1,108,800	1,108,800		
17		Wolf ankle	8		■				51	33,444	1,705,667	1,705,667		
18		Wolf ankle (silver decorated)	8		■				31	57,500	1,782,500	1,782,500		
19		Wolf canine (silver decorated)	7		■				26	77,857	2,024,286	2,024,286		
20		Vulture claw (silver decorated)	3	40%	■				20	12,000	240,000	240,000	9,934,252	8.76%
21		Wild boar canine	3		■				2	174,000	348,000	348,000		
22		Vulture talon (silver decorated)	2		■				13	125,000	1,625,000	1,625,000		
23		Bear canine (silver decorated)	1		■				2	250,000	500,000	500,000		
24		Saker falcon claw (silver decorate	1		■				5	120,000	600,000	600,000		
25	FOOD PRODUCTS	Lenok	7		■	■	■		72	14,000	1,008,000	1,008,000		
26		Salmon	6				■	■	88	31,500	2,772,000			
27		Whitefish	3		■	■			6	12,500	75,000	75,000		
28		Pangasius	2			■			60	12,000	720,000			
29		Tilapia	2			■		■	60	17,000	1,020,000			
30		Pacific herring	2				■		29	4,000	116,000			
31		Asian common carp	2	28%	■		■		40	6,000	240,000	240,000	2,448,000	2.16%
32		Buir Lake pickled fish	1		■				30	6,000	180,000	180,000		
33		Crucian carp	1		■				100	2,000	200,000	200,000		
34		Grass carp	1		■				200	3,000	600,000	600,000		
35		Pike	1		■				3	15,000	45,000	45,000		
36		Tuna	1					■	2	44,000	88,000			
37		West Asian catfish	1		■				100	1,000	100,000	100,000		
38	MEDICINAL PRODUCTS	Eurasian badger oil	5		■		■		3	17,050	51,150	51,150		
39		Bear oil	2				■		2	14,800	29,600			
40		Fish oil	2		■		■		4	13,000	52,000	52,000		
41		Herbal medicine	2		■				32	2,125	68,000	68,000		
42		Altai snowcock guano	1	16%	■				n.a.	-	-	-	1,354,150	1.19%
43		Guano-based medicine	1		■				500	2,000	1,000,000	1,000,000		
44		Red deer blood antler energy drink	1		■				30	600	18,000	18,000		
45		Red deer blood antler pills	1		■				10	9,000	90,000	90,000		
46		Red deer oil	1		■	■			1	75,000	75,000	75,000		
47		Fish back bone	1		■				n.a.	5,000	-	-		
48	GIFTS & SOUVENIRS	Pearl fish wallet	5			■	■	■	10	360,000	3,600,000			
49		Elephant ivory souvenirs	3					■	11	2,600,000	28,600,000			
50		Argali head (Taxidermied)	1		■				n.a.	800,000	-	-		
51		Crocodile skin bag & wallet	1	13%				■	1	900,000	900,000		50,000	0.04%
52		Fox head (Taxidermied)	1		■				n.a.	60,000	-	-		
53		Snow leopard head (Taxidermied)	1		■				n.a.	500,000	-	-		
54		Mongolian gazelle whip	1		■				5	10,000	50,000	50,000		
55		Snake skin bag and wallet	1					■	3	250,000	750,000			
56	RELIGIOUS ARTEFACTS	Red deer antler	3		■				6	55,000	330,000	330,000		
57		Peafowl Feathers	3		■	■			36	6,500	234,000	234,000		
58		Wolf furs	3	10%	■				6	250,000	1,500,000	1,500,000	2,544,000	2.24%
59		Mongolian gazelle antler	1		■				2	15,000	30,000	30,000		
60		Wolf canine	1		■				3	150,000	450,000	450,000		
61	FURNITURE & DECORATION	Fox furs	1		■				1	80,000	80,000	80,000		
62		Marmot fur sofa covers	1	4%	■				6	500,000	3,000,000	3,000,000	3,130,000	2.76%
63		Snuff bottle spoon (Roe deer antle	1		■				10	5,000	50,000	50,000		
64		Wolf furs	1		■				n.a.	250,000	-	-		
									1,860		169,707,502		113,416,902	100.00%
											$ 73,785.87		$ 49,311.70	

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[407] Vulture talons may be misidentified eagle talons.

Mongolian and foreign fish at retail markets.
Presentations include fresh, frozen, and smoked.

Outdoor Markets

Apart from formal retail stores, the survey also visited well-known outdoor wildlife markets, some of which have been in continuous operation since the original Silent Steppe survey. Within the sampling area, this included outdoor markets in selected soums, six markets in the capital (including Kharkhorin, Naraan Tuul, Nomin, Bayanzurkh Market, Khuchit Shonkhor, and Bars), and three more trading locations on the outskirts of UB (Emeelt, Baganuur, and Nalaikh).

Image 12. Wildlife products observed by team surveyors on display in outdoor markets across Mongolia

To ensure the field team's safety, these visits were not conducted with researchers acting as surveyors nor posing as actual buyers. Instead, team members acted simply as mystery shoppers, wandering around and randomly requesting information on products and prices as they came across them. Photographic evidence was collected only on a few occasions, again for safety reasons (see image 12 and 13)

Two facts were clear throughout the visits to the outdoor markets. The first is that law enforcement has succeeded in putting some degree of pressure on traders, pushing wildlife trade toward the black market. Traders did not always offer their products openly and usually only a limited amount of product –one or two- were available on site, hidden in black bags with traders affirming that more were available in a different location if the buyer was interested. On several occasions, mystery shoppers were invited to visit homes or private spaces close to the market to see the entire product offering. Secrecy was the norm.

The second fact is that illegal wildlife trade in Mongolia has become an 'on-demand' enterprise. Mystery shoppers were asked repeatedly about the amount of product they wanted to purchase. Many traders insisted on the fact they could get any amount requested, including wolf, red fox, sable, and marmot. In one instance, surveyors were able to engage in some follow-up by calling a phone number provided to one of the secret buyers, which put them in contact with a dealer in Zamiin-Uud. This trader explained that he could get others to hunt on demand any amount and kind of fur the client may request. This on demand trade was also captured in some formal retail shops in UB. These interactions were the closest the survey team came to the organized criminal networks discussed when outlining the bigger picture related to IWT in Chapter 3.

The field survey recorded a total of 258 outdoor markets' price observations during September and October of 2016, with 124 gathered in UB (48%) and 134 in the aimags (52%). Data records included the specific trading site, species being traded, their parts, and prices. The analysis took into account only 122 of the price observations (around 50% of the total) after discarding outliers and all foreign imported products (mostly fish species and fur clothing coming from China and Russia) to focus solely on Mongolia sourced products. The analysis focused on raw material and also discarded observations of processed items representing unique pieces, which presented difficulties in aggregating observations into homogeneous categories (i.e. unique souvenirs or pieces of jewelry). The result is a price analysis based on a low number of observations, but the results are mostly consistent with price information offered by both households, restaurants, and other market segments and are considered appropriate for purposes of estimating trade values.

Image 13. Wolf furs exhibited in UB

Table 23 presents the results of the price analysis, with 48 observations in UB markets and 74 in markets outside the capital. Prices have been aggregated by product categories and then organized from the most expensive product to the least. Product categories are:

- Whole animal
- Meat
- Fur
- Antler
- Oil
- Other parts

Because of the distinct price variability between UB and the rest of the country, three average prices are presented – one for UB, a separate average price for aimags, and a national average. Prices for UB and aimags are presented only in MNT; the national average has been converted to USD.

For the most part, UB prices are substantially higher than those charged outside the capital city. Marmot, for example, is recorded as selling whole for MNT 37,500 on average in the aimags and MNT 41,500 in UB. Where the price spread was considered significant, the lower price was used.

Table 22. Wildlife products and prices in outdoor markets, 2015

OUTDOOR WILDLIFE MARKETS
Price Report

Product Category	Trade Unit	Species	UB Average Price (MNT)	ni	Aimag Average Price (MNT)	ni	Mongolia Average Price (MNT)	n	Mongolia Average Price USD
WHOLE ANIMAL	By Piece	Wolf	175,000	(1)	195,000	(6)	193,000	(7)	$ 84
		Altai snowcock			120,000	(2)	120,000	(2)	$ 52
		Mongolian gazelle	92,500	(2)	22,500	(2)	65,000	(4)	$ 28
		Marmot	41,500	(6)	37,500	(6)	40,000	(12)	$ 17
		Black tailed gazelle			25,000	(1)	25,000	(1)	$ 11
		Eurasian badger			20,000	(1)	20,000	(1)	$ 9
		White tailed gazelle			13,000	(2)	13,000	(2)	$ 6
		Pike	9,000	(1)	14,250	(2)	12,800	(3)	$ 6
		East Asian catfish	7,000	(1)	13,750	(2)	11,500	(3)	$ 5
		Asian common carp			11,250	(2)	11,250	(2)	$ 5
		Altai osman			8,000	(1)	8,000	(1)	$ 3
		Sable			5,000	(1)	5,000	(1)	$ 2
		Perch			5,000	(1)	5,000	(1)	$ 2
		Lenok			4,750	(2)	4,750	(3)	$ 2
		Arctic grayling	1,000	(1)	4,000	(2)	3,000	(3)	$ 1
		Peafowl	1,500	(1)			1,500	(1)	$ 1
MEAT	By Kg	Wild boar			14,650	(3)	14,650	(1)	$ 6
		Pike	8,000	(1)	15,000	(1)	11,500	(2)	$ 5
		Arctic whitefish	10,200	(2)			10,200	(2)	$ 4
		Lenok	9,750	(3)			9,750	(3)	$ 4
		Asian common carp	9,500	(2)			9,500	(2)	$ 4
		Arctic grayling			9,000	(1)	9,000	(1)	$ 4
		Grass carp	8,000	(1)			8,000	(1)	$ 3
		Altai osman			4,000	(1)	4,000	(1)	$ 2
		Mongolian gazelle			3,000	(1)	3,000	(1)	$ 1
FURS	By Piece	Wolf fur	695,000	(4)			695,000	(4)	$ 302
		Fox fur	252,500	(4)	177,000	(5)	252,500	(9)	$ 110
		Rabbit fur			182,000	(3)	182,000	(3)	$ 79
		Sable fur	132,000	(2)			132,000	(2)	$ 57
		Marmot fur	8,000	(1)			8,000	(1)	$ 3
ANTLERS	By Piece	Reindeer antlers			167,000	(3)	205,000	(3)	$ 89
		Saiga antelope antlers			175,000	(1)	175,000	(2)	$ 76
		Gazelle antlers	32,500	(1)	14,500	(1)	23,500	(2)	$ 10
		Red deer antlers	15,000	(1)			15,000	(1)	$ 7
		Red deer (blood antlers)			4,800	(1)	4,800	(1)	$ 2
OIL	By 100 ml	Deer oil	66,000	(1)	150,000	(1)	108,000	(2)	$ 47
		Marmot oil			30,000	(1)	30,000	(1)	$ 13
		Brown bear oil	28,000	(1)	19,500	(1)	22,500	(2)	$ 10
		Eurasian badger oil	14,000	(1)	13,300	(5)	13,500	(6)	$ 6
		Fish oil			12,050	(3)	12,050	(3)	$ 5
OTHERS		Wolf bone			100,000	(1)	100,000	(1)	$ 43
		Wolf brain			40,000	(1)	40,000	(1)	$ 17
		Marmot bone	40,000	(1)			40,000	(1)	$ 17
		Vulture dried claws	40,000	(1)			40,000	(1)	$ 17
		Gazelle hooves (kg)			25,000	(1)	25,000	(1)	$ 11
		Wolf ankle	50,000	(1)	25,300	(5)	22,000	(6)	$ 10
		Marmot ankle	25,000	(2)	7,000	(1)	19,000	(3)	$ 8
		Eagle head	15,000	(1)			15,000	(1)	$ 7
		Owl head	15,000	(1)			15,000	(1)	$ 7
		Wolf tendon	15,000	(1)			15,000	(1)	$ 7
		Peafowl feathers	1,750	(2)			1,750	(2)	$ 1
				(48)		(74)		(122)	

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E-Commerce

The survey explored the possible existence of e-commerce for local wildlife in Mongolian sites, finding two types of sites:

- **direct commerce sites**, listing products and prices with the opportunity to make purchases online; and

- **online advertising only**, listing products and prices, but where the final order, delivery of the product and payment could only be made offline based on direct communications between the seller and buyer.

The survey found only one platform in the first category (www.emonos.mn), offering only a couple of traditional medicine products that are probably imported. The predominant use of the Internet for wildlife sales in Mongolia instead appeared to be for online advertising, offering contact information of the seller to later close transactions offline. During the month of September 2016, the team identified two different sites containing 40 wildlife related ads. One was www.unegui.mn, a popular Mongolian site for classified ads, while the other was the global social media site, Facebook.

The following figures show the prices (converted into USD) for various products of the five most commonly advertised species: marmot, wolf, deer, bear, and badger. The most expensive product, however, was not among them. Instead it was a pair of Dalmatian pelican beaks offered for MNT 3.5 million or USD 1,500.

From the advertisements alone, it is not possible to estimate the volume of online trade for a given month or year. The figures nonetheless hint at which species are the most important simply by showing which ones are most frequently advertised. They also nicely illustrate the type of products being advertised and provide a comparison against prices documented at other points of the trade chain. As discussed in Chapter 4, Mongolia now imposes more stringent penalties for advertising wildlife, with criminal penalties applicable for trade in species listed as Very Rare or Rare, and administrative penalties for advertising any wildlife that has been illegally harvested.

GRAY WOLF

Across the entire survey from Household to Market to Enforcement, Mongolia's gray wolf is one of the most common species harvested and traded.

The online market is no different, with more advertisements and more parts offered than for any other species. Observed prices are similar to, but not always lower than, those recorded in other surveys. At USD 110 for a whole animal (figure 16), the online price is 24% more expensive than the average rate observed in the outdoor markets (USD 84), but substantially lower than the price listed for a processed wolf fur (USD 302). It is also many times less than the prices key informants quoted for wolf trade with China. This is also one of two species for which live animals were offered (Eurasian badger is the other).

Figure16. Online gray wolf products and prices

MARMOT

Marmot was not surprisingly the other most frequently advertised species. As in the case of the wolf, marmot had a prominent role across the survey as one of the top harvested and traded species. In one instance, a seller offered 300 marmot ankles in a single ad for $5/ankle. The only other product advertised was for whole marmot at $17/animal (figure 17). This price is consistent with the average price observed in the market survey and only slightly more than the average price observed in UB. The Law on Advertisements prohibits advertising for the sale of "organs or raw materials" from wild animals that are not legally harvested, with administrative penalties defined in the Law on Infringements. However, unless there is a complete ban on hunting marmot, there is no way to know

whether the ankles, (which presumably constitute 'raw materials') are in fact being advertised illegally as well.

Figure 17. Online marmot products and prices

RED DEER

Red deer ranked among the top ten targeted species identified in 2005 and appears again in 2015 among the top targeted species. Low levels of hunter responses, however, have affected the ability to estimate total take and trade of red deer in both surveys. Internet trade of red deer, however, was not known in 2005. Along with the other primary targets, red deer parts are now available online. Article 14 of the Law on Advertisements expressly prohibits advertising for the 'supply, trade, and purchase of rare and endangered species of fauna,' specifically identifying red deer antlers, genitals, etc. All of the products advertised therefore should be illegal.

Internet prices are hard to compare with those found elsewhere as the units are not standardized. Whole antlers were offered for USD 110 (figure 18), which is more than the USD 89 found for reindeer antlers.

Figure 18. Online red deer products and prices

BROWN BEAR

Not among the top ten in 2005, Mongolia's brown bear is nonetheless among the few species found in the Internet trade research of this survey. Population surveys conducted in 1986 estimated 1 bear for every 100 km2, or roughly 500 bears in total nationwide. Anecdotal information and some of the survey's recorded prices suggest that there may be few left. A set of paws that sold for USD 100 in 2005 is now advertised for USD 750; bear oil sold for roughly USD 0.90/liter in 2005 and is now advertised at USD 60/liter. This one advertisement on the Internet may not be representative of an entire market, but it is similar to the average price found in Mongolia's outdoor markets of USD 100/liter for bear oil. In either case, prices for brown bear have effectively increased 60 to 100 times in the last ten years, which would be consistent with suspected scarcity.

Figure 19. Online brown bear products and prices

EURASIAN BADGER

The Eurasian badger was the last of the species identified in the online survey. Also not among the more common species reported either by hunters or purchasers, badger products are nonetheless actively traded and a sought after commodity in China and elsewhere. In the market survey, one store in UB and five stores in the aimags were found selling badger product, but only the oil for an average of MNT 135,000 (USD 58.70) per liter; a price that is consistent with the online price of USD 60/liter. Only one store was found selling whole badger; the price was substantially less than the advertised price online – USD 9 in store compared USD 110 online. A badger fur was found in one store priced at $40, but not in its raw form, which was advertised online at $22 per skin (figure 20). Markets for live badgers were not recorded in any part of the survey.

Figure 20. Online Eurasian badger products and prices

Trophy Hunting

Collecting data for trophy hunting proved to be the most challenging information to compile in the survey. The team found up to 13 specialized tourism agencies organizing hunting and/or fishing trips for international visitors and many more tourism agencies listed in the official census. In spite of being contacted to request their collaboration, accompanying the request with an official letter from the Ministry of Environment, the majority refused to receive surveyors. In the end, only two hunting companies participated in the survey and shared information, which does not allow for any estimation or extrapolation. Results, thus, are presented for illustrative purposes.

The first agency is based in UB and is exclusively dedicated to organizing fishing trips in Khuvsgul aimag. They reported hosting around 40 foreigners in 2015 from the USA, UK, Russia, Japan, and France. Together, their clients took 12 taimen, 250 Artic grayling, and 250 lenok. The agency takes care of fishing permits for foreigners, which in some online sites are advertised around USD 400 per taimen.[408]

The other agency is based on Bayan-Ulgii aimag and organizes big mammals hunting trips in their aimag. They target Argali, Ibex and Red Deer and have specialized in catering for international visitors from Spanish-speaking countries (Spain and Latin America). The six hunters they hosted in 2015 harvested 6 Argali, and 2 Red Deer, being unsuccessful at Ibex. The agency provides a wide range of services including facilitation of gun permits and hunting permits (based on quotas obtained from the agency), taxidermy, disposal of remaining animal parts in local markets, and management of CITES permits to export the trophies.

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[408] http://fishmongolia.com.

Case Study: Gray Wolf

> **The Secret History of the Mongols**
>
> "There was a bluish wolf which was born having destiny from Heaven above"

> "The king of this place could be Bear; it can capture and eat anything, even roe deer and moose. But I think sometimes Bear is eaten by Wolf, working as a pack. It means that Wolf is the king of the king"
>
> **Joogdernamjil, Dadal Hunter** (*)

(*) *Originally quoted by Sam LeGrys in his report on wolf hunting and trade, entitled: Grey to Green: The Wolf as Culture and Profit in Mongolia and the Importance of Its Survival, SIT Graduate Institute, 2009.*

There can be almost no discussion of the wolf in Mongolia without immediate reference to its mythical status as the origin of the Mongols. This has an impact on its legal status, people's perception of its place in the ecosystem, the reasons it is sometimes hunted, as well as its many uses. Its revered status, however, does not translate into absolute protection as might be expected; quite the opposite, actually. Wolves are in fact hunted precisely because of the power they are supposed to possess. As noted in the first Silent Steppe report, killing a wolf is celebrated because it confirms a hunter's power and skill. One of the hunters surveyed in 2015 noted with pride that it takes him as many as five days to properly track and hunt a wolf. To hunt the wolf has been in the past, in essence, an act of deep cultural identity, a connection to the origins of all Mongols.

The wolf is also, more mundanely, a predator and therefore a threat to the livelihood of many. A number of those interviewed that claimed to no longer hunt, still matter-of-factly admit shooting wolves that threaten their livestock. The UCT results suggest that some of these same people claiming not to hunt, in fact still do. In any event, the idea that this animal could not or should not be hunted would run counter to tradition and culture, as well as the practical need to protect livestock. It has been, in fact, until recently one of the few species for which there was no season, ban, or quota of any kind. If anything, bounties and state sponsored extermination campaigns have been the norm.

And yet so far, the wolf survives, never once having been completely removed from the Mongolian landscape. Interestingly, the same relationship that drives at least part of the hunt is the one that has probably prevented its complete disappearance – the belief that the wolf is the Ur-Mongol, the ancestor of them all, and that it belongs to the landscape as much as they do. The Soviet era extermination campaigns (and those implemented today) never really could completely succeed, as Mongolians have always left at least one or two pups in the den. In 2005, the report asked whether history and tradition would win against the market. That question remains unanswered, but for now, the market appears to be winning.

LEGAL STATUS

International

The gray wolf is a CITES Appendix II species. Trade is permitted, but must be accompanied by an export permit from the country of origin. Although there are a variety of threats, it is assessed on IUCN's Red List as Least Concern species.

Domestic

In 2005, the gray wolf was listed under Mongolian law as an Abundant Species. The law did not impose any hunting permit requirements, seasons, or quotas. Since then, the situation has dramatically changed. Wolves have not been delisted and are therefore technically still considered 'abundant,' but they are now regularly the subject of complete hunting bans and highly limited quotas. For the last few years (2014-2016), the national hunting quota for the entire country has been set at just

20 specimens.[409] Complete hunting bans have also been in place in multiple locations beginning in 2010, although no nationwide ban has yet been instituted.[410]

Distribution and Population

Historically, wolves were one of the most widely distributed mammals, found virtually everywhere north of 15°N latitude. Today, populations can be found in more than 60 northern countries and, as a whole, the species does not meet the criteria for listing as a threatened species. There are, nonetheless, populations that are particularly threatened and that have been separately listed as endangered, e.g., the Western-Central Alps population.

There are few published surveys of gray wolf populations in Mongolia. In 1980, the Mongolian Academy of Sciences estimated a population of 30,000 specimens. In 2004, Mech and Boitani suggested there may be as few as 10,000. The 2005 survey, using population densities observed in Alaska, hypothesized that there could be as many as 20,000 to 30,000. The most that can be said is that they occur throughout the territory and that all indications are that their numbers are much reduced over prior years. Maps of range and distribution created by Mongolian biologists in the 1970s were highly generalized depicting effectively uniform distribution across the entire territory with no indication of population levels. Experts suspect, however, that the officially sanctioned and decades-long extermination campaigns and bounties contributed to significant population fluctuations. Concerns over declines eventually lead to a complete hunting ban from 1976 to 1980. In 2015, despite renewed efforts to ban hunting and trade, there is reason to believe that wolf population may again be low enough to warrant serious attention.

Running counter to these estimates is the entrenched perception that wolves have increased in some areas and are responsible for observed declines in prey species, for example ibex populations in the Gobi Gurvan Saikhan National

Park.[411] This opinion was present during the 2005 survey at a time when trade levels were certainly high, even if not perfectly quantifiable. These observational opinions of reduced prey populations, or that of prey switching behavior by wolves as an indicator of a healthy, if not, growing wolf population, contradicts persistently low documented population levels of wolves in Mongolia.

Without studies to confirm these claims, however, perceived increases are still being combatted with wolf hunts, even in protected areas. In Umnugobi aimag, for example, local protected area authorities were planning to cull wolves in an effort to increase Ibex and Argali populations. In another aimag, the governor announced a wolf hunting campaign. And in yet another instance, a wolf hunting campaign was organized and named after a parliament member.

TAKE

History of Take

According to the research conducted during the first Silent Steppe report, Mongolia had official programs to control wolf numbers since the 1920s; official harvests were in excess of 5,300 per annum, and a peak harvest of 18,000 was recorded in 1933.

The 2005 report was unable to make an accurate estimate of the number of wolves hunted due to the apparent inflation in self-reported take levels. It was, nonetheless, the second most targeted species (40% of all hunters; or 321 of 949 hunter respondents) after the Siberian marmot with 675 of 949 respondents claiming to hunt the species.

Estimating Current Take

Despite bans and quotas, the wolf was the second most targeted mammal after the marmot in 2015, although all of the numbers are now much lower than those captured in 2005. Of the 91 hunters that responded to the survey, just over 20% (19) claimed to hunt wolves, for a nationwide estimate of 44,000 hunters (based on UCT results). The combined take of the survey respondents came to 47, or 2.5 per hunter. This compares to 40% of hunters claiming to hunt wolves in 2005 with a mean of 3.4 animals harvested per hunter. Total estimates of take in 2005 were considered questionable, however, as

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[409] Cabinet Ministry Resolutions, No. 122, 2014, No. 377, 2014, and No. 463, 2015.

[410] See for example Ministry of Environment Resolution, No. 411, 2009 prohibiting the hunting of wolves for a period of two years in several soums within 3 aimags, Khentii (12 soums), Dornod (7 soums), and Sukhbaatar (12 soums). This ban was continued in 2012 for another two years by Ministry of Environment Resolution, A-06, 2012.

[411] Key informant interview – local ranger.

there appeared to be significant inflation of the annual offtake numbers. Very rough estimates of 20,000 to 30,000 were calculated, with a potential market value of USD 7 million.

The ability to accurately estimate total take from the 2016 survey is hindered not by hunters overstating their activity, but by the opposite; a deliberate reluctance to discuss hunting activity. If anything, the current estimates of hunter prevalence and levels of take probably underrepresent reality. Offtake for wolves, however, still appears to be high compared to population estimates. Based only on the direct responses to the survey, 21% of the hunter respondents hunt wolves. Extrapolated out to the estimated total population of hunters, there may be as many as 21,000 wolf hunters. The average take per hunter dropped 32% in 2015, estimated at 2.5 compared to 3.4 in 2005.

Even with these reductions, estimated take levels still far exceed quotas by many orders of magnitude and are still likely too high in the case of wolves given the available population estimates. Estimated national take in 2015 for wolves comes to 45,000, which is at odds with total population estimates of between 10,000-20,000. That two separate surveys obtained similarly inflated take levels, however, is at least an indicator of the prevalence of this kind of hunting, if not an accurate estimate of offtake. It also highlights the need for detailed wolf population studies to identify scientifically sound off-take levels. The current 20 per year quota is certainly being exceeded by hunters and probably by as much as 1,000 times the permitted amount.

Take Methods and Patterns

Although the species occurs throughout Mongolia, geographical and seasonal patterns associated with wolf hunting as documented in the survey are uneven, likely a function of several factors including bans, trading opportunities, and possibly the presence/absence of the species in a given area.

Regions where surveyors confirmed wolf as a primary target include:

- Selenge
- Sukhbaatar
- Dornod
- Khovd
- Uvs[412]

Interestingly, the first three aimags mentioned

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412 Surveyor debriefings.

have been the same aimags with bans in place for the past several years. As the bans only covered part of their territories, it may be that the bans in those areas are being respected. However, in those with no bans in place, surveyors were told that almost every family hunts wolf. This does not mean that every family actually takes a wolf every year. Based on the overall estimates compared to the estimates from 2005, there does seem to be a decline in hunting for this species.

Not only do the take numbers suggest this, but also those interviewed related stories that indicated less opportunity and, therefore the dedication of less time to hunting. One hunter, typical of many, described a more active hunting life seven to ten years ago, but that has since transitioned to use of his gun solely for livestock protection.

TRADE

Despite the hunting limits and bans in eastern aimags, this survey again suggests that the gray wolf is still being harvested and traded in significant numbers both domestically and internationally.

Domestic Market

Even if there are no exact populations and take figures to document declines, the market suggests this is the case. Since 2005, prices for wolf pelts on the domestic and international markets have increased roughly 47%. In 2005, the highest price recorded for a wolf pelt was USD 150, and lesser quality pelts at USD 50. In 2015, the high prices were as much as USD 302 (MNT 695,000) and the lower prices around USD 87 (MNT 200,000). Surveyors were offered in the State Department Store the price of USD 157 (MNT 360,000) for a single pelt and a discounted price of USD 139 (MNT 320,000) if purchased in large quantities. In Umnugobi and Dornod aimags, prices were roughly USD 152 (MNT 350,000).

Other parts of the wolf are used and sold separate from the skin. In domestic markets and shops throughout Mongolia, wolf canine jewelry and pendants, associated with mysticism and power, can be found in a majority of shops.[413] Prices vary substantially based principally on the adornment as opposed to the canine; although size plays a role in pricing. Ankles are also a popular trade item selling for as much as USD 11 (MNT 25,000). Used

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413 Although there is a small chance that some of these canine teeth were from dogs as well, it is safe to assume many tooth pendants were effectively from wolves, as per shop owners appreciation.

for religious and medicinal purposes, virtually all parts of the wolf are consumed including meat, lung, tongue, kidney, spleen, stomach and bones. Including all parts, one gray wolf might be worth as much as USD 400-450 on the domestic market in 2015, roughly 30%-40% more than in 2005.[414]

International Trade

The international market seems to be a primary driver. Since the country joined CITES, which classifies wolf among the non-restricted for trade in Appendix II, export permits associated with gray wolf have been at the top of the ranking (totaling 290 CITES export permits over the total 987 permits issued for the period 1996-2015). This represents 29% of total permits for legal wildlife trade and as discussed in Chapter 3, included 1,904 skins, 317 specimens, and 309 trophies as the top trade categories.

The primary international trade partner for wolves has not changed since 2005. China dominates the market almost entirely, offering prices not reported on the border with Russia. According to those interviewed, wolves are the 'most useful species on the border,' during Tsagaan Sar, the Mongolia New Year celebration that falls close to but does not overlap with the Chinese New Year. Combined with the CITES permitted trade and the stories of officials of it being highly traded at the border with China, it is safe to say that the quota is not respected and that many more than 20 wolves are hunted each year.

Traded either whole or by parts, wolves are also sometimes traded in bulk, suggesting not just some trade, but a booming market. Across the border in China, interviewees related a standard price of USD 295 (CNY 2,000; or MNT 678,500) for a single wolf. Others said, however, that "f wolf can enter Chinese border, it's purchased at such a high price," in apparent exuberance at the market. In one instance, the price of a whole wolf was estimated at between 15-20 thousand yuan (USD 2,215 to USD 2,954). A high quality pelt goes for a more sober price of 1,500 yuan (USD 221); and a wolf ankle, 300 yuan (USD 44).

Enforcement

At the domestic level, enforcement could be improved. Wolf pelts, anklebones, and canines are all openly traded in virtually all shops. The quantities observed just in the State Department Store easily exceeded the annual limit of 20 animals. Image 5 is a cropped version of a photo taken by surveyors at the State Department Store in 2016. There are more than 15 wolf pelts visible in the original photo and it still only shows a small portion of the pelts actually on display. Staff were initially a little guarded in their responses to informal inquiries, but eventually shared their ability to obtain wolf pelts on demand and did not seem concerned about limits.

The openness of this trade compared to the obvious reluctance of hunters makes it clear that enforcement, to the extent it exists, is focused more at the resource exploitation stage (e.g. wolf hunting) of the trade chain. Despite improvements to the law to specifically cover other areas of the trade chain (i.e., transportation, storage, sale, etc.), the openness suggests there is still not enough focus on domestic markets themselves.

There is, nonetheless, some enforcement evident at the international border. As an example, a large seizure of more than 140 wolves, often given whole and frozen as gifts in China, was made near the Mongolian border in February 2016;[415] a seizure that was seven times greater than the annual nationwide quota. Data from Customs and Police indicate that wolf has been for several years one of the top items seized.

Across the border in China is a similar picture. Among the seizures that have reportedly occurred there:

- 30-40 wolf furs
- 300 wolf ankle bones (equal to 150 wolves)
- 200-300 wolf carcasses (seized in Baitag port)

In other words, the illegal trade volume of just three seizures (that made it past Mongolia's Customs into China), is 20 times the annual quota.

Recorded prices and levels of trade both indicate the difficulty in reducing hunting and curbing demand. Smaller wolf products are easily hidden and smuggled across the border with apparent ease. Wolf canines, for example, are simply put into garbage black bags. Whole carcasses have been found hidden in wheels, and other compartments large enough to hold a wolf.

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[414] Silent Steppe I: "One gray wolf is thus worth as much as US$ 300 to US$ 350 on the market in Mongolia."

[415] China Police Seize 148 Wolf Skins and Carcasses on the Border, Daily Mail UK.

Case Study: Marmot

'In Sukhbaatar, the practice of making items from locally sourced marmot skins has significantly decreased. We now bring industrial goods from Ulaanbaatar to sell.'

The first Silent Steppe report included an extensive case study on marmots for several reasons, but primarily because it was the centerpiece of Mongolia's wildlife take and trade at the time. Although harvest and sales now appear to be lower, it is still the preferred species and to this extent warrants continued attention. This case study repeats some of the information from the first report, as it still remains valid today.

Both species that occur in Mongolia, M. baibacina (Altai marmot) and M. sibirica (Siberian marmot) are a traditional source of protein, medicine, and fur, with annual fur trade exceeding 1.2 million skins on average since the late 1800s. Harvest volumes were estimated at 1-1.5 million in 1999, over 3 million in 2004 by the first Silent Steppe survey, and as much 850,000 in 2015 by this survey.

The most common of the two species is the Siberian marmot, inhabiting Mongolia's vast steppe and grasslands stretching from the far eastern steppe to the Altai mountains of the west. The Altai marmot's range in Mongolia extends from the Altai to the west, an area that was only partially surveyed in the 2005 and 2015 surveys. The results for this species are therefore based on relatively few observations compared to Siberian marmot. That said, the Altai marmot is still among the top species

targeted and many of the issues discussed with respect to Siberian marmot are likely applicable to the Altai marmot.

LEGAL STATUS

International

In 2005, neither Siberian nor Altai marmot conservation was regulated by international, multi-lateral or bi-lateral agreements. The IUCN Red List (1996) classified both as Lower Risk/Least Concern. The Siberian marmot has since been relisted as Endangered based on documented declines of greater than 50% over the past three generations caused by overexploitation. The Altai marmot is still listed as Least Concern and its population trend is unknown.

National

Prior to 2005, Mongolia's hunting law allowed hunting of Siberian and Altai marmots from August 10 to October 16. Each hunter was allowed take three marmots. Beginning in 1999, but more seriously in 2005, marmots have been the subject of successive hunting bans and other regulatory efforts, examples include bans from:

- 2005-2008 – nationwide ban
- 2010-2011 – nationwide ban[416]
- 2012-2013 – nationwide ban[417]

Distribution and Population

Occurring between the elevations of 600-3,000 meters above sea level, the Siberian marmot occupies Mongolia's open grasslands, alpine meadows, pastures, and forest edges (Nowak 1999). Historically, its range extended from the edge of the northern taiga forest regions south through Mongolia's steppe to the edge of the Gobi desert; from the base of the Nomrog Mountains in the east to the Altai Mountains in the west.[418] The Altai marmot resides in high elevation alpine meadows. It may be found in

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[416] Байгаль Орчин, Аялал Жуулчлалын Сайдын Тушаал, 411, December 2009.

[417] Монгол Улсын Байгаль Орчин, Аялал Жуулчлалын Сайдын Тушаал Агнуурын Зарим Амьтныг Агнах Барихыг Хориглох, Ан Амьтны Хууль Бус Агналт, Ашиглалтад Тавих Хяналтыг Чангатгах Тухай, А-06, 2012.

[418] Adiya, 2000.

the northern Mongolian Altai, and along the same mountain range in southwestern Siberia, eastern Kazakhstan, Kyrgyzstan, and Sinkiang.[419]

Recent reports and anecdotal information suggest that both populations have disappeared from many areas where they were once numerous. In the 1970s, range and distribution were believed to cover approximately 68% of Mongolia's territory, or roughly 1.07 million km2. In 2002, studies conducted in the eastern steppe region estimated a substantially reduced distribution over much of the territory,[420] with only 5% of existing burrows active and perhaps as few as 159,000 remaining in the region, including Dornod, Sukhbaatar and Khentii aimags.[421] Surveys undertaken from 2007-2009[422] estimated the total marmot population size in Mongolia at eight million with 88% (7 million) of the total being Siberian marmot and the remaining 12% (930,000), Altai marmot. According to this same report, this estimated 8 million is just one-third the maximum population (est. 21 million) that Mongolia's environment might support under optimal conditions.[423]

The primary factor suspected of causing population declines for both species is hunting, including the direct impact of the total number hunted as well as the secondary impacts caused by hunting methods and seasons.

TAKE

History of Take

Exported almost exclusively to Russia from the 1920s to 1991, the 2005 survey documented the bulk of marmot fur trade flowing south to China, with a small percentage heading to Russia. Harvests in excess of 2 million animals happened on several occasions since records were kept (1906-1910, 1927, 1929, and 1946-1954), with a record high of 3.2 million animals taken in 1910. In 1999, the Eastern Steppe Biodiversity Project estimated total harvest volumes between 1 and 1.5 million animals.

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[419] Nowak 1999; Adiya 2000.

[420] Batbold 2002.

[421] Townsend S.E. & Zahler P. 2006. Marmots in the Eastern Steppe: Evidence of a severe decline. *Mongolian Journal of Biological Sciences* 4: 37-44.

[422] Y. Adiya and O. Brandler (2011). Status of Marmot Populations in Mongolia, Steppe Bulletin, No. 31, Winter 2011.

[423] Mongolia Mammals Red List.

The first Silent Steppe study estimated 2004 harvest levels at between 3 and 4 million, with mean harvest levels of Siberian marmot 54 per hunter and 46 per hunter for Altai marmots.

Estimating Current Take

Looking only at the number of hunters targeting a given species, Siberian marmot remains the most targeted species of all mammals hunted in Mongolia. In 2005, 60% (or n=675 hunters) of those surveyed indicated that they hunt marmot. In 2015, of the hunters questioned in the wildlife trade survey, 44 (of 91) or 49% said they hunt marmot. Based solely on direct responses, this translates into at least 21,000 hunters nationwide. Corrected using the UCT results, the total number of marmot hunters may be as many as 120,000. This constitutes a drop of 13%, which is the smallest reduction in hunter numbers of any species assessed in the survey. For all other species, the estimated number of active hunters has been reduced anywhere from 23% (Corsac fox) to 87% (Red fox).

After removing outliers, the aggregate number of animals taken by those self-reporting in the survey was 309; averaging 7 per hunter for Siberian marmot and 10 per hunter for Altai marmot. Their individual take is a substantial drop (70-80%) compared to 2005 estimates, which were 24 and 47 respectively. These per hunter take levels still make them the first and third most targeted mammals. As a function of total take, their position is similar to 2005, with Siberian marmot total harvest estimated at roughly 850,000 (using the UCT results) and at 82,000 for Altai marmot, the first and fourth most harvested species respectively (see Table 5, pg. 11).

This dramatic decrease is consistent with seizure data that report volumes in the hundreds of specimens, compared to thousands and tens of thousands a decade ago. In 2003, for example, just two seizures of marmots destined for China contained more than 37,000 skins. In 2005, authorities had already seized 26,000 skins before the end of August; a few months after marmots emerge from hibernation, but still a full month before legal hunting would start. Seizures in the past few years are barely a fraction of the prior levels. The EcoCrimes Division of the Police, for example, reports seizures of just 1,152 (in 2013) and 5,181 (in 2014) for the entire year. Customs reports similarly small numbers for the period 2014 to 2016, when only one seizure of 74 skins was reported as a criminal incident.

Seasons

Siberian and Altai marmot hunting is permitted by the Law on Fauna from late summer through the fall. According to the self-reporting of hunters interviewed, both species are taken during three seasons of the year. Siberian marmot is taken spring, summer and fall. Altai marmot was recorded for summer, fall, and early winter before hibernation – suggesting that the purpose of the hunt was not for fur trade (which would mean Spring hunting), but for food and medicinal purposes.

In the first Silent Steppe report, some hunters reported a preference for spring hunting because the fur is denser at that time and can be sold for more. This preference has not been independently confirmed either in the 2005 or the current survey. It is certain, however, that marmots are easier to hunt in the spring when they spend more time out of their dens feeding compared to later in the season.

TRADE

As predicted in 2005, the bans have not completely stopped trade. Hunters continue to target the species without licenses and trade remains reasonably visible. While the hunting and trade numbers appear to have dropped significantly, this has probably not happened solely due to increased enforcement. Trade, even at reduced levels, was still surprisingly common and evident to surveyors without significant effort. Surveyors found marmot, for example, being offered in places as accessible as the front of the State Department Store. A more likely explanation is that marmot populations have suffered substantial decreases, and with official reports and anecdotal information indicating that they are essentially absent from the landscape in many areas that they occupied only 10 to 20 years ago.

Domestic Market

The results of the survey documenting the domestic market bare witness to the increased enforcement environment and growing scarcity of the resource. According to the 2005 results, close to 30% of Mongolians older than 15 years (n=445,000 in 2005) used some form of marmot product on a regular basis. The primary use for the majority was meat (85%, 370,000 people); followed by marmot oil (5%), kidney (3%), lung

and stomach at 1% each. Most of this product was obtained either through hunting or on the local market. Just 25% (110,000) obtained marmot product from hunter friends and relatives. On average, consumers spent US$ 25 annually for marmot, with an estimated annual domestic trade value of US$ 4 million.

In 2015, the self-reported uses remain essentially the same, but self-reported sales have dropped from the 25% in 2005 to just 4% in 2015. Likely, a portion of this observed decrease is a result of respondent reluctance. Just as likely, however, some of the reduction is due to a dwindling resource.

As with results obtained for all species, other sources, including online sales and self-reported purchases, tell a different story. Marmot, for example, was one of the most frequently advertised species in online markets. In one instance, a seller offered 300 marmot ankles in a single ad for $5/ankle (MNT 11,500). The only other product advertised was for whole marmot at $17/animal (MNT 39,100). The whole marmot price is consistent with the average price observed in the market survey in some areas (e.g., Khentii and Dornod aimags), and a little more than the average price observed in UB (MNT 34,940). The Law on Advertisements prohibits advertising for the sale of "organs or raw materials" from wild animals that are not legally harvested, with administrative penalties defined in the Law on Infringements. However, unless there is a complete ban on hunting marmot, there is no way to know whether the ankles and whole marmots offered (which presumably constitute 'raw materials') is in fact being advertised illegally as well.

For Siberian marmot, the survey captured 653 price observations across the country with an average price close to MNT 32,000 (equivalent to USD 14) and a highly variable price range starting at a low of MNT 7,000 and a high of MNT 70,000 per marmot. The high variability in prices appears to be associated with multiple factors including:

i. seasonality,

ii. weight of the animal,

iii. whether the meat is purchased raw or prepared,

iv. the number of intermediaries involved, and

v. Location.

Table 24 lists the price observations by aimag for the 14 aimags that were targeted during the market surveys. The majority of these observations come from Ulaanbaatar (41%; n=268 of 653), with the next highest number of observations from Bayankhongor (10%; n=68), Uvurkhangai (9%; n=62), and Zavkhan (8%; n=53). In Dornod, only six observations of marmot sales were made, despite being an area with historically strong marmot populations and well-documented trade. Surveyors suspected that marmot dealers were present in all of the black markets, but especially in the central black market of the city. They found no stores that specialized in the sale of marmots or marmot products.

Table 23. Geographical distribution of observed sales of marmot

Geographical distribution of observed marmot sales		
	No. Sold	**%**
Ulaanbaatar	268	41%
Bayankhongor	68	10%
Uvurkhangai	62	9%
Zavkhan	53	8%
Govi-Altai	47	7%
Khentii	40	6%
Arkhangai	39	6%
Khovd	27	4%
Khuvsgul	15	2%
Darkhan-Uul	13	2%
Uvs	9	1%
Dornod	6	1%
Umnugobi	5	1%
Tuv	1	0%

As for pricing, in general there is an observable increase in soum and aimag centers. Prices were highest in Khentii aimag (MNT 44,375), Dornod (MNT 40,000) and UB (39,940), coinciding with areas of documented scarcity and continuing demand. Outside these areas and the capital, the average price is closer to MNT 25,000, starting as low as MNT 7,000. This variability and range in prices was also confirmed by qualitative data collected from informants.

The increase in price is also a strong indicator of a resource that is becoming scarcer, although enforcement risk may factor in as well. The only places with prices similar to or below 2005

prices are in the west and likely apply to Altai marmot. The remaining areas registered prices anywhere from 200% to 400% higher than they were ten years ago.

In general, the vast differences in prices between regions and seasons make an accurate estimate of the total sales values difficult. The averages calculated in this survey are just above MNT 30,000, but in certain areas can be as low as MNT 10,000 (Uvs aimag) and as high as MNT 45,000 (Khentii aimag). Using an average figure of USD 14 per marmot, the 15,431 marmots estimated as total annual take for Mongolia would result in an aggregated national household income of around USD 216,000.

Table 24. Geographical distribution of observed sales of marmot

Regional and National Price Averages for Marmot Meat in (MNT)		
Khentii	44,375	National average
Dornod	40,000	
Ulaanbaatar	34,940	30,795
Darkhan-Uul	30,000	
Bayankhongor	27,941	
Arkhangai	27,436	
Uvurkhangai	25,161	
Tov	25,000	
Zavkhan	23,679	
Umnugobi	20,000	
Govi-Altai	16,511	
Khuvsgul	15,667	
Khovd	15,000	
Uvs	10,000	

All indications from the market survey are that marmot populations have significantly decreased. During debriefing sessions, surveyors reported that marmots were so rare in Sukhbaatar and Dornod provinces that sales of any kind were a surprise. Surveyors were directly told that there are few marmots remaining in the northern parts of Dornod, but speculators still actively sell them. They met only one speculator who quoted a common price for a Siberian marmot of MNT 40,000, consistent with the prices otherwise independently observed. Similarly attesting to scarcity, surveyors were also informed that marmots supposedly coming from Khentii aimag were likely trafficked from outside the region. In Sukhbaatar, the former

practice of making items from locally sourced marmot skins has significantly decreased. Local residents stated that "we now bring industrial goods from Ulaanbaatar to sell." It was not known where any of the marmots observed in the market came from.

And yet trade continues driven by local and international demand. Despite the scarcity, key informants indicated that dealers are still interested in both skins and furs.

Enforcement

Other than the records of seizures already reported on, little information was available to surveyors and researchers concerning enforcement. The only direct comment concerning enforcement specific to this species was offered by a ranger who stated that "marmot poaching has a legal sentence twice the penalty charged for fraud. But the penalty is so hard to pay given low earnings in the countryside that the law is not implemented."

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ANNEX I. Research Questions

Conservation

01. Have populations of different species increased or decreased in Mongolia since 2005? (In volumes and value.)

02. Have hunting quotas for different species increased of decreased since 2005?

03. Which conservation-related programs or investments have been implemented since 2005? Which one of those included species targeted by illegal hunting and trade?

04. Have incentives been created to encourage local community involvement in management of wildlife? If so, are those incentives considered successful and why?

05. Has there been any improvement in funding scientific research on wildlife?

06. Is illegal hunting still the main challenge for wildlife conservation or are there new ones like urban development, mining, grazing land, etc.?

07. Scientists predicted the loss of the wild ass in ten years in 2005 (this information was quoted in the 2005 report), did that happen? If not, why not?

Take

08. Are there more or less hunters in Mongolia since 2005? (both in relative and absolute terms.)

09. Is there a preference of species by the hunters and what factors contribute to that preference?

10. Has there been a change in volume of wildlife harvested per hunter?

11. Have hunters gone "pro"? Has there been a change in who is hunting (amateur versus professional)? How can hunters be classified- e.g.,: weekend, occasional hunter, pro hunter, tour guide hunter etc.?

12. What is the perception of hunters in relation to the population of different species?

13. Has the purpose of hunting started to change– such as for sport/pleasure– not just for earnings/subsistence?

14. Has there been a change in the number of trophy hunts? Has there been an increase in companies and other infrastructure surrounding the business of trophy hunting? Which nationalities are the trophy hunters? Is there any difference in which species are hunted by different nationalities?

15. How does Mongolia's take compare/contrast to known trophy hunting markets? Has the volume of wildlife harvested as part of trophy hunting changed (increased or decreased)? (Illegal and legal trophy hunting can both be considered in these figures.)

16. Is there a connection between mining development and illegal hunting? Does the development of a mining site increase poaching in a given area – are mine workers poaching?

17. Has IWT developed larger-scale operations? Are there organized crime enforcement units dealing with illegal wildlife trade?

Trade

18. What are the major trade interfaces for wildlife: markets, person-person, Internet, newspapers, friends & family, medicine shops, dark web, social media, hospital vendors?

19. Are hunters receiving more or less income from their hunting activity in comparison with 2005?

20. Has the % of wildlife income/total household income increase or decreased since 2005?

21. What groups are involved in trade and transport that may not be directly involved in hunting and end-point sale? e.g., truck drivers.

22. How is wildlife trade transported across the border? Which border/custom agencies concentrate the highest trade volumes? Has there been a major change in number of border trade posts? Do these border points

have improved detection techniques? Is anyone using trained dogs?

23. Is there a value added to the WLT chain in Mongolia (such as processing, carving, fur, medicine, etc.)? What is this value chain?

24. What are the international trade volumes/ average prices for CITES protected species in Mongolia?

25. Who are the main exporters and importers of the top species from Mongolia?

26. How have the volumes/values of domestically traded wildlife evolved since 2005?

27. How have export volumes/values of wildlife trade from Mongolia evolved since 2005?

28. How have import volumes/values of wildlife trade to Mongolia evolved since 2005?

29. How does the WLT market in Mongolia compared to other international markets?

Legal Framework

30. What are the main changes in legal framework since 2005? (Note the large number of addendums and regulations in the Mongolian system)

31. How complete is the legal framework compared to everything that needs to be covered?

32. How good are the laws in actually providing a solid foundation for implementing CITES?

33. Have new bans on hunting been created since 2005?

34. Have there been any new listings in CITES Appendix I and II affecting Mongolian species since 2005? Has Mongolia used Appendix III since 2005?

35. Which activities are not directly addressed by the law? What form would a law take to address that problem?

36. Among those laws that have been enacted to address management, enforcement, etc. of wildlife, are they effective? If a law is ineffective, how can it be modified to increase its efficacy?

37. What additional laws or provisions related to enforcement or punishment should be adopted to increase the effective implementation existing laws?

Enforcement

38. What is the current institutional landscape involved in wildlife management? What are the institutions, their roles, legal powers, personnel, budgets, and geographical footprint? What part of the wildlife chain is covered by each one?

39. What are the main changes of the institutional landscape since 2005?

40. Since 2005, have the State Specialized Inspection Agency, State Border Defense Agency, the Mongolian Central Customs Authority increased their monitoring/ enforcement activity?

41. Since 2005, have there been any new methods developed for monitoring and detecting trade? Has effective cross-border cooperation with China and Russia been established?

42. Since 2005, has the State Police increased control of weapons and ammunition entering the country?

43. Are Mongolia's institutions in a position to do the job needed? Are there gaps in the areas to cover? e.g., no one responsible for managing on line trade, restaurants, TCM. Are there gaps in the species covered? (e.g. there's really no one responsible for fish). Are there geographical gaps? (Almost certainly true as it's a big country)

44. What are the success stories? (e.g., the anti-poaching units busting large illicit hunting units; better quota setting; customs authorities got better equipment, etc.).

45. How many seizures have been done of illegal wildlife trade in the last decade? (Types, volumes, trade stage.)

46. What is the endpoint for the seizures (stockpiles, destruction, rehabilitation, etc.)? What protocols are in place for handling wildlife once it is seized? Have there been problems maintaining chain of custody and presenting as evidence in prosecutions?

47. How many administrative fines/penalties have been collected and on what basis? How do these get implemented?

48. How many criminal prosecutions and prison sentences have been decided in the last decade? How does this compare to the

total number of WLT cases (success rate/percentage of convictions)? What does the prosecution of a wildlife trade case look like?

49. Has there been an increase in awareness among law enforcement and judges/prosecutors of WLT?

50. Is urban or rural law enforcement more effective? Why?

51. Is there a correlation between a law implemented and a change in trade in a particular product?

Markets

52. What are the main species demanded in the domestic market (prices, volumes)? Are there changes since 2005?

53. What are the main Mongolian species demanded in the international market (prices, volumes)? Are there changes since 2005?

54. Characterization of traditional Chinese medicine products in Mongolia.

55. What are the most common uses of Mongolia wildlife (fur, perfumes, medicine, etc). What are the most common uses for each hunted/traded species?

56. Has the international market for fish increased/decreased? Any changes to nature of international market aside from volume?

57. Has domestic fish market increased/decreased? Any other changes to domestic fish market?

58. Is game meat trade still limited to the domestic market?

59. Is international market still primarily for traditional medicine? Furs?

60. Is Mongolia an important transit country for WLT to Russia, China, Kazakhstan, or beyond? How important is it as a transit country compared to other routes?

Public Awareness

61. What kind of media coverage has there been for wildlife and wildlife trade over the last year in Mongolia?

62. What is the public understanding of the

current legal framework for specific species?

63. What is the public understanding of the wildlife law? Do public know about fines and the likelihood of being caught?

Socio-Economic Context

64. What are the main population changes since 2005 in terms of number and population distribution by age, sex, urban/rural and geographical location?

65. What are the main economic changes in Mongolia since 2005 in terms of GDP, GDP per capital, HDI, trade balance?

66. What are the main political changes since 2005?

67. How has the export and import matrix changed since 2005?

68. Are there different or new countries involved in the international market for Mongolian products? Is there a decrease in trade to certain countries? Increase in trade to others? If new countries are involved, what are their interests in Mongolian wildlife products? Have demands for certain products/species changed based on the source and purpose of the demand?

69. What are the demographics of users of WLT products?

70. How does the socio-economic status of households relate to consumption and use of wildlife products?

ANNEX II. Household Survey

Household Socio-Economics

Question #1
How old are you?

Menu Choices: 15 to 100

Question #2
How many people is part of your household at the present time? (NSO definition: All persons living under one roof or occupying a separate housing unit, having either direct access to the outside (or to a public area) or a separate cooking facility. Where the members of a household are related by blood or law, they constitute a family)

Menu Choices: 1 to 15

Question #3
Was this Aimag your residence in 2015? If not, where was your residence in 2015?

Menu Choices: 21 Aimags and UB

Question #4
What is the highest level of education you completed?

Menu Choices: Uneducated, Primary, Secondary, High School, Primary (vocational), Secondary (vocational), Undergraduate, Graduate

Question #5
Did your household benefit from any of the following sources of income last year?

Menu Choices: Yes, No

Statements: Salary/Wage/Labor
                 Livestock (sell/used)
                 Agro business, Business
                 Pension
                 Benefit/disabled or orphan income
                 Human Development Fund
                 Received from others without compensation
                 Loans
                 Savings
                 Other income

Question #6
How do you consider the level of income of your household in general?

Menu Choices: Insufficient to cover basic needs, Barely sufficient for basic needs, Sufficient for basic needs and clothing, Covers basic things and valuables, Covers all needs and savings.

Question #7
How many of the following assets were available in your household during any moment of last year?

Menu Choices: From 0 to 1,000

Statements: Horses
                 Camels
                 Sheep
                 Goats
                 Cows
                 Yaks
                 Vehicles
                 Bank Accounts
                 Land
                 Living Spaces

Wildlife Take

Question #8
Did you hunt, trap or fish last year?

Menu Choices: Yes, No

Question #9
How many years of experience do you have…?

Menu Choices: 1 to 50

Question #10
How many of the following equipment do you own…?

Menu Choices: 1 to

Statements: Guns
                 Traps
                 Fishing rods
                 Fishing nets
                 Hand-Made fishing equipment
                 Horses
                 Eagles
                 Vehicles

Question #11
We would like to know your opinion of hunting permits? I will read some statements and can you tell me if you consider them to be true or false?

Menu Choices: True, False

Statements: Permits are useful to ensure wildlife do not go extinct

                    Most hunters know about permit requirements

                    Obtaining a permit is easy and fast

                    Permit prices are fair

                    Most hunters obtain their permits

                    Nothing happens if you hunt with no permit

Question #12
Let's talk now about the different species you harvested last year. Can you list them?

Menu Choices: list of 65 species, Others

(Loop starts for each species)

- ### Question #12a
  In what province(s) did you harvest… (name of species)?

Menu Choices: 21 Aimags

- ### Question #12b
  In what season did you harvest…(name of species)?

Menu choices: Spring, Summer, Fall, Autum

- ### Question #12c
  How many specimens did you take last year?

Menu Choices: 1 to -

Question #13 –UCT question-
How many of these 5 (or 4) equipment types did you ever use to hunt?

Menu Choices: 1 to 4 (or 5)

Statements: Guns
                    Binoculars
                    Night Lights
                    Camouflage (only for cases)
                    Vehicles

Question #14 – UCT question-
How many of these 4 (or 3) techniques or methods have you used to hunt?

Menu Choices: 1 to 4 (or 5)

Statements: Driving animals
                    Tracking in fresh snow
                    (Shooting from vehicle)
                    Hunting in group

Wildlife Use & Trade

Question #15
Lets talk now about the use you gave to the species you/somebody else in the household harvested last year?

- ### Question #15a
  Did you use at home?

Menu Choices: Yes, No

- ### Question #15b
  For what purposes?

Menu Choices: Meat, Furs, Live, Medicinal

- ### Question #15c
  Did you trade it?

Menu Choices: Yes, No

- ### Question #15d
  For what purposes?

Menu Choices: Meat, Furs, Live, Medicinal

- ### Question #15e
  Can you recall amounts you used and amounts you sold?

- ### Question #15f
  Can you recall the prices the prices?

Wildlife Purchases

Question #16
Did you buy wildlife products during the last year? What species?

Menu Choices: list of 65 species, others

- ### Question #16a
  what did you buy (species name) for?

  Menu Choices: Meat, Furs, Live, Medicinal,

  Others

- ### Question #16b
  Do you remember the amounts you acquired during the last year?

- ### Question #16c
  And the average price?

Question #17
In your opinion, how was wildlife …

Menu Choices: Abundant, Rare or Very rare.

Statements: 10 Years Ago?

5 Years ago?

Last year?

In your opinion, how important is the conservation of Mongolian wildlife?

Menu Choices: From 1 (not important at all) to 10 (extremely important)

How would you rate the government's ability to prevent wildlife crime?

Menu Choices: From 1 (very poor) to 10 (excellent)

how frequently do you see wildlife issues covered in the news?

Menu Choices: Very Often, Often, Sometimes, Never

In your opinion, would the following measures contribute or not to a better conservation of wildlife in Mongolia?

Menu Choices: They would, They would Not

Statements:

Establish bans for some species and/or areas

Increase involvement of communities with wildlife management

Improve legislation to prevent wildlife crime

Increase fines and penalties

Hire more rangers

Increase public awareness

Have more vehicle inspections on the road

Improve the controls over hunting weapons

Support for alternative livelihoods to reduce reliance on wildlife

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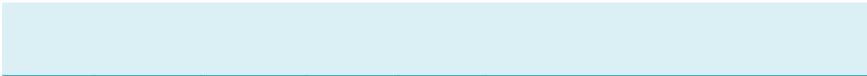
ANNEX III.
Observational Sheet

Date	Location	Species	Story	Images

ANNEX IV. Retail Shop Survey

Question #1

What are the top 3 wildlife-related products you sell at your store?

(Loop starts)

- **Question #1a**
  To what category does this product belong?

Menu choices: Food, Furniture & Decoration, Medical Products, Clothing & Shoes, Antiques & Art pieces, Religious Artifact, Jewelry, Gifts & Souvenirs

- **Question#1b**
  From what wildlife species is it made?

Menu choices: list of 65 species, Others.

- **Question #1c**
  What is the origin of the wildlife for this product?
  Menu choices: Mongolia, China, Russia, Other I do not know

- **Question #1d**
  Where did the processing from raw wildlife to final product take place – jewelry making, tailoring of clothes, smoking of meat, etc.?

Menu choices: Mongolia, Abroad, I don't know.

- **Question #1e**
  What is the price of this product?

- **Question #1f**
  What is the maximum number of items of this product you remember having sold in a single month?

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ANNEX V. Tourism Agency Survey

Clientele

Question #1
From what country are the majority of your clients?

Menu Choices: Mongolia, China, USA, UK, France, Russia, Ukraine, Germany, Japan, Australia, Italy, Kazakhstan.

Question #2.
How many clients approximately did you have last year?

Question #3
What percentage of those clients in your opinion came to Mongolia because of Mongolian wildlife

General Opinions

Question #4
In your opinion, how was the evolution in the last 10 years of the tourism sector in Mongolia?

Menu Choices: Increased, Decreased, Steady.

Statements:

- **The number of travellers coming to Mongolia has**…
- **The travel options available (destinations and activities) have**…
- **The number of competitors in the market (other tourism agencies) has**…
- **The profits in the tourism agency sector have**…
- **The government support to the sector has**…

Question #5
In your opinion, how abundant was wildlife in Mongolia…

Menu Choices: Abundant, Rare, Very Rare

Statements:

- 10 Years ago?
- 5 Years ago?
- Last year?

Question #6
How would you rate the government's ability to prevent wildlife crime?

Menu choices: From 1(very poor) to 10 (excellent)

Question #7
In your opinion, how important is the conservation of wildlife to the tourist industry in Mongolia?

Menu Choices: From 1(not important at all) to 10 (extremely important)

Question #8
In your opinion, would the following measures contribute or not to a better conservation of wildlife in Mongolia?

Menu Choices: Yes, No

Statements:

- Establish bans for some species and/ or areas?
- Increase involvement of communities in wildlife management?
- Improve legislation to prevent wildlife crime?
  Increase fines and penalties?
- Hire more rangers?
- Increase Public awareness?
- Have more vehicle inspections on the road?
- Improve the controls over hunting weapons?
- Support for alternative livelihoods to reduce reliance on wildlife?

Wildlife Take

Question #9
Does your company organize hunting or fishing activities?

Menu Choices: Yes, Not

(If Yes, a loop starts for each on species)

- Question #9a
  What were the species your clients targeted or were most interested in last year?

- Question #9b
  How many specimens did your clients catch/hunt last year in total for that species?

- Question #89c
  To what aimags do you bring clients to hunt for this species?

Question #10
What is the role of your company in relation to hunting guns?

Menu Choices: We are involved, We are not involved

Statements:

- We facilitate guns to foreign hunters
- We facilitate gun permits to foreigners bringing to Mongolia their own weapons

Question #11
What is the role of your company in relation of hunting permits?

Menu Choices: We are involved, We are not involved

Statements:

- We facilitate hunting permits to foreign hunters on an individual basis
- We facilitate hunting permits based on our quota allowance
- We inform foreigners how to obtain permits and they get them on their own

Question #12
What is the role of your company in relation of the specimens hunted?

Menu Choices: We are involved, We are not involved

Statements:

- We take care of preparing the trophies for clients to bring home
- We take care of obtaining CITES permits to export client's trophies
- We take care of the shipment/export of client's trophies to their home countries
- We take care of disposing of the remaining parts for local consumption

ANNEX VI. Restaurant Survey

Question #1
What type of restaurant is this?

Menu Choices: Korea, Japan, China, Russia, Turkey, Ireland, Italy, Mexico, India, Traditional, Mongolian, Fast food, Other.

Question #2
What species of fish are for sale in the restaurant?

(Loop starts)

- ### Question #2a.
  What is the origin of this fish species?

  Menu Choices: Mongolia, Foreign, I do not know

- ### Question #2b.
  In what form do you buy it?

  Menu Choices: Live, Fresh, Frozen, Smoked, Canned, Pickled, and Other.

- ### Question #2c.
  Where do you get/buy them?

  Menu Choices: Directly from fishermen, from Fish farmers, Local Traders and Individuals, Wholesale markets, Importers, Exporters from other countries, and Other.

- ### Question #2d.
  When do you buy it?

  Menu Choices: Spring, Summer, Fall, and Winter.

- ### Question #2e.
  How often do you buy (on average)?

  Menu Choices: Everyday, Daily, per month, per season

- ### Question #2f.

  At what price do you buy (on average)?

Question #3
Who are the most common clients ordering fish dishes in this restaurant?

Menu choices: Mongolians, Foreigners/Tourists, I don't know

Question #4
What is the maximum amount of fish you have ever sold in the restaurant in a month?

Menu choices: Amount in fish plates, Amount in fish Kilos, Amount in Tugriks of sales

Question #5
In your opinion, compare with 5 years ago... (statement) is increasing, decreasing, or stable.

Statements: Number of customers ordering fish is..., Preference for fish by Mongolians is..., Number of competitors (other restaurants) selling fish is..., The purchases of fish in the future in this restaurant will...

ANNEX VII. Traditional Medicine Survey

Question #1

What wildlife species are used for TCM in this area

Menu choices: list of 65 species, Others.

(Loop starts)

- ## Question #1a
  What Aimag is it from?
  Menu choices: list of 21 Aimags

- ## Question #1b
  Which parts of this species are being used?

  Menu choices: Meat, Furs, Oil, Antler, Blood Antler, Brain, Liver, Tongue, Lung, Stomach, Tail, Testicles, Blood, Femur, Bones, Bile, Glands, Womb, Seed, Stem, Leaf, Stem, Flower

- ## Question #1c
  Where you can get/buy it?

  Menu Choices: TCM practitioner, Directly from hunters, Local traders and individuals, Markets, Importers from other countries.

- ## Question #1d
  What kinds of heath problems are treated with the products from this species?

- ## Question #1f
  What is the preference for this product/ species in this area?

  Menu Choices: Mongolian products, Chinese products, Russian products, Other countries' products, No preference, I do not know

- ## Question #1g
  In your opinion, how common is the use of this TM product/species in your community?

  Menu Choices: Very common, Common, Not common, I don't know

ANNEX VIII.
Price Report

Date	Location	Species	Part	Price	Unit	Notes

ANNEX IX.
Key Informant Interview

Products

The objective is to get information to help characterize the illegal wildlife products being trade in the area

- What are the wildlife species being hunted/traded here?
- What are the amounts being hunted/traded?
- Are they traded as whole animals, by parts (which parts), smoked/fresh (if fish)?
- When are they traded, why?
- How is the quality? When is it best, when is it the worst? Is it improving or getting worse?
- What is the product used for in the market?

Actors

The objective is to get information to help characterize the actors involved in the illegal wildlife trade chain

- Who hunts? (Individual hunters, organized poachers, people with or without permits, Mongolians or foreigners,
- Who is transporting the wildlife?
- Who are the traders? Where are they located?
- Who are the final buyers –owner of restaurants, traders, transporters, importers from China, etc.?
- Are government officials involved; if so, how are they involved (e.g., bribes)?

Means & Methods

The objective is to get information to help characterize how wildlife is illegally taken from the wild.

- For each species, what is the most common method – guns, traps, and nets?
- What other tools or techniques are used (such as night lighting, chasing animals with vehicles, explosives)

Economics

The objective is to get information to help characterize the economics behind the illegal wildlife business

- What are the prices along the chain (for hunters, traders, transporters, exporters, etc.)?
- What are the profits?
- How are the profits distributed along the chain?
- What are the salaries of rangers?
- What are the fines?

Logistics

The objective is to get information to help characterize the logistics of the business or how the illegal wildlife product is moved from the hunting areas to the final markets

- In what type of vehicles is the product moved across the country?
- What routes are used to move the wildlife products?
- How is it moved across borders?
- Are there storage facilities for wildlife trade?

Enforcement

The objective is to get information to help understand how the government is enforcing laws in the area?

- Is enforcement having an impact?

- Have there been seizures in the area? Of wildlife, guns? Have people been arrested?

- How do people avoid rangers/officials/ enforcement personnel?

- What is the general attitude towards enforcement?

- What are the enforcement measures in the area? Are there patrols?

- How many rangers are in the area? What are their salaries? Their resources/equipment?

- How are permits and quotas being defined and allocated in the soum?

ANNEX X. Management Authorities Questionnaire

Institutional Landscape

What is the current institutional landscape involved in wildlife management? What are the institutions, their roles, legal powers, personnel, budgets, and geographical footprint? What part of the wildlife chain is covered by each one? What are the main changes of the institutional landscape since 2005?

Legal Landscape

What are the main legal developments related to the management of wildlife since 2005? Who promoted the legal developments? What were the cause triggering new legal developments? What is the opinion on the effectiveness and efficacy of those legal developments?

Wildlife-Related Investment Programs

Which conservation or wildlife-related programs/investments have been implemented since 2005? Which one of those included species targeted by illegal hunting and trade? Has foreign technical assistance received to build new capacity?

Community Engagement

Have incentives been created to encourage local community involvement in management of wildlife? If so, are those incentives considered successful and why? Do any programs incorporate nomadic herders? What about landowners?

Wildlife Value Chain

Is there a value added to the WLT chain in Mongolia (such as processing, carving, fur, medicine, etc.)? What is this value chain?

Hunting Permits And Quotas

Have hunting quotas for different species increased of decreased since 2005? What were the primary reasons for these changes? How about permits?

Finances

How resources are assigned today? Are enough? What are the financial constrains in order to proper manage wildlife? What are the budgetary gaps?

ANNEX XI Enforcement Authorities Questionnaire

Institutional Landscape

Since 2005, have the State Specialized Inspection Agency, State Border Defense Agency, and the Mongolian Central Customs Authority increased their monitoring/enforcement activity? Have they increase they capacity trough increased equipment, technical cooperation, additional staff, etc.? Are there institutional any gaps? Have authorities considered partnering with and/or requesting a study via UNODC from the Wildlife and Forest Crime Analytical Toolkit?

Legal Landscape

Have new bans on hunting been created since 2005? If so (or if not) what were the primary reasons for the new bans or for dropping bans? How much enforcement and implementation has there been of these new bans? (if applicable). Among those laws that have been enacted to address management, enforcement, etc. of wildlife, are they effective? If a law is ineffective, how can it be modified to increase its efficacy? What additional laws or provisions related to enforcement or punishment should be adopted to increase the effective implementation existing laws?

Seizures

Is urban or rural law enforcement more effective? Why? How many seizures have been done of illegal wildlife trade in the last decade? (Types, volumes, trade stage), What kind of follow-up and investigations have there been following a major seizure? There were any surprising or new species in recent seizures? Any success stories to share? What is the endpoint for the seizures (stockpiles, destruction, rehabilitation, etc.)? , Which protocols are in place for handling wildlife once it is seized? Have there been problems maintaining chain of custody and presenting as evidence in prosecutions?

Administrative Penalties

How many administrative fines/penalties have been collected and on what basis? , How do these get implemented?

Criminal Penalties

How many criminal prosecutions and prison sentences have been decided in the last decade? How does this compare to the total number of WLT cases (success rate/percentage of convictions)?, What does the prosecution of a wildlife trade case look like?

Mining & Poaching

Does the development of a mining site increase poaching in a given area? Are mine workers poaching? Is it worse with certain companies? Are any of the mining companies Mongolian SOEs? What about Chinese SOEs? Are local Mongolians the primary employees of the majority of the mines or foreign nationals?

Weapons Control

Since 2005, has the State Police increased control of weapons and ammunition entering the country? What form of control has this taken?

Organized Crime

Have WLT groups developed larger-scale operations with TOC? Are there organized crime enforcement units dealing with illegal wildlife trade?, Has Mongolia become more involved

within UNTOC? (Recognizing the linkages to WLT)

Cross-Border Cooperation

Has effective cross-border cooperation with China and Russia been established? How would you define this cooperation as effective? Ex- are there joint operations? Intelligence sharing?

Wildlife Trade

Who are the main exporters and importers of the top species from Mongolia? Ie- primarily individuals, hunting outfits, identified TOC groups?, Since 2005, have there been any new methods developed for monitoring and detecting trade? , What has been the most effective new method of monitoring trade?, Has the international market for fish increased/decreased?, Any changes to nature of international market aside from volume?, Has domestic fish market increased/decreased? , Any other changes to domestic fish market?, Is game meat trade still limited to the domestic market?, Is international market still primarily for traditional medicine? Furs?, Are there different or new countries involved in the international market for Mongolian products?, Is there a decrease in trade to certain countries? Increase in trade to others? , If new countries are involved, what are their interests in Mongolian wildlife products?, Have demands for certain products/species changed based on the source and purpose of the demand?

ANNEX XII.
Scientific Authorities & Academia Questionnaire

Quotas

Have hunting quotas for different species increased of decreased since 2005? Primary reasons for the quota changes? How quotas are fixed in Mongolia?

Conservation

Scientists predicted the loss of the wild ass in ten years in 2005 (2005 report), Did that happen? If not, why not? Has there been any other significant total loss or decline of other species?

Research

Are scientific/academic institutions having enough funding to conduct conservation studies? What are the studies conducted in the last decade? What are the necessary studies that are unfunded?

Legal Landscape

Among those laws that have been enacted to address management, enforcement, etc. of wildlife, are they effective? Which ones are most effective and why? If a law is ineffective, how can it be modified to increase its efficacy? What additional laws or provisions related to enforcement or punishment should be adopted to increase the effective implementation existing laws?

Institutional Landscape

Are Mongolia's institutions in a position to do the job needed? Are there gaps in the areas to cover? e.g., no one responsible for managing on line trade, restaurants, TCM. Are there gaps in the species covered? (e.g. there's really no one responsible for fish). Are there geographical gaps? (Almost certainly true as it's a big country) What are the success stories?

Markets

Has the international market for fish increased/ decreased? Any changes to nature of international market aside from volume? Has domestic fish market increased/decreased? Any other changes to domestic fish market? Is game meat trade still limited to the domestic market? Is international market still primarily for traditional medicine? Furs?

Public Awareness

What kind of media coverage has there been for wildlife and wildlife trade over the last year in Mongolia? How has it been received by the public? What is the public understanding of the current legal framework for specific species? What is the public understanding of the wildlife law? Do public know about fines and the likelihood of being caught?

Trade

Are there different or new countries involved in the international market for Mongolian products? Is there a decrease in trade to certain countries? Increase in trade to others? If new countries are involved, what are their interests in Mongolian wildlife products? Have demands for certain products/species changed based on the source and purpose of the demand?

ANNEX XIII. NGOs and International Organizations Questionnaire

Conservation

Is wildlife conservation a problem in Mongolia? If yes, does it have the political attention it requires? Scientists predicted the loss of the wild ass in ten years in 2005 (2005 report), Did that happen? If not, why not? Has there been any other significant total loss or decline of other species? Is illegal hunting still the main challenge for wildlife conservation or are there new ones like urban development, mining, grazing land, etc.?

Institutional Landscape

Are Mongolia's institutions in a position to do the job needed? Are there gaps in the areas to cover? e.g., no one responsible for managing on line trade, restaurants, TCM. Are there gaps in the species covered? (e.g. there's really no one responsible for fish). Are there geographical gaps? (Almost certainly true as it's a big country) What are the success stories?

Legal Landscape

Among those laws that have been enacted to address management, enforcement, etc. of wildlife, are they effective? Which ones are most effective and why? If a law is ineffective, how can it be modified to increase its efficacy? What additional laws or provisions related to enforcement or punishment should be adopted to increase the effective implementation existing laws?

Community Engagement

Have incentives been created to encourage local community involvement in management of wildlife? If so, are those incentives considered successful and why? Do any programs incorporate nomadic herders? What about landowners?

Wildlife-Related Investment Programs

Which conservation or wildlife-related programs/ investments have been implemented since 2005? Which one of those included species targeted by illegal hunting and trade? Has foreign technical assistance received to build new capacity? What additional programs are needed?

Research

Are scientific/academic institutions having enough funding to conduct conservation studies? What are the studies that have been conducted in the last decade? What are the necessary studies that are unfunded?

Public-Private Partnerships

Is the government partnering with private entities (national and international) to boost its capacity to manage wildlife? Are innovative approaches being created as a result?, Synergies?

Public Awareness

What kind of media coverage has there been for wildlife and wildlife trade over the last year in Mongolia? How has it been received by the

public? What is the public understanding of the current legal framework for specific species? What is the public understanding of the wildlife law? Do public know about fines and the likelihood of being caught? Has there been an increase in awareness among law enforcement and judges/prosecutors of WLT?

Wildlife Trade

What are the major trade interfaces for wildlife: markets, person-person, Internet, newspapers, friends & family, medicine shops, dark web, social media, hospital vendors? Is there a value added to the WLT chain in Mongolia (such as processing, carving, fur, medicine, etc.)? What is this value chain? Significant change/increase in last 10 years? How does the WLT market in Mongolia compared to other international markets? Is Mongolia an important transit country for WLT to Russia, China, Kazakhstan, or beyond? How important is it as a transit country compared to other routes? Are there different or new countries involved in the international market for Mongolian products? Is there a decrease in trade to certain countries? Increase in trade to others? If new countries are involved, what are their interests in Mongolian wildlife products? Have demands for certain products/species changed based on the source and purpose of the demand?

Illegal Wildlife Trade

Have WLT groups developed larger-scale operations with TOC? Are there organized crime enforcement units in place dealing with illegal wildlife trade? Has there been more government involvement with UNTOC? Which activities related to illegal take are not directly addressed by the law?