

**PROCEEDINGS:
INTRODUCTORY TRAINING FOR VOLUNTEER RANGERS
FROM HERDER COMMUNITIES**



Organizers:

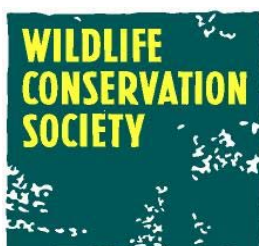
Eastern Mongolia Community Conservation Association (EMCCA) NGO

Wildlife Conservation Society (WCS) Mongolia Program

16-20 May 2007

“Shaazan Nuur” Eco-camp

Dornod *aimag*



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INTRODUCTION

A total of 14 volunteer rangers from herder communities participated in this training, out of 27 who were initially invited. Staff from the EMCCA (2) organized the workshop and gave various presentations along with the WCS Mongolia Program (4). Among the other organizations that participated and presented training material were the Protected Area Association (5) and Environmental Inspection Agency (2) (27 people total; 19 males, 8 females). Topics that were presented included: the condition of natural resources in the eastern steppe, biodiversity in protected areas, the role of communities in biodiversity conservation, community-based wildlife conservation management, environmental laws and policy, the status of wildlife and plants in Mongolia, sustainable development, international conventions, biodiversity conservation activities in Mongolia, the role and responsibilities of volunteer rangers, and regulations on hunting. The training was well received by participants, they offered various suggestions for future trainings, and plans were made for further collaboration and training. Participants were given a handbook containing outlines of all the presentations given during the training to take back to their herder communities.

Goals: The Mongolian Government has put forward a significant objective to involve over 30% of the country's territory in the network of special protected areas. Responsibilities, participation, and experience of local rangers, herder communities and volunteer rangers, who are closely connected to nature, wildlife, and local citizens, are greatly required in order to implement these objectives.

In this sense, activities should be encouraged through trainings for the herder communities, members of the Eastern Mongolian Community Conservation Association and volunteer rangers regarding the amendments made to the Environmental Protection Law, approved on November 18th, 2005. The knowledge and ability gained from these trainings will certainly become the criteria for selecting volunteer rangers.

Objectives: Volunteer rangers will acquire practical experience and knowledge on the background of wildlife and natural resources in Mongolia and the eastern steppe, and related regulations.

The workshop training was held from 16-20 May 2007 at "Shaazan Nuur" ecocamp, Bayantumen, Dornod.

Expected results: *Volunteer rangers* will attain a basic understanding not only on the environment, biodiversity and their status and protection, related laws and regulations, but also on challenges we are facing today and ways to overcome them. Furthermore, their participation and initiative will increase as a result of realizing their responsibilities and contribution to nature protection and ways to improve their livelihood.

Participants: Members of the Eastern Mongolian Community Conservation Association, volunteer rangers from herder communities in Dornod, Khentii and Sukhbaatar, the Protected Areas Administration, Environmental Inspection Agency, and the Wildlife Conservation Society.

List of Abbreviations

AEA- *Aimag* Environmental Agency

AEIO- *Aimag* Expert Inspection Office

AE- Environmental Agency

MNE- Minister of Nature and Environment

BD- Biodiversity

PAAEM- Protected Areas Administrations of Eastern Mongolia

EMCCA- Eastern Mongolian Community Conservation Association

VR- Volunteer Ranger

CLM- Citizens' Local Meeting

CRKh- Citizen Representative Khural

BZC- Buffer Zone Council

BZF- Buffer Zone Fund

SEIO- State Expert Inspection Office

NGO- Non-Governmental Organization

SPA- Special Protected Area

VR- Volunteer Ranger

WCS- Wildlife Conservation Society

WWF- World Wildlife Fund

Volunteer Ranger Training for Herder Community Members of the EMCCA

AGENDA: Volunteer Ranger Training for Herder Community Members of the EMCCA

№	Lesson	Hours	Date	Presenter
1. Biodiversity and Natural Resources in Eastern Mongolia -6 hours				
Introduction of Host Organizations & Herder Communities, Opening of the training workshop – 30 minutes				
1	Natural Resources and conditions in Eastern Mongolia	1	16 May	-Munkhsaikhan
2	Biodiversity in Protected Areas	1	16 May	- Delgermaa
3	The role of Communities in Biodiversity Conservation	1	16 May	-Dagvasuren
4	Discussion: Why we do need to protect natural resources? An opportunity for Volunteer Rangers to ask questions. /Question and answer/	3	16 May	-WCS -PAA -EMCCA -Volunteer rangers
2. Legislation: Environmental Protection Activities on Community Rights and Responsibilities -8 hours				
1	-Nature and environment laws, policy, and PA Administration responsibilities and actions. -Cooperation with the EMCCA, NGO in Dornod -SPA Buffer zone laws and regulations -Relationship between the Park Administration and Communities	2	17 May	-Batdorj -Dagvasuren
2	Implementation of the minister's order #114, 2006 in communities, and communities' rights and responsibilities.	1	17 May	-Dagvasuren
3	Community based wildlife (and natural resource) conservation management (CBWCM) – general introduction. Comparison with current communities' activities and with other countries.	2	17 May	-Bolortsetseg -Ann Winters
4	-Short introduction of the most successful and the weakest community groups. Sharing information, experiences and lessons learned.	1	17 May	-Dagvasuren
5	Discussion: Rules and attendance of NGO groups and intercommunication with volunteer rangers	1	17 May	-WCS -PAA -EMCCA -Volunteer rangers
3. Biodiversity and Conservation Biology -11 hours				
1	Status of wildlife and plants in Mongolia, Eastern Area Red List, 2006 – general info. on mammals, fish, amphibians and reptiles	1	18 May	-Delgermaa -Bolortsetseg
2	Sustainable Development in general: Methods for developing sustainable	1	18 May	-Dagvasuren
3	International Importance of Conservation - Ramsar, CMS, CITES, CBD in detail - The role of herder communities in the implementation of International Conventions	1	18 May	-Delgermaa -Ann Winters
4	Current Biodiversity conservation activities in the: -Environmental agency -Protected Areas Administration -Wildlife Conservation Society	2	18 May	-Munkhsaihan -Delgermaa -Ann Winters
5	Wildlife monitoring by Communities: -Wildlife monitoring and counting methods -Field use of map and compass/practice/	2 2	18 May 19 May	-Bolortsetseg -Ochirkhuyag

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6	Discussion activity: -WCS Mongolia Program activities and future cooperation with Communities: Discussion about the next training in Fall 2007/ modules and subjects/	2	18 May	-WCS -PAA -EMCCA -Volunteer rangers
4. Wildlife Protection and Natural Resource Management-10 hours				
1	The role and responsibility of rangers and volunteer rangers: Current patrolling and inspection system -SSIA -Aimag SIA -Sum ranger-inspector -PA ranger – inspector -Volunteer ranger -Relation between them and cooperation	3	19 May	-Ulziitumur Enkhbaatar, <i>soum</i> inspector from Bayantumen
2	Hunting Regulations: Ecological and economic assessment of wildlife and other attachments from 2005, # 248 -Hunting Season -Permission	2	20 May	-Ulziitumur
3	- Tagging system	1	20 May	-Ulziitumur
4	Discussion: -Cooperation between Communities and the inspection and patrolling system. (above) -Cooperation among Volunteer Rangers, Rangers, and <i>Soum</i> Inspectors/agreement, poaching unison...../	2	20 May	-WCS -PAA -EMCCA -Volunteer rangers
Concluding remarks & final activity (tree planting)		2	20 May	

Volunteer Ranger Training for Herder Community Members of the EMCCA

Names of volunteer rangers

	Soum	Herder community	Bag, location name	Volunteer ranger
Attended the Training				
Dornod				
1	Bulgan	Khulsanshand	2 nd bag, Khulsanshand	Khureltulga
2	Dashbalbar	Chukh Nuur	Chukh Nomint	Urjinkhand
3	Sergelen	Yakhi Nuur	2 nd and 4 th bags	Togtokh
4	Gurvanzagal	Delgermunkh	Rashaant	Ankhtsetseg
5	Bayantumen	Shaazan Nuur	1 st bag	Purevsuren
6	Matad	Bayan Burd	3 rd bag	Gantulga
7	Bayandun	Bayan-Ukhua	Khairkan	Enkhbat
8	Matad	Baga Khuree	1 st bag, Khureet	Jargalsaikhan
9	Matad	Noos	Zuun Bulag	Munkh-Orgil
Sukhbaatar				
10	Tumentsogt	Khankhukhui	1 st bag	Khadbaatar
11	Erdenetsagaan	Moilt	1 st bag	Erdene
12	Erdenetsagaan	Zegestei	7 th bag	Batsaikhan
13	Dariganga	Ganga Sudut	Ganga Bag	Tsogzolmaa
Khentii				
14	Bayan-Ovoo	Yesun Erdene	Sumber	Munkhbaatar
	Total			14 people
Did Not Attend the Training				
Dornod				
1	Dashbalbar	Daguurin Shines	Chukh Nomint	Dulamkhand
2	Matad	Bayankhangai	Zuun Bulag	Purevdorj
3	Bayantumen	Khotont	Khotont Nuur	Bayar
4	Chuluunkhoroot	Bus Galuut	Galuut	Munkhbat
5	Chuluunkhoroot	Duruu Nuur	Galuut	Gankhuyag
6	Khalkh Gol	Buir Nuur	Khalkh Gol	Tumurbaatar
7	Khalkh gol	Tashgai	3 rd bag, Tashgai	Batlai
8	Chuluunkhoroot	Ulz	Ulz	Tsogoo
9	Chuluunkhoroot	Buyan Khishig	Ulz	
Sukhbaatar				
10	Sukhbaatar	Buyant	Buyant Bulag	Damdinpurev
11	Erdenetsagaan	Kherstei	1 st bag	Khatanbaatar
Khentii				
12	Darkhan	Dotuur Bulag	Dotuur Bulag	Shuuraibaatar
13	Murun	Undur Khaan	Undur Khaan	Ganbayar
	Total			13 people

I. Biodiversity and Natural Resources in Eastern Mongolia

Lesson I.1. Natural resources in Eastern Mongolia: current and future status

Eastern Mongolia consists of three *aimags*: Dornod *aimag* which occupies 123.6 thousand sq km, Khentii *aimag*, 80.3 thousand sq km and Sukhbaatar *aimag*, 82.3 thousand sq km, respectively and is one of the most densely populated areas in Mongolia. However, there are a number of special protected areas in Eastern Mongolia and they account for 9.44% of all protected areas in Mongolia.

World Wildlife Fund /WWF/ has determined that there are 200 eco-zones that are in urgent need of protection, and scientists believe that if these zones are well protected, 95% of the biodiversity maybe protected from extinction in the 21st century. Dagura steppe (Dornod) is considered to be one of these eco-zones.

Climate condition: Weather changes including desertification, soil erosion, water scarcity, warming and a sequence of natural disasters indicate global climate change. The temperature is increasing by 3.6C during cold seasons and by 1.9C during autumn and spring. In spring and summer, there has been less precipitation, whereas in autumn and winter precipitation has increased by 5.5-10.7%. Ice coverage of rivers and lakes has decreased by 2-7 days, leading to thinner snow-cover and fewer days of ice coverage. Besides this, the period of soil thawing has become earlier by 6-7 days in spring and the period of soil freezing has become later by 5-8 days in autumn.

Current situation of air and soil pollution: 55% of the rubbish produced by residents living in gers is ash and cinders, 37% plastic bags and paper, 20% fabric littered by apartment dwellers, and 40-50% plastic, paper, and pieces of fabric released by offices, kindergartens, and hospitals. These figures show that there is a possibility to decrease the amount of waste through recycling.

River water and springs: The Onon, Kherlen and Ulz rivers flow from the Khentii mountain range; Khalkh, Nomrog and Degee rivers flow from the Khyangan range; and Khar Zurhnii Khukh nuuruir, Khukh, Tars, Arangatai, Ganga, Duut and Dagshin lakes are all steeped in Mongolian history. Gurvan Nuur and Avarga Toson are springs with mineral waters for therapy and treatment.

Shifts to water reserves: According to a census of surface water conducted throughout the country, a number of streams, rivers, lakes and ponds have been drying up. In response, the government is focused on improving the water supply of pastureland and distributing special funds to each *aimag* for digging and rehabilitating 30-40 wells.

Underground conditions: A lot of companies are undertaking mining operations in gold, mixed metals, iron, zinc, lime and fluorspar deposits. Compared to previous years, even though the amount of area restored has been increasing, the restoration is not yet sufficient. Numbers of the deposits, including the Tamsag crude mine, Aduunchuluun and Chandaga coal mine, Tsav and Ulaan mixed metal mine, Tsagaanchuluut and Duch river gold mine, Mardai uranium mine, Narsan Khundlun tin mine, Khalkh Gol and Chuluunkhoroot Tungstain mine, Bor Undur and Berkh spar mine, and the Tumurtiin ovoo iron mine are currently operating.

Current situation of fauna and its usage and protection: A wide range of rare animals are included in the Red Book and some other animals inhabit special protected areas that have pristine nature /Lesson 3.1/.

Different bird species that are rare worldwide and endangered birds which are frequently seen in the Eastern Asia including white napped cranes, hooded cranes, Siberian cranes and red crowned cranes spend summers laying eggs and inhabiting big lakes, rivers such as Kherlen and Onon, and their tributaries.

Big rivers and lakes are well-stocked with 40 kinds of fish. In this region, 4-5 species of amphibians and 6-8 species of reptiles have been noticed.

Current situation of flora and its usage and protection: In total, more than 500 species of useful plants grow in eastern Mongolia. Out of them, more than 100 species are used for treatment and food supply, are needed a special care and protection.

More than 10 species of plants such as licorice (*Glycyrrhiza*), ephedra (*Ephedra sinica*), Desert Cistanche (*Cistanche deserticola*), *Saposhnikovia divaricata*, milk-vetch (*Astragalus sinicus*), yellow berry are under threat from illegal sales.

Forest exploitation and its protection: In the forest region of the Eastern Mongolia various types of trees and woody plants namely; juniper, rose, cowberry, bird cherry, hawthorn, currant, black currant, apple tree, blueberry, fruit bearing shrubs grow in wild.

In Khentii and Dornod *aimags*, wood products are mainly used for preparing firewood and other household purposes. On the other hand, frequent forest fires cause damage to forests, increasing the number of harmful insects, and resulting in a loss of the natural state of the forest. The fact that most trees are being replaced by broad leaved trees shows that there is an urgent need to carry out afforestation to regenerate the existing woods.

Lesson I.2. Protection of biodiversity - Special Protected Areas in Dornod

What is biodiversity? Biodiversity /BD/ is a general concept which embraces ecosystems formed with the participation of living things: animals, plants, microorganisms, their species and the types of genes to be inherited. In a common sense, it means a variety of existent forms of living things. The most reliable way to protect BD is taking it under special conservation.

1. Dornod Mongol Strictly Protected Area: The area occupies Matad and Khalkh gol *soums* of Dornod *aimag* and Erdenetsagaan *soum* of Sukhbaatar. It was taken under special protection in 1992, with the purpose to protect the ecosystem of feather-grassland and the habitat of Mongolian gazelles. In 2005 it was registered as a “Man and Biosphere Network”.

Flora: Onion plants are dominant among all the communities of pastureland. There are sand dunes with bush woods in the northern and eastern parts. It is a convergence zone where plants representing northern (Dagur) and southern flora are growing together. One hundred fifty-three plant species in 39 families, 4 species of endemic, 9 species of sub-endemic, 10 species of very rare plants, 8 species of rare plants, 18 species of medicinal plants, and 7 species of other useful plants are scattered in this area.

Mammals: There are 25 species in 6 orders, 13 families, and 21 genera that have been noted. Out of them, 15 species are abundant and 10 species are considered rare animals. A significant portion of these species are rodents (10 species), carnivores (9 species) and the rest of them are ungulates (2 species) and leporidae (2 species).

Birds: In total, 155 species in 15 orders, 41 families, 98 genera, and 155 have been registered. Out of them, 8 have been written in the list of rare and very rare animals, and 6 of them have been specified in the Mongolian Red Book.

Amphibians: There are 2 species of amphibians in 1 order, 2 families, and 2 genera, and 5 species of reptiles in 2 orders, 4 families, and 4 genera that have been registered. Out of them, the Asiatic Grass Frog (*Rana chensinensis*) has been registered in the Redbook, and no other reptiles that are rare either in Mongolia or in the world have been noted. In fact, no accurate studies have been made concerning reptiles' distribution and abundance.

Insects and invertebrates: Insects are the most commonly occurring creatures that are well-adjusted to all living environments and are found in great abundance and diversity among the living beings. The

swallowtail butterfly (*Papilio machaon*) is the only insect included in the Redbook and has been registered in the area adjacent to Dornod Mongol SPA. No special studies on insects have been conducted in this area.

2. Nomrog Strictly Protected Area: This area occupies 311,205 hectares of the steppe and forest-steppe zones, covering the western part of the Khyangan mountain range with low and average altitudes and is situated alongside the administrative border of Khalkhgol *soum* of Dornod *aimag*. The area possesses features of the transitional zone, from wooded steppe to arid steppe, and the distinctive composition and formation of the Khyangan mountain range. This PA was established in 1992 in order to protect the ecosystem of the Khyangan mountain range and the fauna and flora of Manchuria.

Flora: There are 487 species in 70 genera of plants including *Polygonum valerii*, 10 species of Central Asian endemic plants that have been registered. In addition, some species of plants such as Chinese peony (*Paeonia lactiflora*), Large-flowered Cypripedium (*Cypripedium macranthum*), and Dittany (*Dictamnus dasycarpus*) are occasionally seen.

Mammals: There are 46 species of mammals that have been noted. Moreover, some rare animals are present: subspecies of Elk – Ussurian elk (*Alces alces cameloides*), Daurian hedgehog (*Erinaceus dauricus*), Eurasian otter (*Lutra lutra*) and Manchurian zokor (*Myospalax psilurus*) are present.

Birds: In total, 263 species of birds including 13 species of birds named in the list of rare and very rare birds, upon the Cabinet Ministry Resolution 152, 1995, have been noted. In addition, 5 species of birds that are listed in the Mongolian Red book are present. Thirty-six species named in supplement II, 2 species in particular, the white napped crane (*Grus vipio*) and the white-tailed eagle (*Haliaeetus albicilla*), inhabit the Nomrog region.

Other animals: Two species of amphibians and 5 species of reptiles have been found in Nomrog. The Siberian sand toad (*Bufa raddei*) and Asiatic grass frog (*Rana chensinensis*) have been registered in the Mongolian Red book, 1997. Invertebrates have been scarcely studied.

Invertebrates, especially color butterfly, and white butterfly, are relatively abundant, but there is no detailed registration for these types of butterflies. Three species of invertebrates: Stubbendorf's Apollo (*Parnassius stubbendorfi*), (*Middendorffinaia mongolica*) and the musk beetle (*Aromia moschata*), which are noted in the Red book, have been found in the area.

3. Mongol Daguur Strictly Protected Area: The area covers the territory of Chuluunkhoroot, Gurvanzagal and Dashbalbar and it occupies 103,016 hectares of land. It consists of 2 sections: "A" and "B". Mongol Daguur Strictly Protected Area was established in 1992 in order to protect steppe and wetlands and their fauna and flora. The area has great importance not only for Mongolia but also for the world. Mongol Daguur Strictly Protected Area was extended as a Mongolian-Russian-Chinese joint "Daguur's International Strictly Protected Area" embracing Daura Strictly Protected Area of Russia and Dalai Lake Strictly Protected Area of China. The area was registered in the Ramsar Convention on Wetlands of International Importance and the North Eastern Asian Crane Protection International Network as a waterfowl habitat in 1997.

Flora: There are 349 species of plants in 52 families that have been registered in this area. Among them, wetland and steppe plants are distributed in great numbers. Moreover, some rare and very rare plants such as, large-leaved gentian (*Gentiana macrophylla* Pall), (*Hedysarum dahurica* Turcz), yellow sophora (*Sophora flavescens*) and valerian (*Valeriana officinalis* L.) are present.

Medicinal plants: Slimtop meadowrue (*Thalictrum simplex*), Toadflax (*Linaria buriatica*), Large-leaved gentian (*Gentiana macrophylla*), Chinese licorice (*Glycyrrhiza uralensis*), Yellow sophora (*Sophora flavescens*), Liliium (called by native people) are grown in wild and used widely.

Mammals: As of today, there are 31 species of mammals in this region. Among them, White tailed-gazelle (*Procapra gutturosa*), Siberian roe deer (*Capriolus pygargus*), grey wolf (*Canis lupus*), red fox (*Vulpes vulpes*), Corsac fox (*Vulpes corsac*), Eurasian badger (*Meles meles*), raccoon dog (*Nectereytus procenoides*) are the abundant large mammals, and Siberian marmot, Daurian pika, the tolai hare are frequently seen small mammals.

4. Ugtam Natural Reserve: Ugtam Natural Reserve was established in 1993 as a special protected area. Ugtam Mountain is situated along the west coast of the Ulz River stretching out from the southwest to the northeast. It is a beautiful place with specific features located in the convergence zone between forest-steppe and steppe zones. Not only does the reserve have unique natural formations, but it is also an ancient historical and cultural site. There are more than 180 ancient monuments, tombs and burial mounds which date back to the 13th century located in this area.

Flora: The area belongs to the Daguur Mongolian forest-steppe with 236 plant species in 35 families, such as (*Botrychium lanceolatum*), pteridophytes (*Equisetum pratense*), horse-tail, pine, reed-mace, water-weed, *Juncaginaceae*, water-plantain, flowering-rush, grasses and sedges.

Mammals: The main inhabitants of the northern forests are grey wolf, Eurasian lynx, manul cats, Siberian red deer, Siberian roe deer, mountain hare, tolai hare, etc. Central Asian steppe species such as the tolai hare, Siberian marmot, Mandarin vole (*Lasiopodomys mandarinus*), Siberian jerboa (*Allactaga sibirica*), Corsac fox, and manul cat are widely distributed in this reserve. In addition, the Daurian zokor, Daurian hedgehog, Daurian sauslik and raccoon dog inhabit this region, representing eastern Asian fauna.

Birds: There are 251 species in 17 orders and 39 families of birds, including black stork (*Ciconia nigra*), whooper swan (*Cygnus Cygnus*), swan goose (*Cygnus cygnoides*), Baikal teal (*Anas Formosa*), hooded crane (*Grus monacha*), black stork (*Ciconia nigra*), osprey (*Pandion haliaetus*), great bustard (*Otis tarda*) and Eurasian penduline tit (*Remiz pendulinus*) that have been listed in the Red Book. Twenty-five species of birds are included in supplement I and II of the Convention on International Trade in Endangered Species (CITES) and are also distributed in this area.

Amphibians and reptiles: Amphibians present include the Asiatic grass frog (*Rana amurensis*), Mongolian racerunner (*Eremias argus*), Siberian salamander (*Salamandrella keyserlingii*), and have been registered in the Red Book. The Siberian sand toad (*Bufo raddei*) is found in fewer numbers around small ponds and lakes.

Fish: Seven species of fish have been found from this part of the Ulz River. No rare species have been found among them. Goldfish (*Carassius auratus*) are commonly distributed in the Toli Lake and it is not clear whether they have been artificially acclimated or naturally introduced to this lake.

5. Toson Khulstai Natural Reserve: This nature resesrve occupies 470,000 hectares of land covering Norovlin and Bayan-Ovoo *soums* of Khentii *aimag*, Khulun buir, Tsagaan-Ovoo and Bayantumen *soums* of Dornod *aimag*. Toson Khulstai Lake is a key habitat for gazelle and considered a favored area of this steppe ungulate. This natural reserve area will be expanded to reach north of the Kherlen River.

Flora: There are rare medicinal plants such as prickly wild rose (*Rosa acicularis*), golden banner (*Thermopsis lanceolata*), plantain, (*Lilium*), (*Cleistogenes squarrosa*), tundra fescue (*Festuca lenensis*), feather-grass (*Stipa baicalensis*), (*Filifolium sibiricum*), and sword flag (*Iris dachotom*).

Mammals: Central Asian steppe species such as the grey wolf, manul cat, tolai hare, Siberian marmot, mandarin vole, Corsac fox and Daurian hedgehog are distributed in a large numbers. In addition, there are Daurian zokor, Daurian hedgehog and Daurian sausklik representing the eastern Asian fauna.

Birds: Excluding water birds such as the Baikal teal (*Anas formosa*), whooper swan (*Cygnus cygnus*), Demoiselle crane (*Antropoids virgo*) and white-napped crane (*Grus vipio*), a wide range of birds including the Northern lapwing (*Vanellus vanellus*), herring gull (*Larus argentatus*), grey heron (*Ardea cinerea*), Mongolian lark (*Melanocorypha mongolica*), hooded crow (*Corvis corax*), Daurian partridge (*Perdix dauricae*), black-billed magpie (*Pica pica*), red-billed chough (*Pyrrhocorax pyrrhocorax*), hoopoe (*Upupa epops*), great tit (*Parus major*), Eurasian tree sparrow (*Passer montanus*), black-faced bunting (*Emberiza spodosephala*), yellow wagtail (*Motacilla citreola*) are commonly seen. Some of the birds spend the summer months laying eggs, while others reside in the area permanently.

Amphibians and reptiles: Siberian wood frogs (*Rana amurensis*), Siberian sand toads (*Bufo raddei*), racerunners (*Eremias argus*), Pallas' colubers (*Elaphe dione*) and Central Asian vipers (*Akistrodon halys*) reside in this region.

6. Yahi Lake Natural Reserve: Founded in 1998 as a special protected area, this reserve occupies 251,388 hectares of land covering Sergelen, Gurvanzagal and Choibalsan *soums* of Dornod. This reserve is a stopover for migrating birds. Gazelle populations range up to the northern border of the area.

Flora: Plants species of the Daguur to the north, species from southern Mongolia, and species from the east in Manchuria grow in this reserve. As of today, 67 plant species have been registered. Plants growing in the Daguur are prevalent in rocky areas.

Mammals: Mammal species such as the white-tailed gazelle (*Procapra gutturosa*), tolai hare (*Lepus tolai*), gray wolf (*Canis lupus*), red fox (*Vulpes vulpes*), Corsac fox (*Vulpes corsac*), Siberian marmot (*Marmota sibirica*) and Daurian suslik (*Citellus dauricus*) are in abundance. This reserve is a breeding and migratory site for gazelle, especially during the first months of autumn and winter, and herds of thousands migrate to this place from distant locations.

Birds: Approximately 108 species of migratory birds and waterfowl from eastern Mongolia congregate near Yahi Lake. Steppe eagles (*Aquila rapax*), golden eagles (*Aquila chrysaeto*) and saker falcons (*Falco cherrug*) lay eggs in this area. Two bird species, white napped cranes (*Grus vipio*), and whooper swans (*Cygnus cygnus*) have been defined as "very rare" birds, and two additional species, the swan goose (*Cygnopsis cygnoides*) and great bustard (*Otis tarda*) have been registered in the Red Book.

Amphibians and reptiles: In this region, there are many small lakes and the tributary river, Gal gol, that feeds Yahi Lake is considered to be rich in water. Because the lakes are saline, there are no fish inhabiting the lake. Research suggests that only the Siberian sand toad (*Bufo raddei*) is occasionally found around small ponds and lakes. Mongolian racerunners (*Eremias argus*), Pallas' colubers (*Elaphe dione*) and central Asian vipers (*Akistrodon halys*) are also rarely seen.

The Dornod Special Protected Area Administration was established in 1993 and the Nomrog Special Protected Area Administration was established in 2006 with the purpose to provide these places with specialized management staff members and enforce implementation of the laws on special protected areas.

Lesson I.3 Herder communities' participation and responsibilities for biodiversity protection

Recently, a new concept known as “community-based collective management of natural resources” has been developed and is being successfully implemented under the principle “Users should be protectors.” Briefly stated, herders and local residents' participation is crucial to the conservation of nature and its biodiversity.

Some NGOs and herder communities are sharing governmental organizations' responsibilities for environmental policy and overseeing its implementation. The State Great Khural made amendments to the Environmental Protection Law on November, 18, 2005 focusing on increasing citizens' involvement in environmental activities. Laws and regulations regarding the herder community's role in protecting nature are described in §3.2.8 of the Environmental Protection Law /See lesson 2.1 and 2.3/.

The primary duties of herder communities are to sustainably use pastureland and prevent it from degradation and overgrazing. It is also important to determine the carrying capacity of livestock suitable for the pasture and to manage the rangeland with pasture rotation.

Herder communities' environmental protection programs and management plans should contain the protection of forests, animals, plants and other resources, as well as their usage, ownership, protection and regeneration, and biotechnical and nature conservation measures to be implemented.

Herder communities, in cooperation with specialized staff, are responsible for carrying out activities to protect wildlife habitat, maintain their original condition, and prevent a decrease in resources.

In addition, herder communities are required to care for marmot breeding areas and marmot burrows, to fence spring sources, and to plant trees and groves.

Lastly, herder communities must improve their livelihoods through increasing livestock productivity instead of the number of livestock, treating the environment well, improving breed stock, and running a business other than animal husbandry.

I.4. Discussion: Why must we conserve biodiversity and natural resources? /Questions asked by Volunteer Rangers and answers/

There are two types of natural resources: exhaustible and inexhaustible. The exhaustible resources are divided into two groups: resources with restorative capacity and resources with non-restorative capacity. It is essential not to cut down more trees than the number of trees to be regenerated per hectare in a year. It is also essential to determine the number of wildlife to be hunted, based on calculating the animal decrease because of mortality and other adverse impacts.

Why is biodiversity being lost? Since 1600, approximately 4,200 species have been exterminated in the world. As we know, dinosaurs including both meat eating and grass eating dinosaurs have been eliminated because of mass extinction. What is the mass extinction? There is a hypothesis that a large variety of animals have been extinct, who were unable to survive in sudden environmental changes, incurred because of hot magma coming out from the ground surface with the depth of 40,000km, resulting in volcano eruption. It is said that the dinosaurs' traces have been found in the areas where hot magma has heavily come out.

It is clear that biodiversity is being lost due to human's unsound actions: overuse, poaching, overhunting, misuse, hunting and trapping animals young etc. In some cases people destroy resources that can not be regenerated, for example, removing rare plants with the subterranean parts of plants.

One of the reasons for loss of biodiversity is re-current natural disasters: global warming, habitat degradation and abandoned natural resources, as a result of transmitting the market system. Well-developed management is required for restricting illegal hunting and trapping because of more sophisticated hunting methods.

II. Environmental law – Rights and obligations of herder communities

II.1. Compendium of Environmental Law and its policy

The following laws will be included in the compendium of environmental law:

1. Mongolian Law on Environmental Protection	1995.03.03	The purpose of this Law is the regulation of the interrelations between the State, citizens, economic entities and organizations in order to guarantee the human right to live in a healthy and safe environment, an ecologically balanced social and economic development, the protection of the environment for present and future generations, the proper use of natural resources and the restoration of available resources.
2. Mongolian Law on Land	2002.06.07	The purpose of this Law is to regulate the possession, use, and other related issues of land by citizens, economic entities or organizations.
3. Mongolian Law on Land Use Fees	1997.04.24	The purpose of this Law is to regulate fees requirements for possession and use off the State-owned land by citizens, economic and organizations and procedures for paying these fees to the State budget.
4. Mongolian Law on Land Ownership	2002.06.27	The purpose of the law is regulation of land ownership by Mongolian citizens.
5. Law on Implementation of Procedures of the Law on Land Ownership	2002.06.27	
6. Mongolian Law on Land Cadastre	1999.12.16	The purpose of the law is regulation of land cadastre operation and various cadastre mapping.
7. Law on Geodetic Mapping	1997.10.31	The purpose of this law is regulation of the implementation of Geodetic mapping and its monitoring.
8. Mongolian Law on Special Protected Areas	1994.11.15	The purpose of this law is to regulate the use and procurement of land for State special protection and the preservation and conservation of its original conditions in order to preserve and specific traits of natural zones, unique formation, rare and endangered plants and animals, and historic and cultural monuments and natural beauty, as well as research and investigate evolution.
9. Mongolian Law on Buffer Zones	1997.10.23	The purpose of this law is to regulate the determination of Special Protected Area Buffer Zones and the activities therein.
10. Mongolian Law on Water	2004.04.22	The purpose of this Law is to regulate the protection, proper use and restoration of water.
11. Mongolian Law on Water and Mineral Water Use Fees	1995.05.22	The purpose of this Law is to regulate the fee for the use water and mineral water as well as incorporation of these fees into the State budgets.

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12. Mongolian Law on Forest	1995.03.31	The purpose of this Law is to regulate the protection of forests, proper use and restoration of forests.
13. Mongolian Law on Fees of Timber and Fuel wood Harvesting	1995.05.19	The purpose of this Law is to regulate the fee requirements for harvest of timber and fuel wood by citizens and economic entities, and organizations and incorporation of these fees into the State budget.
14. Mongolian Law on Prevention of Steppe and Forest Fires	1996.05.28	The purpose of this Law is the regulation of the relationships concerning the prevention of forest and steppe fire, fire fighting and fire suppression as well as the elimination of the adverse impacts form fire.
15. Mongolian Law on Reinvestment of Natural Resource Use Fees for Conservation and Restoration of Natural Resources	2000.01.28	The purpose of this Law is to establish the percentage of fees paid for natural resource use to be used for the purpose of conservation and restoration of natural resources.
16. Mongolian Law on Natural Plants	1995.04.11	The purpose of this law is to regulate the protection, proper use and restoration of natural plants (hereinafter referred to as "plants"), other than forest and cultivated plants.
17. Mongolian Law on Natural Plant Use Fees	1995.05.19	The purpose of this Law is to regulate the fee requirements for the use of natural plants (hereinafter referred to as "plants") by citizens, economics entities and organizations and incorporation of these fees into the State budget.
18. Mongolian Law on Plants Protection	1996.03.22	The purpose of the law is to regulate the establishment of the Buffer Zone in Special Protected Areas and activities to be conducted therein.
19. Mongolian Law on Hunting	2000.05.05	The purpose of the Law is to regulate the hunting and trapping of game animals and the proper use of hunting reserves.
20. Mongolian Law on Fauna	2000.05.05	The purpose of this Law is to regulate the protection and breeding on fauna (hereinafter referred to as fauna) which permanently and temporarily reside in soil, water or on land within the territory of Mongolia.
21. Law on Regulation of international Trade in Endangered Species and Plant and Animal Originated Products	2002.11.07	The purpose of the law is to regulate the implementation of the Convention on SITES and issuance of permits for international trade in animal and plant species and plant-animal originated products, specified in the Appendices of the Convention, to private citizens, organizations and economic entities.
22. Mongolian Law on Hunting Resource Use Payments and on Hunting and Trapping Authorization Fees	1995.05.22	The purpose of this Law is to regulate the fee requirements for hunting resource and use by citizens, economic entities, and organizations, and the authorization fees for hunting and trapping animals, birds and fish (hereinafter referred to as "animals"), and incorporation of these payments and fees into the State budget.
23. Mongolian Law on Underground Resources	1994.12.05	The purpose of this law is to regulate the exploration and protection of underground resources for present and future generations, and has served as a basis for

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		the creation of many other environmentally related laws.
24. Mongolian Law on Mineral Resources	2006.07.08	The purpose of this law is to regulate relations with respect to exploration, mining and related activities within the territory of Mongolia.
25. Mongolian Law on Air	1995.03.31	The purpose of this Law is the regulation of the protection and proper use of the atmosphere (hereinafter referred to as "air") in relation to the human right to live in a healthy and safe environment balance and for the sake of present and future generations.
26. Law on Meteorology and Environmental Inspection	1997.11.13	The purpose of the law is to regulate the provision of citizens, organizations and business entities with the information on meteorology and environment.
27. Mongolian Law on Protection from Toxic Chemicals	1995.04.14	The purpose of this Law is to regulate the production, export, import, storage, trade, transport, use, and disposal of toxic chemicals.
28. Mongolian Law on Environment Impact Assessments	1998.01.22	The purpose of this Law is environmental protection, the prevention of ecological imbalance, the regulation of natural resource use, the assessment of environmental impacts of projects the procedure of decision making regarding the implementation of projects.
29. Law on Import, Export and Transportation of Hazardous Wastes Abroad	2000.11.03	The purpose of the law is to regulate the protection of Mongolian territory from hazardous wastes and rubbish.
30. Law on Household and Plant Wastes	2003.11.28	The purpose of the law is to regulate relations with the respect to eliminate hazardous impacts to human health and environment, collect, transport, and bury mounds of trash and recycle as well.

List of Environmental Programs and Plans

1. Governmental Ecological Policy. Parliamentary Act # 106, 1997
2. National Program on Special Protected Areas. Parliamentary Act # 29, 1998
3. National Program on Protection of Elk. Parliamentary Act # 31, 2000
4. Biodiversity Conservation Action Plan. Cabinet Ministry Order # 163, 1996
5. National Ecological Education Program. Cabinet Ministry Order # 255, 1997
6. Program on Sustainable Development of the 21st century of Mongolia. Cabinet Ministry Order # 82, 1998
7. National Program on the Reduction of Hazards of Natural Disasters. Cabinet Ministry Order # 25, 1999
8. National Program on Water. Cabinet Ministry Order # 43, 1999
9. Program on Reduce in Disposal of Wastes. Cabinet Ministry Order # 50, 1999
10. National Program on the Protection of Air. Cabinet Ministry Order # 82, 1999
11. National Program on the Protection of the Ozone Layer. Cabinet Ministry Order # 129, 1999
12. National Program on Climate Change. Cabinet Ministry Order # 120, 2000

13. National Program on Environmental Information and Advertisement. Ministry of Environment's Order # 39, 1999
14. Program on Renovation of Environmental Legislation. Ministry of Environment's Order # 88, 1999
15. Program on Personnel Working in the Environmental Field. Ministry of Environment's Order # 52, 2000
16. National Program on Forests. Cabinet Ministry Order # 248, 2001
17. Program on Environmental Actions. Ministry of Environment's Order # 247, 2001
18. National Program on Supporting Quality and Environmental Management. Cabinet Ministry Order # 146, 2002
19. Program on Developing Meteorological Branch up to 2015. Cabinet Ministry Order # 182, 2002
20. Action Plan on Conservation and a Sustainable Use of Rare Plants of Mongolia. Cabinet Ministry Order # 105, 2002
21. National Plan on Protection of Argali Sheep. Cabinet Ministry Order # 269, 2002
22. National Program on Protection of Saker Falcon. Cabinet Ministry Order # 121, 2003
23. National Program to Combat Desertification. Cabinet Ministry Order # 141, 2003
24. Green Wall National Program
25. Snow leopards National Program
26. National Program on White Dust
27. National Program on Slow-degrading Organic Pollutants

Special Protected Area Administration and its right and responsibilities

The Protected Area Administration is the true implementing body for Strictly Protected Areas and National Parks. The specific duties include wildlife management, approving and controlling activities, conducting research, restoration activities, forest maintenance, management of natural resource use and tourism, establishing the type and number of livestock permitted in the authorized zones as well as land to be used by citizens, economic entities and organizations.

CHAPTER SIX

Plenary Rights of State Organizations of Special Protected Areas

Article 30. Activities of the Protected Area Administration in Strictly Protected Areas and National Conservation Parks

The Protected Area Administration in Strictly Protected Areas and National Conservation Parks (hereinafter referred to as "Protected Area Administration") shall carry out the following activities:

- 1/ ensure the implementation of legislation regarding Special Protected Areas and protection rules of the area;
- 2/ enter into contracts with organizations authorized to conduct research and investigations, and grant permission to and conduct control over the activities to be conducted within the framework of the protection regime of the area;
- 3/ in accordance with appropriate, take samples and probes for research and investigation purpose, regulate animals herd structure, restore natural wealth, and clean maintain forest;
- 4/ open water resource for animals, prepare hay, lay forage, salt and salt licks, build shelters and take other biotechnical measures according to the appropriate procedures;
- 5/ ensure the use of mineral waters and other treatment minerals as well as natural resources according to the appropriate procedures;

6/ establish land and procedures for posting signs for authorized travel and tourism routes and directions, build required accommodations, vehicle stations and conduct sporting and other public activities, ensure sanitary conditions and maintain the facilities in cooperation with citizens, economic entities and organizations;

7/ control the maintenance of settled areas and construction within the authorized zones and ensure that they are being conducted in accordance with approved plans;

8/ regulate mountain and Ovoo worship and conduct other traditional ceremonies;

9/ advertise and introduce the importance of Special Protected Areas, protection regimes and relevant legislation regarding Special Protected Areas, and keep a record of data and create an information databank;

10/ identify the land to be used by citizens, economic entities and organizations according to the appropriate procedures, as well as the type and number of livestock remitted in the authorized zones.

MONGOLIAN LAW ON BUFFER ZONES new law

23 October 1997, Ulaanbaatar

Article 1. Purpose of this Law

1.1 The purpose of this Law is to regulate the determination of Special Protected Area Buffer Zones and the activities therein

Article 2. Legislation on Buffer Zones

2.1. The legislation on Buffer Zones shall consist of the Constitution of Mongolia, the Mongolian Law on Special Protected Areas, the present law and other legislative acts issued in conformity with them.

Article 3. Buffer Zones of Protected Areas

3.1. Buffer Zones shall consist of those areas established to minimize, eliminate and prevent actual and potential adverse impacts to Strictly Protected Areas and National Parks, to Increase public participation, to secure their livelihood and to establish requirements for the proper use of natural resources.

3.2. Soum and Khoroo Citizen Representative Khurals may establish where necessary Buffer Zones around Nature Reserves and Natural Monuments.

3.3. Buffer Zones shall be established outside Strictly Protected Areas and may be either outside or overlapping with the Limited Use Zone of National Parks.

Article 4. Criteria for Buffer Zone Establishment

4.1. The following criteria shall be used for the establishment of Buffer Zones:

4.1.1 Ecological criteria:

4.1.1. a Areas which require protection for the preservation of biological diversity and which are ecologically and economically important;

4.1.1. b Areas that contain Very Rare and Rare species, their range or migration route;

4.1.1. c Areas that contain the potential distribution of Very Rare and Rare species even if they are not currently present;

4.1.1. d Areas that contain rivers, river courses and watersheds that significantly influence the environment of a Special Protected Area.

4.1.2 Socio-economic criteria:

4.1.2. a Areas with local human populations who obtain an income from the use of the natural resources in the protected area;

4.1.2. b Areas that contain environmental pollution and negatively affected territories;

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- 4.1.2. c Areas where high human and livestock population density have a negative impact on the carrying capacity of pasture and water supply;
- 4.1.2. d Areas with settlements that are extremely dependent, socially and economically, on the Special Protected Area and its natural resources.
- 4.1.3 Other criteria:
 - 4.1.3. a Areas with unique natural formations and characteristics;
 - 4.1.3. b Areas with historical and cultural monuments;

Establishment of Buffer Zone Boundaries

- 5.1. Prior to the establishment of Buffer Zone boundaries, the Protected Area Administration in cooperation with the Soum and Duureg Governor shall introduce to the community the proposal, its purpose, the legislation governing Buffer Zones and the participation of citizens.
- 5.2. The Protected Area Administration, together with the Soum and Duureg Governors shall investigate the area to be covered by the Buffer Zone according to the criteria identified in Article 4 of this Law.
- 5.3. All data collected through the investigation shall be reflected on a map at a scale not less than 1:500,000, including plants, wildlife, water, and forest resources.
- 5.4. The Protected Area Administration, together with the Council referred to in Article 6 of this Law, shall develop a proposal for the establishment of a Buffer Zone and submit it to the Soum and Duureg Governor.
- 5.5. The Soum and Duureg Governors shall review the proposal and have it discussed by the local Khural and approved by the State Administrative Central Organization in charge of nature and environment (hereinafter referred to as State Administrative Central Organization).
- 5.6. The Buffer Zone boundary referred to in paragraph 1 of Article 3 of this Law shall be established by the State Administrative Central Organization within one year of the decision by the Soum and Duureg Citizen Representative Khural.

Article 6. Buffer Zone Council

- 6.1. There shall be a volunteer Buffer Zone Council (hereinafter referred to as Council) for the purpose of advising on the development of buffer zones, the restoration, protection and proper use of natural resources, and the participation of local people.
- 6.2. The Council shall have an odd number of members and shall include the following people:
 - 6.2.1 No fewer than two (2) representatives from the Soum and Duureg Citizen Representative Khural;
 - 6.2.2 No fewer than three (3) representatives from local citizens;
 - 6.2.3 Two (2) representatives from the Protected Area Administration.
- 6.3. The Council may include representatives from non-governmental organizations working in the environmental field.
- 6.4. The Council shall have the following rights and responsibilities:
 - 6.4.1 To conduct public monitoring of the enforcement of Special Protected Area and Buffer Zone legislation;
 - 6.4.2 To develop proposals and recommendations regarding land and natural resource use in the Buffer Zone and to develop a Buffer Zone Management Plan;
 - 6.4.3 To assist, advise and develop recommendations for the local Governor to implement the Buffer Zone Management Plan and enforce environmental legislation;
 - 6.4.4 To organize the establishment of a local Buffer Zone Fund and control its distribution and expenditure;

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6.4.5 To provide information to the local community on the Special Protected Area and Buffer Zone laws and regulations.

Buffer Zone Fund

7.1. The Council may establish a Buffer Zone Fund for the purposes of developing the Buffer Zone and providing support for local people's livelihood.

7.2. The Fund shall be financed from the following sources:

7.2.1 Donations from foreign and domestic organizations, economic entities and organizations;

7.2.2 A certain amount of revenue from projects, activities and services conducted within the Buffer Zone;

7.2.3 A certain amount of the fines paid for violation of environmental legislation;

7.2.4 Other income.

7.3. The amount of income referred to in subparagraph 7.2.2 and subparagraph 7.2.3 shall be determined by the local Khural:

7.4. Buffer Zone Funds may be used for the following purposes:

7.4.1 To restore environmental damage and minimize degradation;

7.4.2 To provide support for local people's livelihood, small scale production, services and project implementation;

7.4.3 To restore production technology and machinery which is causing adverse environmental impacts;

7.4.4 To conduct training and public awareness activities regarding nature conservation and conduct research in the Buffer Zone;

7.4.5 To repair damage caused by natural disaster.

Buffer Zone Management Plan

8.1. Local Governors, in cooperation with Protected Area Administration and the Council, shall develop a Buffer Zone Management Plan and implement it.

8.2. The Buffer Zone Management Plan shall include the following:

8.2.1 Guidelines and measures and for the protection and use of Very Rare and Rare animals, plants, as well as land and natural resources;

8.2.2 Measures for the proper use of natural resources in the Buffer Zone and for minimisation of adverse impacts to the Special Protected Areas and Buffer Zone;

8.2.3 measures for the employment of citizens, social issues and decisions related to them;

8.2.4 measures for reducing the influence of the Buffer Zone on animal migration routes;

8.2.5 Sources for finances necessary for the implementation of the Buffer Zone Management Plan.

Environmental Impact Assessments

9.1. Organizations and economic entities who conduct industrial logging, hunting, establishment of hunters' camps, exploration and mining of minerals, establishment of water reservoirs, construct floodwalls or dams shall, pursuant to law, be subject to a Detailed Environmental Impact Assessment.

9.2. The conclusion of the Detailed Evaluation shall include comments and conclusions from the Protected Area Administration.

Monitoring Enforcement of Buffer Zone Legislation

- 10.1. Activities conducted within the Buffer Zone and the enforcement of Buffer Zone legislation shall be controlled by the relevant local and State authorities.
- 10.2. The Buffer Zone Council shall assist the above-mentioned local and State authorities with implementation of inspections in the Buffer Zones.
- 10.3. Citizens, economic entities and organizations shall make complaints regarding Buffer Zone protection activities and the implementation of environmental laws and regulations to a court, a State Inspector or the appropriate level Governor.
- 10.4. In the event of a disagreement with a State Inspector's or a Governor's decision, the matter will be sent to the court.

Penalty for Violation

- 11.1. Judges and State Inspectors shall, within their authority, impose penalties for violation of the Law on Buffer Zones as set out in the Law on Administrative Penalties, Criminal Law and other laws.

CHAIRMAN OF THE MONGOLIAN GREAT KHURAL Gonchigdorj
Minister of the Environment's Order 112, Supplement 1, 1998

REGULATIONS ON ESTABLISHMENT AND OPERATION OF THE BUFFER ZONE COUNCIL IN SPECIAL PROTECTED AREAS

One: Provisions

1. These regulations will be complied with through implementing and regulating matters regarding set-up of the Buffer Zone Council, hereinafter referred as BZC, of the special Protected Areas, creation of a Buffer Zone Fund, hereinafter referred as BZF, control of its distribution and report of its expenditure.

Two: Establishment of the BZC

2. Within three months, since Buffer Zone boundaries are set, the Protected Area Administration in cooperation with the *soum* governor shall develop a proposal for the establishment of the BZC in the Protected Area and selection of its members and submit it to the *soum* Representative Khural.
3. The BZC shall be set up in each *soum* if it is possible.
4. An inter-*soum* BZC is possible to be established in the territory of neighboring *soums* of the same *aimag* depending on the amount of the area included in the Buffer Zone. Establishing the inter-*soum* BZC of two different *aimags* is not allowed.
5. The following criteria shall be used for the establishment of the inter-*soum* BZC:
 - À/ Each *soum* shall possess no more than 50.0 hectare of land which belongs to the Buffer Zone Area.
 - Á/ There shall be a less number of local citizens from each *soum* residing in the Buffer Zone.
 - Â/ *Soum* areas included in the Buffer Zone shall be socially, economically and environmentally inter-related and similar.
 - Ã/ The proposal to set up the BZC shall be supported by the majority of the Buffer Zone residents.
6. Establishment of the BZC and election of its members shall be carried out pursuant to the article 6.2 of the Mongolian Law on Buffer Zones.
7. Inter-*soum* BZC combining more than two adjacent *soums* shall have an odd number of members.
8. *Soum* Representative Khural representatives shall discuss and approve the members to be elected for the BZC within a month, after the proposal is submitted by the Special Protected Area Administration and the *Soum* and *Duureg* Governor.
- À/ Select the individuals for the BZC from the *Soum* Citizen Representative Khural representatives

Â/ Select the individuals for the BZC from the local communities and discuss them in the bag citizens meeting.

Ã/ Receive a brief resume of the potential individuals to be elected for the BZC.

9. Three individuals who won the votes of the majority shall be elected for the BZC after five individuals are proposed and discussed in the bag local citizens meeting.
10. In case, individuals are selected from several bags, a joint meeting shall be held, in which an equal number of individuals from each *soum* are proposed and discussed. *Soum* Representative Khural representatives may determine the number of candidates.
11. A collective decision may be made by the representatives of two or more *soums* Citizen Representative Khural.
12. The authorized working period of the BZC shall be four years. The members shall have a right to be re-elected once.
13. Re-election shall be held in case, there is a vacancy for the BZC.
14. If there are more than two Special Protected Areas in a *soum*, one BZC shall possibly be established.

Three: Regulations on the BZC Operation

1. The BZC shall be operated according to the following procedures to carry out its rights and duties described in §6.4 of the Mongolian Law on the Buffer Zone.
 - a/ To conduct public monitoring in the Special Protected Area Buffer Zone, the BZC shall:
 - Investigate the Protected Area together with the State Inspector of the Environmental Protection;
 - Develop proposals for eliminating violation and submit;
 - Make comments and suggestions on paying fines and reimbursement.
 - Review and assess reports of the State Inspectors of the Environmental Protection and relevant organizations.
 - b/ To develop proposals, recommendations and a Buffer Zone Management Plan, the BZC shall:
 - Gather and compile and analyze data;
 - Draft projects and conduct opinion polls;
 - Reflect citizens' opinions and comments in developing the Buffer Zone Management Plan;
 - c/ To assist, advise and propose the *Soum* and *Duureg* Governor to implement the Environmental legislation and Buffer Zone Management Plan, the BZC shall:
 - Introduce and promote the implementation process of the Buffer Zone Management Plan;
 - Support and monitor the Buffer Zone Management Plan implementation;
 - Develop proposals on implementing the Buffer Zone Management Plan based on the *Soum* and *Duureg* Governor's decision;
 - d/ To set up the BZF and monitor its distribution and expenditure, the BZC shall:
 - Determine potential income sources to be generated for the BZF with the *Soum* and *Duureg* Governor and have them discussed by the Citizens Representative Khural;
 - Organize the fund accumulation and raise measures for the BZF;
 - Determine the fund volume to be spend by the BZF and have it approved by the Citizens Representative Khural representatives;
 - Spend the fund properly as it is planned;
 - *Soum* and *Duureg* Governors and Citizens Representative Khural representatives report the Inspecting Council once in an half and a whole year and the report shall also be informed to the public.
 - e/ To promote the Environmental legislation, the BZC shall;

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- Regularly introduce and promote Environmental laws and regulations and the Management resolutions;
 - Host training, workshop, meeting and interview;
 - Cooperate with the media and NGOs in the field of information exchange and advertisement;
 - Work in collaboration with the Special Protected Area Administration
 - Involve local people and BZC members in training and workshop; 2.
2. The BZC shall be liable for other additional activities, if deemed necessary, by the Citizens Representative Khural decision, based on the *Soum* and *Duureg* Governor and Protected Area Administration's proposals.

Four: The BZC meeting and its decision

3. The main form of the BZC procedures shall be Council meeting.
4. The BZC shall be hosted once in each season. The meeting shall be valid in case, two third of the BZC members are present.
5. The BZC shall make a decision based on the matter discussed and the decisions shall be approved by the majority of the members. A note shall be taken.
6. The decisions shall be signed by the head of the BZC and all the members, took part in the meeting. The note shall be signed by the BZC head.

Five. Duties and responsibilities of the BZC head

1. BZC shall elect a head in charge of running daily operations under his control.
2. The BZC head will be elected within a half a month since the BZC was established.
3. The following regulations shall be complied with during the election:
 - à/ A representative from the Citizen Representative Khural shall conduct a meeting in which the BZC will be elected.
 - b/ 3 individuals, excluding the SPA administration shall be selected for the post of the BZC head and the votes shall be taken secretly.
 - c/ A person who gained the majority of the votes shall be elected as the head.
4. The BZC head shall be elected every 2 years. Re-election is acceptable.
5. The BZC head shall carry out the following duties.
 - à/ Work implementing the rights and obligations referred to in 4.17 of the regulation.
 - b/ Constantly take measures to provide the sustainable operation and improve the capacity and effectiveness of the BZC.
 - c/ Improve the structure of the BZC and approve the working schedule for its members and have it complied with.
 - d/ Support the members to polish their education and knowledge
 - e/ Evaluate and reward the members and appoint them to different posts
 - f/ prepare for the BZC meeting, approve the resolutions and inform them to relevant organizations and the public
 - g/ monitor the implementation of the resolutions and introduce the results to the participants meeting
 - h/ be in charge of internal affairs of the BZC /secretarial, BZF/
 - i/ contact with other organizations representing the BZC
 - j/ implement other rights issued by the BZC
6. The BZC head and the members shall be rewarded by their achievements and their work results. In terms, it's required the BZC head shall be appointed to a full time post. By the decision of the BCZ meeting.
7. The BZC head shall report on a yearly basis.

Six. Set up, distribution, expenditure and report of the BZF

1. The BZF shall be established according to the §7.2 of the Law on Buffer zones.
2. The BZF shall be distributed and spent pursuant to the §7.4 of the Law on Buffer zones.
3. The BZF shall have a bank account.
4. The BZF account shall be first signed by the BZC head and then by a *Soum* financial staff.

Cooperation between the SPA Administration and Herder Communities

Herder communities residing in Strictly Protected Area buffer zones and nearby SPAs need to work in close cooperation with the SPAA and BZC. Herder communities should take measures to reduce, prevent, and inform about possible adverse impacts on the SPA, such as poaching, illegal use of resources, and fire. Herder community volunteer rangers patrol and investigate the areas in cooperation with conservationists of the SPA. The volunteer rangers may document illegal acts, such as mining natural resources and poaching in the SPA and its buffer zones, and submit them to the SPA rangers.

Herder communities, together with SPA rangers and specialists, may provide and promote information concerning nature protection to their members.

The herder community members of the SPA buffer zones have the opportunity to obtain a loan from the working fund of the BZF to improve their livelihood and to implement a project on nature protection and its restoration. Herder communities inhabiting the SPA buffer zones and the surrounding areas should inform about their participation in the implementation of the Buffer Zone Management Plan to the SPAA.

The SPAA should constantly monitor citizens' participation in environment conservation and reward the leading herder communities that make a significant contribution to implementing the SPA management and improving nature protection.

Lesson II.2. MINISTRY OF ENVIRONMENT'S ORDER

April 26, 2006

114 Ulaanbaatar

Approving procedures and forms

Ministry of Environment's Order shall be based on the 31¹.3.9 provisions of the Law on Nature Conservation.

1. The procedures on protection, utilization and possession of certain types of natural resources by herder communities shall be approved by supplement 1, the form of the contract to be made with herder communities engaging in environmental protection by supplement 2, the form of the certificate to be granted to herder communities by supplement 3.
2. State Administrative Management Department /Bolat.A/ shall be in charge of delivering the approved procedures and forms to the *Aimag* and Capital city Environmental Agencies, *Soum* and *Duureg* Citizens Representative Khural and Governors Offices, Environmental and Natural Resource Reserve Department /Banzragch.Ts/, Forest Policy Coordination Department /Ikhanbai.Kh/ and the heads of *Aimag* and Capital City Environmental Agencies shall carry out over the implementation and provide herder communities professional and methodological management.
3. The *Aimag*, Capital City, *Duureg*, *Soum*, Khoroo and Bag Governors shall be advised to provide protection, utilization and possession of natural resources by local citizens, under contract, taken into consideration of the local area peculiarities, pursuant to these procedures and regulations.

Minister

ERDENEBAATAR

PROCEDURES FOR CREATING PROTECTION, UTILIZATION AND POSSESSION OF CERTAIN NATURAL RESOURCES BY HERDER COMMUNITIES

One. Provisions

- 1.1. The main purpose is to regulate relationship related to conservation, use and possession of certain natural resources by herder communities, create collective management approaches, through encouraging the local citizens' engagement in the activities to provide a proper use and restoration of natural resources /forest, flora, fauna and so on/.
- 1.2. The regulation has been developed pursuant to §476, 481 of the Civil Law of Mongolia, §3, 4, 17, 31 of the Environment Protection Law and relevant provisions, §53 of the Law on Land, §3.2.3 of the Law on Forest, §5.2.2 of the Law on Fauna, §3.3, 3.4 of the Law on Hunting and §8.2.2, 8.2.3 of the Law on Buffer zone.
- 1.3. The nature conservation herder community (hereinafter referred to as "community") is a citizens' voluntary organization, according to §476 and 481 of the Civil Law of Mongolia that support citizens' cooperative activities, and §3.2.8 of the Environment Protection Law.
- 1.4. The communities carry out duties to protect, use and possess of natural resource reserves with the participation of local populations, within their territory, properly use the permitted quantity of natural wealth, pursuant to the related laws and procedures and prevent scarcity of natural resources.
- 1.5. The length of the cooperative management contract to be made with the herder community in charge of natural resource protection shall be five years and the length shall be extended by five years each time.

Two. Establishment of communities in charge of natural wealth conservation

- 2.1. The communities responsible for natural resource protection, under contract shall meet the following requirements.
 - 2.1.1. Community members shall be united voluntarily and have a cooperative work contract, rules, action plan regarding nature protection and natural resource reserve management plan, approved by the all members' meeting.
 - 2.1.2. The community rules shall contain its name, administrative and territorial division, address, location, the size and types of collective fund, as well as justifications and procedures on distribution and expenditure of the fund, enrollment and dismissal from the community, property and non-property liabilities, rights and obligations of the member, election of the community management, host of the meeting, rights and responsibilities regarding the community, directions and strategies of community activities and dismantle of the community.
 - 2.1.3. The action program and management plan shall reflect activities regarding protection of forests, plants, animals and other secondary resources and provide their proper use, possession, raise and restoration, as well as biotechnical and nature conservation measures.
 - 2.1.4. Financial, technical and technological resources to be spent on protection, rational use and enhance of natural resources shall be created by the collective fund, in accordance with the procedures described in §482 of the Civil Law.
- 2.2. The community members' number in Khangai region shall be more than 30 people (15 families), Gobi and Steppe region more than 20 people (10 families), and they shall be the citizens permanently residing in those areas.
- 2.3. One community can provide its activity up to 6.000 hectare of land in Khangai region, and 10.000 hectare in Gobi and Steppe region, taking into consideration of the map and region characteristics, described in 3.1 of this regulation. A community interested in protection of more than allotted amount, shall address to the *Soum* and *Duureg* Citizen Representatives Khural and then this Khural shall make a decision based on the proposal of the *Aimag* and City Environment Agency.

- 2.4. The communities that had been working prior to this regulation approved shall be registered, make a contract and get a certificate, according to this regulation.
- 2.4.1. *Soum* and *Duureg* Governor shall manage to renew the contract made with the community, operating in the state territory, pursuant to the regulation procedures.
- 2.4.2. The two parties shall renew the contract within 3 months, after the statement on the contract renewal has been delivered to the community by the *Soum* and *Duureg* Governor.
- 2.4.3. *Soum* and *Duureg* Governor shall temporarily stop the community operation in the event the contract hasn't been renewed, within the due time, pursuant to the regulation.

**Three. Determine the natural resource reserve and create
Contract with the Governor**

- 3.1. The representatives of *Soum* and *Duureg* Citizen Representatives Khural shall approve the size of the area to be taken under the community protection and have *Soum* and *Duureg* Environmental Inspectors maintain the document.
- 3.2. *Soum* and *Duureg* Citizen Representatives Khural shall determine the size of the area, not exceeding the size, referred to in 2.3 of the regulation, taking into accounts of types of natural resources, landscape features, needs and demands for conserving and restoring endangered species.
- 3.3. Bag and Khoroo Governor shall have the community proposal on natural resource protection, discussed and concluded by the Citizens Local Khural of Bag and Khoroo, within 15 days, since the proposal is received.
- 3.4. The Citizens Local Khural shall be valid if the majority of the members are present in the meeting.
- 3.5. The matter of protecting natural resources by contract shall be decided by the majority of votes of the present members. Within a week they will make the decision known to *Soum* and *Duureg* Citizen Representatives Khural representatives
- 3.6. *Soum* and *Duureg* Citizen Representatives Khural shall decide the issue within 14 days, since the proposal is received.
- 3.7. The herder community shall send its application on natural resource conservation and related documents, referred to in §2.3.7 of Article 31¹ of Nature Protection Law. The following documents shall be attached to the application.
 - 3.7.1. Community name, administrative and territorial subordination, temporary and permanent address, reference on natural resources to be protected.
 - 3.7.2. The proposal supported by the Bag and Khoroo Citizens Local Meeting and the decision made by the *Soum* and *Duureg* Citizens Representative Khural.
 - 3.7.3. The action plan regarding nature conservation and cooperative contract of the community members approved by the members' meeting of the community, in accordance with 2.1.2 of the regulation.
 - 3.7.4. The contract on cooperation of the community administration and members
 - 3.7.5. The location and distribution of natural resources and the volume of the area to be protected under contract.
 - 3.7.6. The copies of the ID cards of the community members
 - 3.7.7. The copy of the community codes.
- 3.8. *Soum* and *Duureg* Governor shall make a contract on natural resources to be protected, used and possessed by the community, in appropriate terms and periods, with the authorized representatives of the community, based on §17.1.5 of Nature Protection Law. The contract shall be made within 10 days, after the documents relevant to this regulation, Nature Protection Law and Civil Law, are received.
- 3.9. The contract, referred to in 3.8 shall include the following:

- 3.9.1. The justification of protecting natural resources by the herder community under contract /the decision of the Citizens Representative Khural/, the purpose of the contract and the length of the period, in which natural resources are to be protected and possessed.
- 3.9.2. Names of the community members,
- 3.9.3. The location, distribution and reserve of natural resources to be possessed,
- 3.9.4. The types and principles of liabilities and compensations in the event the contract, environmental legislation, nature conservation program and management plan are not fulfilled
- 3.9.5. Other issues negotiated by the two parties

Four. Community's plenary rights and duties

- 4.1. The community shall have the right to participate in making decisions and comments regarding natural resource use, get assistance and supports from governmental organizations of an appropriate level in the field of nature protection. The community is responsible for involving local citizens in natural wealth conservation, within their territory to be protected.
- 4.2. The community shall exercise the following rights and obligations unless they are described differently in other laws, contracts and nature conservation and management plan.
 - 4.2.1. Be responsible for protecting natural resources within the territory pursuant to the contract.
 - 4.2.2. Use side-line resources and other fruitful resources.
 - 4.2.3. Establish a collective fund required for the implementation of nature protection activities and raise the fund by certain portion of income, generated from the use of natural and side-line resources, certain percentage of fines and compensation paid for the violation of the law and damages caused to the environment and members' donation.
- 4.3. Take measures to conserve forests, water resources, plant and animal species and other natural resources and prevent from their exhaustion.
- 4.4. According to the agreement of local state organizations, provide a proper use of natural resources, calculating the quantity of natural wealth suitable for carrying capacity of the ecosystem as said in the management plan, under monitoring.
- 4.5. With the respect to the contract made with the *Soum* and *Duureg* Governor, carry out inspections and stop illegal activities, under control of the state inspector, ranger and certified organizations working in the field of restoration, proper use and protection of natural wealth.
- 4.6. The communities shall fulfill the following duties:
 - 4.6.1. Organize natural resource protection activities based on the majority of the members' ideas.
 - 4.6.2. Lay down rules and make contracts in the scope of the activities and reflect the majority of the members' ideas and comments while making a decision.
 - 4.6.3. Use secondary natural resources and other resources pursuant to the related law and regulation, distribute or allot 30% of the income generated from these activities to the collective fund and spend the fund on restoration measures.
- 4.7. Give true information on status of the natural resource reserve, constantly taking observations on the changes to the natural wealth, to the environmental inspector and ranger.
- 4.8. Submit the issues to the relevant legal organizations, related to the compensation of the damage caused by citizens, organizations, and business entities, within their authorized region.
- 4.9. Pursuant to the law, use the secondary natural resources and other natural resources with fines, within their territory.
- 4.10. Establish procedures for posting signs for the protected areas and approve them, fence the hayfield and the areas for conducting research, experiment and restoration, but block of the visitors' entrance to the protected areas and migratory paths of the wildlife is prohibited.

Five. Communities' rights and duties regarding protection of particular natural resources

- 5.1. The community shall exercise the following rights and obligations concerning forest and plant resources.

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- 5.1.1. Organize the activities to prevent the forest resource from fire, disease and insects, not graze the livestock into the forest during its regeneration, provide a proper and scheduled use of forest, take measures against the fire based on their capacity, immediately inform the fire case to the related authorities, in the event of the fire urgently extinguish and inform the bag and *soum* governor to get appropriate assistance, in case of lack of capacity.
- 5.1.2. Conduct the activities to grow, restore and enhance the forest and plant resources based on its fund and assistance from local organizations, within their protected area.
- 5.1.3. Protect, clean and maintain the forest and fulfill nature restoration measures, according to the guideline of professional organizations.
- 5.1.4. Register the cultivated forest to the forest fund in appointed time.
- 5.1.5. Prepare scheduled figures of timber for household and firewood purposes and use other secondary natural resources, according to the quantity permitted by the related law and regulation, license and origin certificate and monitor the preparation and transportation.
- 5.1.6. Enforce to implement the related law and regulations by travelers and visitors in the forest and remove the violations caused by them.
- 5.2. The community shall implement the following rights and duties regarding protection of hunting reserve.
 - 5.2.1. Implement the activities in order to conserve and maintain the distribution of the animals, fish and birds and the original status of the area, with the assistance of relevant and certified organizations and community.
 - 5.2.2. Determine the maximum level for the game animals to be hunted and trapped for household and other special purposes and monitor the hunting activities within the permitted seasons, as described in the relevant laws and regulations.
- 5.3.3. Pursuant to the 5.2.2 of the regulation, conduct control over the use of traps, nests and explosives that potentially bring about the damage to the wildlife reserve and stop any violent and guilty actions.
- 5.2.4. Take part in implementation of the activities to separate the focus of infection, and lessen the population of predators in cooperation with relevant organizations.

Six. Soum, Duureg, Bag and Khoroo Governor's rights and duties regarding the community activities

- 6.1. *Soum* and *Duureg* Governor shall exercise the following plenary rights.
 - 6.1.1. According to the law, carry out control over implementation of the community activities, contracts, and management plan through the state inspector and discuss the results.
 - 6.1.2. Discuss the community members, receive their feedbacks and critiques, taking them into account for further implementation, make required changes to the contracts, submit the community members' comments and suggestions to the state organizations of a higher level, provide the members with the necessary information and host training, workshops and consultations for them by their request.
 - 6.1.3. Organize the activities to introduce and promote community operations to local citizens and herders.
 - 6.1.4. Monitor the community activities through the Bag governor.
 - 6.1.5. Carry out investigations of the changes to the natural resource reserve, within their authorized zone, at least once a year.
 - 6.1.6. Coordinate the community operation in a close relationship with the state and local policies and resolutions.
 - 6.1.7. In cooperation with the *Soum* Citizens Representative Khural, fulfill the activities to conduct training and workshops regarding protection of certain natural resources by the community, taking into consideration features of the local area, establish and value the reserve of the natural resources and develop an overall management plan.

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- 6.1.8. Immediately take measures against the fire in the forest and attacks to the natural resources, based on the information sent by the community members.
- 6.1.9. Coordinate the operation to raise the collective fund by the income generated from the use of natural resources and fines from the illegal use of natural wealth, within their contracted area.
- 6.2. Bag and Khoroo governors shall exercise the following plenary rights with respect to coordinate the community activities.
 - 6.2.1. Control and guide connection of the community activities to the related laws and regulations, as well as local policies and resolutions.
 - 6.2.2. Submit the proposal to the *soum* and *Duureg* governor, to stop any violent and guilty actions such as an improper use of natural resources, environment degradation and pollution.
 - 6.2.3. In the bag citizens' local meeting, discuss and establish the issues concerning a pasture rotation, scheduled utilization of the rangeland, its restoration and protection of the natural resource reserve and monitor the implementation

Seven. Duties of the Aimag and Capital City Environmental Agency

- 7.1. Conduct a constant control over the community operation, provide with professional consultancy, and make expert analyses on natural resource utilization.
- 7.2. The following professional supports and assistance shall be rendered to the community.
 - 7.2.1. Take registration of communities established in their authorized territory, through filling out the giving table and provide them with relevant legal information.
 - 7.2.2. Host training with the aim to improve the members' qualification and capacity.
 - 7.2.3. Help them choose a land and natural resources and provide them with consultancy regarding preservation of the natural resources.
 - 7.2.4. Show the other supports by the request of the *Soum* and *Duureg* Governor.
- 7.3. Carry out control and assessment of the implementation of the nature conservation action program, natural resources management plan and other related laws and legislations and consider them for further operation.
- 7.4. Monitor the community operation, remove the committed violation and infraction, and submit the proposal to terminate the contract, in case the contract terms are violated, to the *Soum* and *Duureg* Governor.
- 7.5. The state environmental inspectors shall carry out inspections of implementation of the nature protection laws, regulations and duties specified in the contract, have the members release the relevant data and facts, enforce the violators to remove the infraction and submit the proposal to stop the community operation, if deemed necessary.
- 7.6. Rangers shall be obliged to inspect the community activities, conducted within their territory, like the state environmental inspector and work with the purpose to implement the other rights and duties, identified in the related laws and regulations.
- 7.7. Besides cooperating with the community and supporting its activities, the state environmental inspectors and rangers shall submit the proposal to provide financial supports to the leading community and reward the best members.
- 7.8. Include certain *aimags* and *soums* into the annual schedule for natural resource use, based on the management plan and professional organizations' conclusions and grant related licenses on natural resource possession and utilization.

Eight. Dispute settlement

- 8.1. The following illegal instances shall be the justifications of terminating the contract: poaching, cutting down the woods for a household purpose and preparation of firewood, harvesting nuts and secondary natural resources, collecting rare plants for medicinal, food and technical purposes, utilization of underground resources, alteration of the stream and rivulet flow and fishing.
- 8.2. Pursuant to the 31¹.10.1, the bag and khoroo governor shall announce the Bag and Khoroo Local Citizens Khural within 10 days at least, in which the community rights will be cancelled.

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- 8.3. There shall not be the limited number for the participants of the meeting, and their proposals shall be taken down and sent to the *Soum* and *Duureg* Citizens Representatives Khural together with the *soum* and bag proposals.
- 8.4. The head of the community shall be present in the meeting, in which the matter to cancel the community rights will be discussed and submit the decision to the Governor.
- 8.5. If the communities are in disagreement with the decision, they may submit their complaint to the governor of the next level or to the court.
- 8.6. The community members are obliged to tip off any violations and infractions are committed in their territory and the information shall be kept secret.
- 8.7. The *Soum* and *Duureg* Governor shall make a decision on transferring the area under the community protection, in the event of drought, heavy snowfall, fire, flood, infected disease and other natural disasters and emergencies, based on the community proposal.
- 8.8. If the community violated the law, the *Soum* and *Duureg* Governor shall determine the volume of the damage to the nature, caused by the community and take restorative measures; the size damage shall be established by the ecological and economic assessment for the reserve, based on the certified organization's conclusions.
- 8.9. The dispute between the community members shall be settled in the all members meeting.
- 8.10. In case the community members are in dispute with each other or some members are in dispute with the majority of the members, the dispute and argument shall be settled by Bag and Khoroo Citizens Local Khural. If several communities are in dispute, it shall be settled by the *Soum* and *Duureg* Governor and Citizens Representative Khural. In principle, the disputes related to the natural resource protection shall be settled, pursuant to the relevant laws and regulations.

Lesson II.3. Community-based Wildlife Conservation Management

Overview: Definitions; Steps for wildlife conservation management planning; Wildlife conservation management example: Moon Lake; Wildlife management plans in your area

Definitions

Conservation: The wise use of natural resources (nutrients, minerals, water, plants, animals, etc.), and planned action or non-action to preserve or protect living and non-living resources. This may include protecting endangered species whose numbers are decreasing.

Wildlife Conservation: Activity of protecting, preserving, managing and studying wildlife and wildlife resources. This may include protecting habitat, conducting research and monitoring fecundity and mating success.

Goal: The clearly stated, specific, measurable outcome(s) or change(s) that can be reasonably expected at the conclusion of a methodically selected intervention. Goals provide general purpose and direction. They are the end result of ultimate accomplishment toward which an effort is directed. They generally should reflect perceived present and future need. They must be capable of being effectively pursued.

Objectives: Specific and measurable means for accomplishing goals. Objectives state what is to be achieved and cover the range of desired outcomes to achieve a goal.

Monitoring: Continuous study that is repeatedly done with a certain direction over a long period of time.

Management: In wildlife conservation, this is policy directed toward wildlife species. It includes planning of multiple actions such as monitoring, organization, delegation and implementation of activities within the policy.

Wildlife Conservation Management: *From “Wildlife Field Research & Conservation Training Manual,” Alan Rabinowitz, 1997, Wildlife Conservation Society*

- A. Planning & Implementation:** Wildlife protection, management, and research require planning. Planning is the basis for management. It means thinking through a problem, deciding on the best course of action, and monitoring or evaluating the results of that action.
- Planning moves a program in an intended direction versus crisis management, which either maintains the status quo or allows a situation to deteriorate.
 - PLAN : ORGANIZE : ACT : EVALUATE
 - Important rule of planning = *Keep it simple!*
- 1. Set a goal and clarify the issues** – The first step in planning for any kind of action is to have a clear idea of what you are trying to achieve, i.e. your *goal*. Write these down on paper. What is the scope of the issues? Are you concerned with research, management, or protection? Examples of goals and/or issues:
 - Obtaining legal protection of an area as a wildlife sanctuary.
 - Formulating a management plan for gazelle in the county.
 - Balancing recreational use and habitat protection of remaining wild lands in the county.
 - Setting up a nature education center in a national park.
 - 2. Establish specific objectives and their priorities** – Once your goal is clear, you must establish the specific actions that are needed to accomplish it, i.e. your objectives. Examples of objectives include:
 - Conduct population counts of gazelle in the county.
 - Learn how many gazelle are hunted in the county each year.
 - Obtain funding for the establishment of a nature education center.
 - Obtain educational materials for the nature center.
 - 3. Define the specific questions and needs involved** – This is done according to the priorities of the specific objectives. Examples:
 - Protection and management issues
 - Data collection issues
 - Human and community issues
 - 4. Recognizing conservation “value”** – Every conservation action has a value, which may or may not be economic in nature. Intangible elements for saving wildlife (such as cultural, aesthetic, and moral values) must be given fair weight. Make sure that a label of “no economic value” is not used as a justification for lack of action. Natural resource conservation is always beneficial in some way.
 - 5. Drafting a working plan** – Now you can combine all of your ideas into a clear, concise plan. What are the methods or techniques you will use to accomplish your objectives? How will you monitor your progress? What will your future outputs be?
 - (1) Title – what the project is about
 - (2) Place description – the current level of protection
 - (3) Goal & Objectives – clear, quantifiable, relevant & concisely stated
 - (4) Value or Benefits– don’t generalize, be specific
 - (5) Scope – limitations in time, location & subject
 - (6) Background – what is already known
 - (7) Relation to other projects
 - (8) Methods – management and monitoring
 - (9) Personnel involved
 - (10) Equipment or services needed
 - (11) Costs
 - (12) Schedule

B. Example: Moon Lake National Park

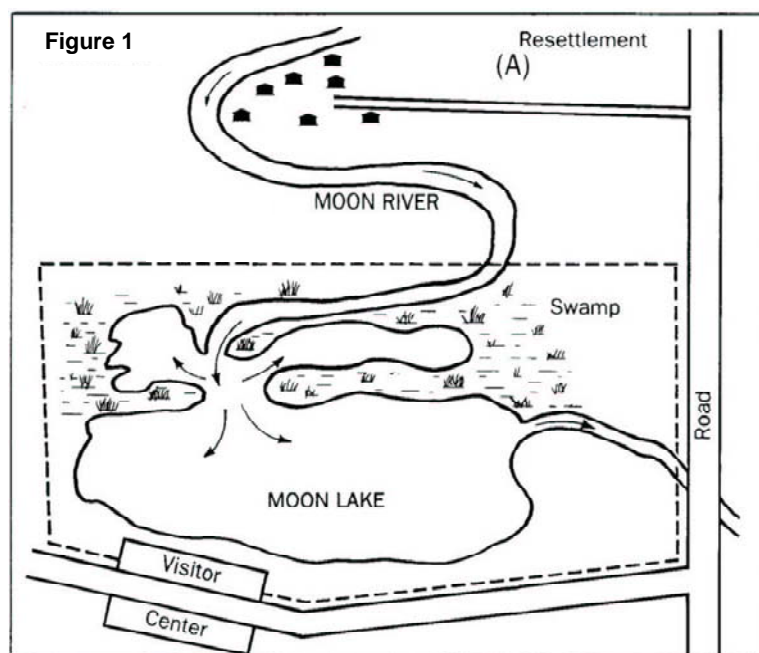
Moon Lake National Park is a small protected area established to protect a freshwater lake and swamp (Figure 1). The lake and wetland system have been an important area for migrating waterfowl. The wetland system also protects the last viable breeding population of the dingo duck in the country, and is one of the last stands of an endemic swamp grass species.

Moon River is the main stream providing water to the lake, and flows through a forest before reaching the lake. Because the northern portion of the lake is the most productive and most vulnerable to disturbance, the park administration has declared it a core zone – no entry is permitted by tourists or local people. The water quality of Moon River is the crucial factor in maintaining the integrity of this system, but the main portion of the Moon River upstream from the lake has not been incorporated into the park because of political reasons. Roads border the park on two sides and the swamp is highly threatened because of its small size and easy access in the southern part of the park.

Two years ago, a group of herders established their main grazing area just north of the lake near Moon River. The herders began allowing their livestock to wander freely in and around the river. During the rainy season, the river is often brown and dirty because of soil erosion caused by cattle in the area around the settlement.

Park authorities observed an increase in silt deposition at the mouth of Moon River and an increase in water temperature on sunny days. The number of zing flies, which need cooler water in which to hatch, dropped. Zing flies are an important food source for the dingo ducks who reside in the lake.

1. What is the exact nature of the problem?
2. What are the actual causes of the problem?
3. What are the possible solutions?
4. Are the solutions practical?
5. What individuals or groups need to be approached /involved?



C. Moon Lake National Park Assessment & Planning (*Group discussion*)

1. The problem:

Short term – Changes in the Moon Lake NP ecosystem

Long term – Possible loss of the zing fly and the dingo duck

2. Cause of the problem:

- a. Immediate causes are biological – deteriorating water quality and flow due to changes in sedimentation and temperature.

- b. Underlying causes are physical and social – erosion from livestock standing in the and grazing around the river, herder use of the river (i.e. soap and other pollution of the water)

3. Possible solutions: Immediate and long term

- a. Stop or slow erosion in the northern part of the river near the herder settlement (A). Herders can do this by keeping their livestock out of the river (especially during the vegetation growing season), and rotating their pastures so there is adequate vegetation coverage to protect the soil.
- b. Replant vegetation along the river, especially willow and other shrubs to protect against erosion and provide shade to decrease the water temperature.
- c. Prevent disturbances from livestock and people in area B.
- d. Incorporate area B as a buffer zone.

4. Who needs to be involved:

- a. The local community
- b. The park authorities
- c. Conservation NGO's

5. Management Plan for Moon Lake: (Group Activity)

- a. Goal: To ensure that the dingo duck population persists in Moon Lake
 - i. Objectives: 1) Increase the Zig zag fly population; 2) Restore the river and decrease erosion; 3) Protect the northern area of the park (B); 4) Stabilize & protect the Dingo duck population.
 - ii. Methods: 1) Talk to members of the community and have they agreed to keep livestock out of the river. A fence may need to be put up in severely degraded areas; 2) Plant native shrubs and trees along the river. This will decrease sediment in the river and decrease the water temperature; 3) create a buffer zone that includes area B.
 - iii. Results: There will be less sediment in Moon River and more shade, decreasing the water temperature and making it cleaner. Zig zag flies will be able to reproduce, then there will be enough food for the dingo ducks and their population will be out of danger.
- b. Additional Goal: Establish ecotourism in the area for bird watching – migratory birds and dingo ducks
 - i. Objectives/Methods: 1) Construct a bird watching platform in an area of the park where it will not disturb the ducks; 2) Establish guest gers near the herding community; 3) Continue with protection and restoration of the Moon Lake area. (*Continue as above...*)

Making Wildlife Management Plans for Your Area

Now you can build management plans for the wildlife and natural resources in your community's area. Always think of the goal of your management actions and make sure to monitor your progress so you can determine your progress. Sound natural resource management actions will benefit the people in your local community, others who visit your area, local wildlife, and the entire ecosystem.

**II.4. Discussion focused on community operation and work experience exchange:
Achievements and lessons from communities working to protect nature in the field**

Who are the leading communities?

We consider *well-operating communities* to be communities who are conducting different trainings and promoting activities with the purpose to motivate the members' involvement, constantly raising the collective fund as well as the profits from the fund and distributing other financial assistance equally to all the members. One of Dashbalbar's communities has taken part in the International Conference held in Kenya and has received financial support for project implementation.

Who are the poorly-operating communities?

Example 1. There is a community who has not produced any report since its establishment. This is likely due to performing insufficient work.

Example 2. One of the households had been in the same winter and spring settlement for a long time, resulting in heavy pasture degradation. This household then faced heavy snowfall and realized the importance of rotating pastures.

Example 3. Some households are using the pastureland with rotation, while others households are settling in others' reserve pastures due to lack of knowledge about proper use of rangeland. From this example, we see the need for pasture protection and management and for setting up a community that makes a collective decision on rangeland allocations and uses them with proper rotation.

Below are some activities being conducted by herder communities to support and encourage their members:

- Open a savings account for new-born children and conduct hairdressing and culinary training in order to provide life skills.
- Urjinkhand of the "Chukh" community has restored a former Russian resort by Chuhui Lake 1,700,000 MNT. She organized a culinary and dairy product production training session. The community has 36 people including 9 households, 18 members, 6 high school students and 4 secondary education students.

Due to the decreasing water level of the Chukh Lake, the community members have dug a channel through which the water from the Ulz River now flows into Chukh Lake. They worked diligently on this task from August 18 to 22, 2006. The families grow vegetables and preserve them in their underground storage. There are 3 communities whose subsistence is below the average.

- "Shaazan nuur" community: Established in 2006, it includes 10 households. The community was set up in order to protect the pasture near the Shaazan Lake and the area around the river.
- "Bayan-Ovoo" community: The 9 households of the community own about 10,000 hectares of land and 3,000 head of livestock. Thanks to the work of the *Soum* Governor, 37,000 hectares of land was taken under this community's protection. The importance of the herder community should be promoted among the local populations and authorities because the communities share the local authorities' work and undertake activities useful to both the local people and the environment. Altangerel, a member of the community, once visited us and shared his experience. Among the community, he is the member who does the most to improve livestock breeds and productivity. He said that they worked well to conserve the rangeland and protect it from fire when harvesting the hay.
- "Khankhukhui" community: The community is running a resort. They are putting up a comfortable lavatory by producing their own cement. Staying in a hygienically-clean and cozy environment is essential, especially for foreign visitors.

II.5. Discussion regarding the community's responsibilities, involvement and cooperation in the implementation of legislation

Eastern Mongolia Community Conservation Association (EMCCA) NGO

EMCCA: Briefly stated, the law is a legal document every person has to follow. The legislation is a key weapon for the ranger, and the ranger must operate within the scope of the law.

Why are you called a "volunteer"? Being a volunteer ranger involves being innovative and motivated. In order to be a good volunteer ranger, you should acquire skills to always take the initiative, perceive things quickly, and develop your ideas well. Listening to others is also important for the further development of your ideas.

Khadbaatar - Tumen *soum*, Sukhbaatar *aimag*: Today we gained knowledge on proper nature conservation and the relevant laws and regulations. We have even received manuals and handouts about the environment legislation.

WCS: Volunteer rangers are supposed to cooperate with the State Environmental Inspector of the *soum* in the nature protection field and gain work experience. In addition, the volunteer ranger should be a good observer. You should not boast about your working as a volunteer ranger. Observe the situation while grazing the animals and meeting people. In this respect, every citizen should be his assistant. If he receives their permanent assistance, his efforts and work outputs will certainly be more fruitful and useful.

III. Biodiversity – Conservation Biology

Lesson III.1 Status of Mongolian Fauna and Flora and Mongolian Red List- 2006

Status of Fauna and Flora in Mongolia /2006/

№	Type	Family	Kind	Species	List of Red Book
Fauna					
1	Mammals	24	73	139	30
2	Birds	60	203	469	30
3	Reptiles	7	14	22	5
4	Amphibians	4	4	8	4
5	Fish	13	44	74	6
6	Insects	28 orders		13000	19
7	Other			270	6
Flora					
8	Vascular plant	134	700	3000	100
Lower plants					
9	Mosses	59		445	4
11	Algae	105	288	1574	6
	Lichens	53		930	12
12	Fungi	21		838	6

Just Mammals:

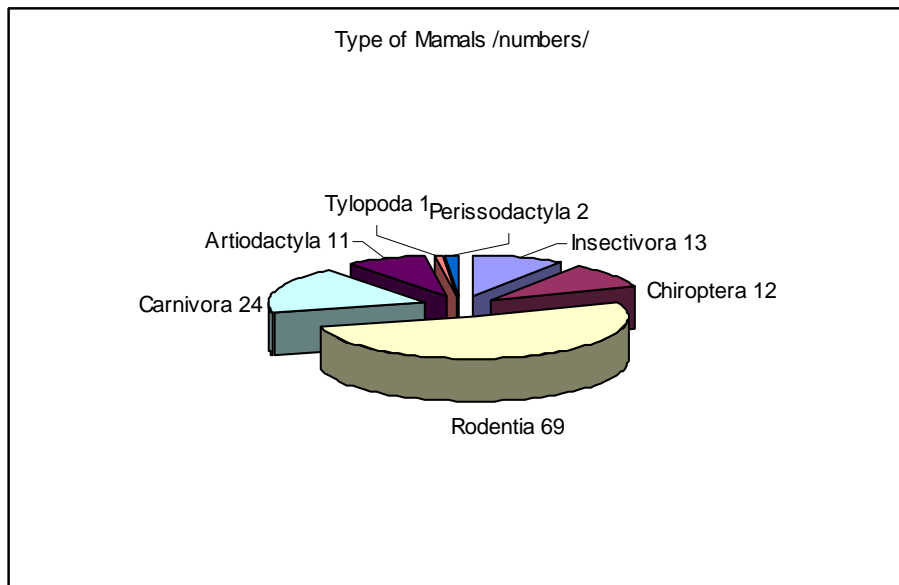


Figure III.1. Types of Mongolian mammals /by numbers/

Red Book in Mongolia /Eastern area/

	Very rare	Rare
Mammals		
Daurian Hedgehog / <i>Erinaceus dauricus</i> /		+
Eastern Bat / <i>Vespertillo altaica</i> /		+ *
Eurasian Otter / <i>Lutra lutra</i> /	+ ^	
Moose / <i>Alces alces cameloides</i> /	+ *	
Goitered Gazelle / <i>Gazella subgutturosa</i> /		+
Satunin's Jerboa / <i>Cardiocranius paradoxus</i> /		+
Thickettailed Pygmy jerboa / <i>Salpingotus crassicauda</i> /		+
Fish		
Amur Sturgeon / <i>Acipenser schrencki</i> /	+ ^	
Taimen / <i>Hucho taiman</i> /		+ *
Haitej Sculpin / <i>Mesocottus haitej</i> /	+ *	
Birds		
White Spoonbill / <i>Platylea leucorodia</i> /		+
Black Stork / <i>Ciconia nigra</i> /		+
Whooper Swan / <i>Cygnus cygnus</i> /	+	
Swan Goose / <i>Cygnopsis cygnoides</i> /		+
Baikal Teal / <i>Anas formosa</i> /		+ ^
Baer's Pochard / <i>Aythya baeri</i> /		+ ^
Osprey / <i>Panadion haliaetus</i> /		+
White Tailed Sea Eagle / <i>Haliaeetus albicilla</i> /		+
Common / <i>Phasianus colchicus</i> /	+ *	
Siberian White Crane / <i>Grus leucogeranus</i> /	+ ^	

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White-napped Crane / <i>Grus vipio</i> /	+	
Hooded Crane / <i>Grus monacha</i> /	+	
Hobart bustard / <i>Chlamydotis undulata</i> /		+ ^
Asiatic Dogwatches / <i>Limnodromus semipalmatus</i> /		+
Relict Gull / <i>Larus relictus</i> /		+ ^
Reed Parrot bill / <i>Paradoxornis heudei</i> /		+

Plants

Daurian rose / <i>Lilium dauricum</i> /	+	
Daurian larch / <i>Larix dahurica</i> /		+
Forked stitchwort / <i>Stellaria dichotoma</i> /		+
White peony / <i>Paeonia lactiflora</i> /	+	
Pink peony / <i>P. Anomala</i> /		+
Codati mao / <i>Ephedra eguissetina</i> /	+	
March saxifrage / <i>Saxifraga hirculus</i> /	+	
False spirea / <i>Sorbaria sorbaria</i> /	+	
Yellow pagoda tree / <i>Sophora flavescens</i> /	+	
Gas plant / <i>Dictamnus dasycarpus</i> /	+	
Daurian rhododendron / <i>Rhododendron dauricum</i> /	+	
Long-leaved jasmine / <i>Androsaca longifolia</i> /	+	
Mongolian caryopteris / <i>Caryopteris mongolica</i> /		+
Mongolian arrow wood / <i>Viburnum mongolicum</i> /	+	
Sargent's white rod / <i>V. Sargentii</i> /	+	
Common valerian / <i>Valeriana officianals</i> /		+
Manchurian elder / <i>Sambucus manshurica</i> /	+	
Mongolian brachantheri / <i>Brachnthemum mongolorum</i> /	+	
Lomonosov's olgaea / <i>Olgaea lomonosowi</i> /		+
/Allium altaium/		+
/Allium macrostemon/	+	
/Anemarrhena asphodeloides/	+	
/Convallaria keisk/	+	
/Tulipa uniflora/	+	
Sweet flag / <i>Acorus calamus</i> /	+	

Comments:

Rare in world ^

Distribution is limited *

The marmot population was nearly 13 million, but has recently declined dramatically to 4 million animals, even after a temporary ban on hunting from 2005-2008. According to studies conducted in 2003, there were about 1 million Mongolian gazelle, 7-10 thousand moose, 2-22 thousand goitered gazelle, 50-70 thousand roe deer; 8,080 wild boar, around 10,000 red fox; 15,000 corsac fox, 30,000 gray wolf, and 15,000 falcons in Mongolia. In the 1980's the population of red deer was around 60-100 thousand, which has decreased to 6,000 in 2003. Lakes Khar Us, Khuvsugul, Khyargas and Buir are considered the main resource for Mongolia's fish and all of them are under state protection except Buir Lake.

Based on these numbers, it is clear that wildlife resources have decreased considerably. If this trend continues it is possible that 102 species of animals and 128 species of plants may go extinct.

Flora and Forest: Researchers have documented 127 rare plant species. Local herders and some individuals use 382 plant species for medicine and food. Researchers have listed 102

rare plants species in Mongolia. For example: *Saposhnikovia divaricata*, black grass, licorice, ephedra, milk vetch, and yellow berry. Mongolia has 140 tree species and 14.7 million hectares of forest reserves, but only 12.2 million hectares of this area is actually covered by forest. Mongolia is seen as one of the poorest countries with regards to forest resources, with only 9.4% of the land is forested. 76.3% of forest reserve is deciduous and....forest.

In Mongolia there are about 400 pest and insect species. A study by the Ministry of Nature and Environment showed that 40 of these, mostly butterflies, are especially damaging to the forests. In the past 30 years, forest reserves have decreased by 1,187,600 hectares, with 89.4 hectares burnt, and 179.7 logged. Meanwhile, sparse forest increased by 2,570,200 hectares, and 159,000 hectares became steppe.

In the last 5 years, an estimated 968 forest fires occurred, which destroyed 18.3 million hectares of forests and caused 9 million tugrugs worth of damage. Of all the environmental violations, 41.5% were forest-related, 19.6% were land-related, and 13.9% were hunting violations.

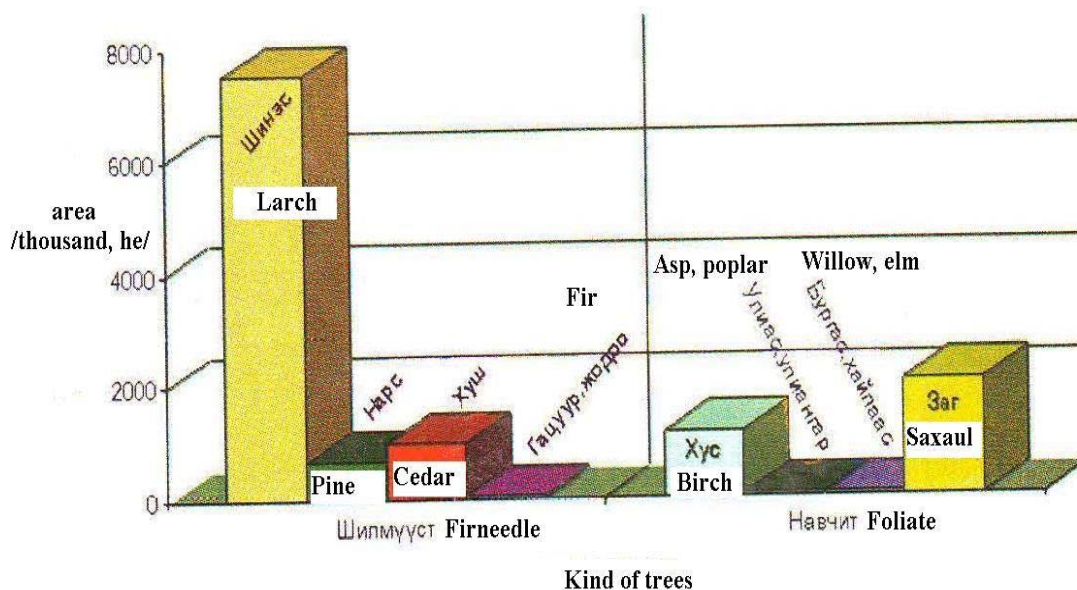


Figure III.2 Mongolian forest types

Mongolian Red List

The IUCN Red List Categories and Criteria /IUCN-2001/ are now recognized as an international standard, and are used by many countries and organizations throughout the world. The Red List for Mongolia has several criteria.

Extinct
Extinct in the Wild
Regionally Extinct
Endangered
Vulnerable
Near Threatened
Least Concern
Data Deficient
Not Applicable

Currently 128 species of Mammals, 46 species of Fishes, 34 species of Reptiles and Amphibians are included in the Red List.

Red List of Mammals and Fishes in Eastern Area:

Regional assessments were conducted for the first time for fishes in Mongolia using the IUCN Red List Categories and Criteria. Many species belong to the following categories: Least Concern, Data Deficient, and not Applicable.

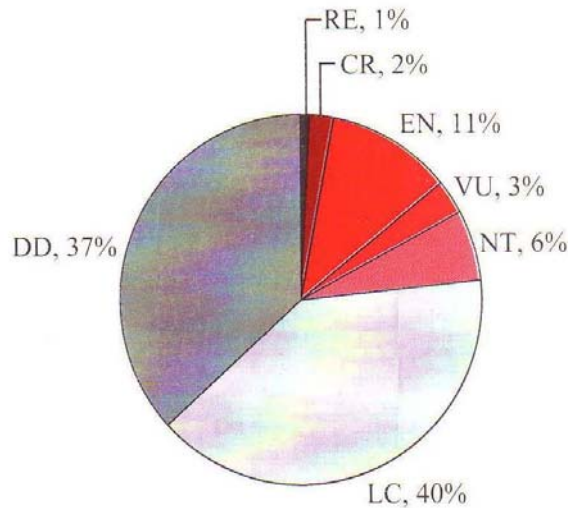


Figure III.3A.: Status of Mongolian Mammals-2006 /IUCN/
RE- Regionally Extinct, CR-Critically Endangered, EN-Endangered, VU- Vulnerable, NT- Near Threatened, DD- data Deficient

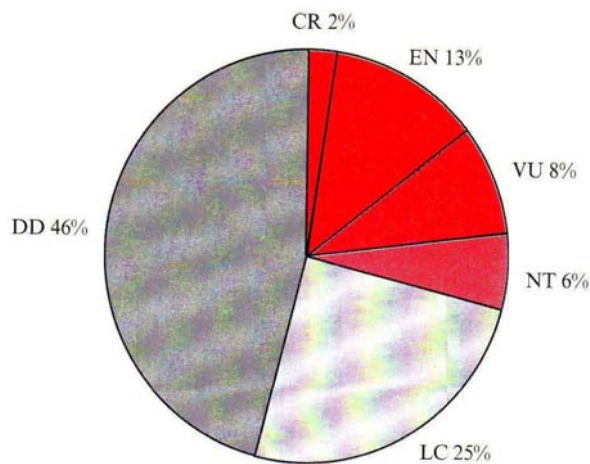


Figure III.3B: Status of Mongolian Fishes-2006 /IUCN/
CR-Critically Endangered, EN- Endangered, VU- Vulnerable, NT- Near Threatened, LC- Least Concern, DD- data Deficient

Mongolian Red List of Mammals and Fishes -2006 /Eastern area /

Critically Endangered

-Red Deer /*Cervus elaphus* /

Endangered

-Siberian Marmot / *Marmota sibirica*/

Vulnerable

-Goitered Gazelle /*Gazelle subgutturosa*/

-Mongolian gazelle / *Procapra gutturosa* /

-Moose /*Alces alces*/

Near Threatened

-Grey Wolf / *Canis lupus* /

-Red Fox / *Vulpes vulpes* /

-Corsac Fox / *Vulpes corsac* /

Endangered

-Amur grayling /*Thymallus grubei*/

-Taimen / *Hucho taiman*/

Vulnerable

-Lenok / *Brachymystax lenok*/

Criteria of Red List:

- Decreasing population numbers, size
- Disperse and Size
- Small and fragmentation of population
- Analysis of numbers
- Other

Causes for Decrease in Species:

- Illegal hunting
- Habitat degradation because of organic pollution caused by gold mining
- Sediment due to gold mining and pasture degradation
- Habitat scarcity
- Others

Lesson III.2. The general concept of sustainable development and principles for sustainable development in the 21st Century

The United Nations, known as ‘the world Government,’ is constantly considering human development prospects. The “Program on Sustainable Development of the World in the 21st century” was approved at the conference on “Environment and Development” hosted by the United Nations in 1992, in Rio De Janeiro, Brazil. This program is actually a formal document in which the key principles to develop countries of the world in the 21st century are defined. The conference participants were given guidelines to develop and implement a sustainable development a program for their countries for the 21st century. The Mongolian Government has developed a “National Program on Sustainable Development,” *Aimag* Governor's Offices had their programs on sustainable development approved, and, as of today, the programs are in the implementation stage.

What is development? This concept can be scientifically defined in the following manner: "Development is positive changes in quantity and quality transmitting from a relatively simple level to a more complicated, advanced level."

Concept of Sustainable Development

Recently, the world population is facing a number of critical problems: green house effects due to air pollution, ozone layer damage, global warming, a rise in sea levels, and acid rain; increase in occurrence of natural disasters, including drought, heavy snowfall and flood; sewage and waste released by humans and factories; drinking water polluted by chemicals and radioactive substances; increase in soil pollution, biodiversity, and forest scarcity because of overuse and desertification. All these pressing issues are the center of the attention for the world population.

Under these circumstances, a new concept to collaborate for sustainable development has appeared. It has become predominate among the world's countries. They have the responsibility to change their citizens' attitude to the environment, focusing on its proper use and ecological balance maintenance, and their understanding of development.

Sustainable development means to provide economic and human development, improve population's livelihood, and living within the scope of the ecosystem through maintaining natural ecological balance.

Purpose of sustainable development: The concept of sustainable development is rooted in a human-centered development model. The purpose of sustainable development is to support human development and improve people's subsistence. The key force that leads to sustainable development is educated and healthy humans.

One of the principal criteria of human development is being healthy and fit. A person's health status is defined by the average life-expectancy of that country and directly depends on environmental factors, water, air, soil and hygiene.

Principles of Sustainable Development

Principle 1: "Respect future generation's interests". This principle includes the proper and sustainable use of natural resources, not from the position of exploiters, but by providing ecological balance for the sake of future generations.

Principle 2: "Users are protectors." Humans have been commonly using natural resources for household use. People grow plants and vegetables, use spa and spring water as drinking water, harvest grass and plants for medicine, cut down woods for making furniture and preparing firewood, hunt animals for meat and skin, and collect nuts and fruits. In this sense, nature is their source income. Therefore, in order to generate permanent revenue from nature, humans inevitably need to serve nature as reliable protectors.

Principle 3: "Polluters are fee payers." Individuals, organizations and economic entities are obliged to pay fees if they pollute the environment and must compensate for losses caused to the environment. This is the main economic factor for sustainable development.

Principle 4: "The more scarce resources grow, the more expensive they become." We know natural resources are limited. In particular, natural resources that have no restorative capacity are decreasing from year to year. Pursuant to market law, if supply decreased, needs and demands for the product increase, resulting in higher costs.

Principle 5: "Be less dependent on natural resources with no regenerative capacity." Under this principle, it is understood that natural resources which are not renewable, namely petroleum, should not be a central factor to any country's prosperity, but they should be only an additional factor.

Methods Leading Toward Sustainable Development

- Shift people's understanding and psychology on sustainable development.
- Create economical and sound production and utilization.
- Eliminate green house effects and waste disposal.
- Introduce biotechnical and traditional technologies that are environmentally friendly and not hazardous.

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- Use renewable energy sources.
- Develop ecologically pure products.
- Improve the population's ecological education.
- Enhance citizen, organization, and business entities involvement in environment protection and provide proper use for natural resources.

Lesson III.3.a. International treaties, Agreements and Conventions

Mongolia has joined more than 10 international treaties, agreements and conventions pertaining to the environmental field. Currently, approximately 30 Environmental Laws and 26 National Programs are being implemented throughout the country.

№	Name of Convention	Date Signed	Date Approved by the State Great Khural	Date Joined	Date Brought into Effect
1.	Convention on Biological Diversity	1992.06.12	1993.06.01	1993.09.30	1993.12.29
2.	United Nation Framework Convention on Climate Change	1992.06.12	1993.06.01.	1993.09.30	1994.03.21
3.	Convention on International Trade in Endangered Species /CITES/		1995.05.04.	1996.01.05	1996.04.04
4.	Vienna Convention on the Protection of The Ozone Layer		1995.10.16	1996.03.07	1996.06.05
5.	The Montreal Protocol for the Control of Chemicals Hazardous to the Ozone Layer		1995.10.16	1996.03.07	1996.06.05.
6.	International Convention to Combat Desertification in those Countries Experiencing Serous Drought and/or Desertification, particularly in Africa	1994.10.15	1996.08.22	1996.09.03	1996.12.26
7.	Convention on the Transportation and Disposal of Hazardous Chemicals	1989.03.22	1996.12.05.	1997.04.15	1997.07.14
8.	Convention on Conservation of Migratory Species of Wild animals		1999.06.24	1999.08.24	1999.11.01.
9.	Convention on Wetland of International importance Especially as Waterfowl Habitat /Ramsar/		1997.06.05		1998.04.08
10.	Convention on Slow-degrading Organic Pollutants	2002.05.17			
11.	Kyoto Protocol on Eliminating Greenhouse Effects	1999			
12.	Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade	1998			
13.	International Convention on Whale Management		2002.05.16		

1. Convention on Biological Diversity

The convention on Biological Diversity was held in Nairobi, Kenya on May 22nd, 1992 and was approved in the United Nations Conference on Environment and Development held in 1992 in Rio De Janeiro, Brazil.

The CBD is the first worldwide treaty that seeks to provide the framework for conservation and sustainable use of biodiversity, protection of the gene pool, and sustainable use of the biological resources on a fair and scientific basis as described in the Environmental Protection Law. To date, the convention has united 171 areas which belong to 80 countries. It is the most significant environmental convention in terms of content and activities being implemented throughout the world.

The CBD has three objectives to be implemented worldwide:

1. Protect biological diversity
2. Provide sustainable use of biodiversity
3. Distribute revenue on fair and equal terms

The inter-governmental Committee in charge of the Convention on Biological Diversity was established in May, 1993 by a resolution of the Management Board of the United Nations Environmental Program. The Prime Minister of Mongolia signed the convention at the United Nations Conference on Environment and Development in 1992 and approved it in 1993.

2. Convention on International Trade of Endangered Species /CITES/

This convention is a legal action that seeks to regulate international trade in endangered species of wild animals and plants. The convention was first signed in 1973 in Washington D.C., and is therefore also known as “The Washington Convention.” The Washington Convention was brought into effect on July 1st, 1975 and has been implemented, uniting 171 countries.

In 1995, the State Great Khural released an order to join this convention, and on April 4th, 1996, Mongolia became the 133rd member-country.

The Secretariat of the Convention headquartered in Geneva, Switzerland regulates all the activities relevant to the convention. The purpose of the convention is to prevent adverse impacts to endangered species and their habitats, as well as to restrict exploitation through regulating the international trade in specimens. Species are classified in the following categories in three appendices.

- Appendix I include all species threatened with extinction which are, or may be, affected by trade.
- Appendix II lists species which, although not necessarily threatened with extinction, may become so unless trade in specimens is subject to strict regulation.
- Appendix III lists species which any party identifies as being subject to regulation for the purpose of preventing or restricting exploitation and as needing the cooperation of other parties in control of trade.

To date, a wide range of animal and plant species have become extinct due to negative human influences. This convention also regulates the trade in animal parts and animal and plant originated raw materials. In Mongolia, Scientific Councils were established by the Minister of Environment's Order and are operating to implement this convention.

The list of species whose international trade is totally prohibited is provided in the Appendix I.

The list of species whose trade is acceptable in a limited amount under strict regulation is provided in Appendix II. Appendices I and II contain 14 mammal species, 71 bird species, 8 plants species, 2 fish species and 1 insect and reptile species.

3. Convention on Wetlands of International Importance Particularly as Waterfowl Habitat /Ramsar/

The Ramsar Convention is an inter-governmental agreement that seeks to organize international cooperation on wetland conservation and protection of the wildlife species in those areas. The convention was established on February 2nd, 1971 in Ramsar, Iran, the city situated on the south coast of the Caspian Sea.

The convention is popularly known among world conservationists as “The Ramsar Convention.” The order to join the Ramsar Convention was approved in 1997.

Issues regarding protection and proper use of wetlands in order to provide favorable living conditions for waterfowl have been especially emphasized in the Ramsar convention. Since its establishment, the Ramsar convention has been taking into consideration the protection of wetlands through proper, scientific use, as they are home to a large variety of wildlife.

The term "wetlands" *includes areas of marsh, fens, or water that may be natural or artificial; permanent or temporary; still or flowing; and fresh, brackish or salty. This includes areas of marine water whose depth does not exceed one meter. These wetlands also contain all kinds of streams, river, lakes, ponds and estuaries.*

Now, 11 areas in our territory have been involved in the Ramsar Network and 6 of them are considered to be parts of the special protected areas. Mongol-Daguur Strictly Protected Area was registered in the Ramsar Convention in 1997 and the wetlands near Buir Lake in 2004.

4. Convention on Conservation of Migratory Species of Wild Animals

The purpose of this convention known as ‘Bonn Convention’ is to completely protect flora and their habitats including both continents and oceans. As of January 2007, 101 countries in Africa, Central and South America, and Asia and Europe have been involved in this convention. The convention has two appendices.

In appendix I, data and facts are included about the migratory species whose scarcity has been documented by scientific research. The countries that joined this convention are making efforts to implement the following activities:

- Protect and restore habitats of wild species;
- Forbid hunting, fishing, torturing, capturing and intentionally killing, excluding a few circumstances ;
- Free migratory paths from barriers and decrease hazardous actions to migrations to a minimum level;
- Monitor adverse factors resulting in the decrease of animal populations and previously introduced species.

Appendix II contains animals living under unsafe protection and migratory species whose conservation will be highly improved as a result of cooperation of countries joining the international conventions. The following lists show animals registered under CITES and CMS.

Birds included in Appendix I and II of CITES

№	Bird Names			CITES Appendix I 21.07.0	CITES Appendix II 21.07.0	Evidence of rare species				
	Latin	Mongolian	English			Mongolian Red Book, 1997	Very rare birds (Hunting Law, 1995)	Rare birds (Government's Order # 152)	CITES Appendix I 14.02.00	CITES Appendix II 14.02.00
1	<i>Pelecanus crispus</i>	Борцгор хотон	Dalmation Pelican	+		+		+	+,*	+,*
2	<i>Platalea leucorodia</i>	Халбаган хушуут	Eurasian Spoonbill		+	+		+		+
3	<i>Ciconia boyciana</i>	Дорнын өрөвтас	Oriental Stork	+		+		+	+	
4	<i>Ciconia nigra</i>	Хар өрөвтас	Black Stork		+	+		+		+
5	<i>Phoenicopterus roseus</i>	Ягаан нал	Greater Flamingo		+					
6	<i>Anas formosa</i>	Байгалын нугас	Baikal Teal		+	+		+		+
7	<i>Oxyra leucocephala</i>	Ямаан сүүлт	White headed Duck		+	+		+	+,*	+
8	<i>Pandion haliaetus</i>	Загасч явлаг	Osprey		+	+				+
9	<i>Pemis apiorus</i>	Балч гоорбис	Honey buzzard		+					+
10	<i>Pemis ptilorhynchus</i>	Согсоот гоорбис	Eurasian Honey Buzzard		+					+
11	<i>Milvus migrans</i>	Сохор элээ	Black Kite		+					+
12	<i>Circus cyaneus</i>	Цагаан сахиа	Northern Harrier		+					+
13	<i>Circus macrourus</i>	Хээрийн сахиа	Pallid Harrier		+					+
14	<i>Circus pygargus</i>	Нугын сахиа	Montagu's Harrier		+					+
15	<i>Circus melanoleucus</i>	Саарал сахиа	Pied Harrier		+					+
16	<i>Circus aeruginosus</i>	Намгийн сахиа	Western Marsh Harrier		+					+
17	<i>Circus spllonotus</i>	Дорнын намгийн сахиа	Eastern Marsh Harrier		+					+
18	<i>Accipiter</i>	Үлэг	Northern		+					+

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	<i>gentiles</i>	харцага	Goshawk							
19	<i>Accipiter nisus</i>	Морин харцага	Eurasian Sparrowhawk		+					+
20	<i>Accipiter badius</i>	Үүрсээ харцага	Shikra		+					+
21	<i>Accipiter gularis</i>	Шунгаач харцага	Japanese Sparrow Hawk		+					+
22	<i>Buteo lagopus</i>	Тарлаг сар	Rough-legged Buzzard		+					+
23	<i>Buteo hemilasius</i>	Шилийн сар	Upland Buzzard		+					+
24	<i>Buteo rufinus</i>	Талын сар	Long-legged Buzzard		+					+
25	<i>Buteo buteo</i>	Ойн сар	Common Buzzard		+					+
26	<i>Circaetus gallicus</i>	Могойч лусч	Short-toed Snake-Eagle		+					+
27	<i>Spizaetus nipalensis</i>	Уулын согсоот	Mountain Hawk Eagle		+					+
28	<i>Hieraaetus pennatus</i>	Бахим бүргэдэй	Booted Eagle		+					+
29	<i>Hieraaetus fasciatus</i>	Харсун бүргэдэй	Bonelli's Eagle		+					+
30	<i>Aquila nipalensis</i>	Тарважи бүргэд	Steppe Eagle		+					+
31	<i>Aquila clanga</i>	Бор бүргэд	Greater Spotted Eagle		+				+,*	+
32	<i>Aquila heliaca</i>	Хар бүргэд	Imperial Eagle	+					+,*	+
33	<i>Aquila chrysaetos</i>	Цармын бүргэд	Golden Eagle		+					+
34	<i>Haliaeetus leucoryphus</i>	Усны нөмрөг	Pallas's Sea-Eagle		+					+
35	<i>Haliaeetus albicilla</i>	Цагаан сүүлт нөмрөг	White-tailed Eagle	+		+			+,*	+
36	<i>Gypaetus barbatus</i>	Ооч ёл	Lammergeier		+					+
37	<i>Neophron percnopterus</i>	Дэлт бүргэд	Egyptian Vulture		+					+
38	<i>Aegypius monachus</i>	Нохой тас	Cinereous Vulture		+					+
39	<i>Gyps fulvus</i>	Ухаа хажир	Eurasian Griffon		+					+
40	<i>Gyps himalayensis</i>	Цасны хажир	Himalayan Griffon		+	+				+
41	<i>Falco rusticolus</i>	Цагаан шонхор	Gyrfacon	+				+		+
42	<i>Falco cherrug</i>	Идлэг шонхор	Saker Falcon		+					+

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43	<i>Falco pelegrioides</i>	Шилийн шонхор	Barbary Falcon	+						+
44	<i>Falco peregrinus</i>	Эгэл шонхор	Peregrine Falcon	+						+
45	<i>Falco subbuteo</i>	Шууман шонхор	Eurasian Hobby		+					+
46	<i>Falco columbarius</i>	Хайргууна шонхор	Merlin		+					+
47	<i>Falco vespertinus</i>	Турамтай шонхор	Red-footed Falcon		+					+
48	<i>Falco amurensis</i>	Амарын шонхор	Amur Falcon		+			+		+
49	<i>Falco naumanni</i>	Зээрд шонхор	Lesser kestrel		+				+,*	+
50	<i>Falco tinnunculus</i>	Начин шонхор	Common kestrel		+					+
51	<i>Grus japonensis</i>	Алаг тогоруу	Red-Crowned Crane	+					+,*	+
52	<i>Grus leucogeranus</i>	Цагаан тогоруу	Siberian Crane	+		+	+		+,*	+
53	<i>Grus grus</i>	Хархираа тогоруу	Common Crane		+					+
54	<i>Grus vipio</i>	Цэн тогоруу	White-naped Crane	+		+	+			+
55	<i>Grus monacha</i>	Хар тогоруу	Hooded Crane	+		+	+			+
56	<i>Anthropoides virgo</i>	Өвөргт тогоруу	Demoiselle Crane		+					+
57	<i>Otis tarda</i>	Хонин тоодог	Great Bustard		+	+		+		+
58	<i>Chlamydotis undulate</i>	Жороо тоодог	Houbara Bustard	+		+	+			+
59	<i>Larus relicrus</i>	Реликт цахлай	Relict Gull	+		+			+	
60	<i>Nyctea scandiaca</i>	Цэвдгийн ууль	Sowey Owl		+					
61	<i>Bubo budo</i>	Шар шувуу	Eurasian Eagle Owl		+					
62	<i>Asio otus</i>	Явлиг уулт	Long-eared Owl		+					
63	<i>Asio flammeus</i>	Гуйвангуй ууль	Short-eared Owl		+					
64	<i>Otus scops</i>	Ердийн орволго	Common Scops Owl		+					
65	<i>Otus sunia</i>	Ойн орволго	Sunia Owl		+					
66	<i>Aegolius funereus</i>	Саватт ууль	Boreal Owl		+					
67	<i>Athene noctua</i>	Хотны бүгээхэй	Little Owl		+					
68	<i>Glaucidium</i>	Буслаг	Eurasian		+					

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	<i>passerininim</i>	бүгээхэй	Pygmy Owl							
69	<i>Surnia ulula</i>	Харсуун ууль	Northern Hawk Owl		+					
70	<i>Strix uralensis</i>	Хув бэгбаатар	Ural Owl		+					
71	<i>Strix nebulosa</i>	Угалзан бэгбаатар	Great Grey Owl		+					
		Дүн	Total	13	58	15	4	9	10	49

The List of Mammals included in the Appendix I and II of CITES

№	Species and subspecies' names			Evidence of rare species			
	Latin	Mongolian	English	Mongolian Red Book, 1997	The List of Rare Animals of Mongolia 1995	CITES Appendix I, II, 2000	CMS Appendix I, II, 2000
1	<i>Eguus hemionus (E.h. hemionus)</i>	Хулан адуу (Монгол х.а.)	Asiatic Wild Ass	+	+	I	-
2	<i>Eguus przewalskii</i>	Тахь адуу	Mongolian wild Horse	+	+	I	-
3	<i>Canis lupus (C.l.altaicus C.l.chanco C.l.tschiliensis)</i>	Саарал чоно (Ойн с.ч., Говийн с.ч., Хөх с.ч.,)	Grey Wolf	-	-	II	-
4	<i>Cuon alpinus (C.a.hesperius C.a. alpinus)</i>	Шаарнад цөөвөр (Тэнгэр ш.ц., Дорнын ш.ц.,)	Asiatic Wild Dog	+	+	II	-
5	<i>Ursus arctos (U.a.jeniseensis)</i>	Хүрэн баавгай	Brown Bear	-	-	II	-
6	<i>Ursus arctos pruinosus</i>	Мазаалай баавгай	Gobi Bear	+	+	I	-
7	<i>Lutra lutra (L.l.lutra)</i>	Голын халиу (Умрын г.х.)	European River Otter	+	+	I	-
8	<i>Panthera uncial</i>	Цоохор ирвэс	Snow leopard	+	+	I	
9	<i>Felix lynx (F.l.kozlovi F.l.wardi F.l.isabellinus)</i>	Шилүүс мий (Хэнтийн ш.м. Алтайн ш.м. Чантуу ш.м.)	Lynx	-	-	II	-
10	<i>Felis manul (F.m.manul)</i>	Мануул мий (Эгэл м.м)	Pallas Cat Manul	-	-	II	-
11	<i>Felis silvestris (F.s.shawiana)</i>	Цоохондой мий (Говийн ц.м)	Wild Cat	+	+	II	-
12	<i>Moschus moschiferus</i>	Баданга хүдэр (Хүрэн б.х)	Musk Deer	+	+	II	-

13	<i>Saiga tatarica</i> (<i>S.t. tatarica</i> <i>S.t.mongolica</i>)	Татаар бөхөн (Соргог т.б Монгол т.б)	Saiga	+	+	II	-
14	<i>Ovis ammon</i> (<i>O.a.ammon</i> <i>O.a.darvini</i>)	Аргаль хонь (Алтайн а.х Говийн а.х)	Agali sheep	+	+	II	+

Lesson III.3.b. The Role of Herder Communities in the Implementation of International Conventions

What you can do in your area? How you can help implement the:

Biodiversity Conservation Action Plan for Mongolia (CBD)

Convention on the International Trade of Endangered Species (CITES)

Convention on Migratory Species (CMS)

Ramsar Convention (Wetlands)

Biodiversity Conservation Action Plan for Mongolia

Overpopulation is a problem throughout the world: China & India make up 1/3 of world's population

- India > 1.0 billion people; not enough fresh water, food & shelter
- China > 1.3 billion people; Shortage of jobs, space & natural resources

Biodiversity Conservation Action Plan for Mongolia: Mongolia can avoid problems such as diminishing natural resources by curbing its population growth

- Currently 2.8 million people, or 1.6 people/km² in Mongolia

“Continued growth will cause irreversible changes to the natural & cultural heritage of Mongolia, through increase consumption of natural resources in a country with a limited carrying capacity & fragile ecosystems.” – Biodiversity Conservation Action Plan for Mongolia, 1996

Pollution

Coal plants pollute the atmosphere

- *What can you do?* → Use wind & solar power for your energy at home

Trash & pasture degradation around hot ails: Trash, excess manure & erosion from trampling causes land degradation & encourages growth of weeds

- *What can you do?* → Pick up trash in your area & dispose of it properly, Avoid overgrazing areas so weeds do not invade, Spread manure, Plow packed soil
- *Benefit* → Healthy areas for your use

Water pollution - Industry & mining

Livestock standing in water sources – organic pollution

- *What can you do?* → Keep livestock from standing in rivers, Avoid putting soap in the river, Obey water laws & protect water sources
- *Benefit* → Clean water

Chemicals - Pesticides for rodent & insect control

- *What can you do?* → Manage your pasture so you don't need to use pesticides (i.e. avoid overgrazing), encourage natural predators (e.g. perches)

Over-exploitation

Livestock grazing

- 1/3 of Mongolia's grazing land has been degraded by poor management (Biological Institute, Academy of Sciences)
- Severe overgrazing & pasture degradation occurs around settlements

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- Mongolia's land evolved with nomadic people who moved substantial distances every season. Now people stay in one place & it is hard on the land.
- *What can you do?* → Management: Manage pastures – rotation, use sustainable stocking rates on pastures, raise fewer, quality livestock to produce better products, follow PA laws & keep livestock out of core areas
- *Benefit* → Healthy pastures & more productive livestock

Wildlife hunting

Saker falcon trade w/Arabia, marmot fur trade, Mongolian gazelle – subsistence hunting, illegal trade in wildlife parts [Chinese-medicine market]

- * Antler velvet from red deer * Gall bladders from brown bears
- * Horns from Saiga antelope * Musk glands from musk deer
- *What can you do?* → Know the law, only hunt legally, report poachers, manage your wildlife
- *Benefit* → More wildlife for you & your community to enjoy

Need for Sustainable Development of Resources

Sustainable development entails improving & maintaining the wellbeing of people and ecosystems:

- Setting aside substantial areas of the country in protected areas
- Restoring wildlife populations by regulating harvests
- Controlling pollution
- Adequately regulating land use
- Enforcing strict regulations on mining & other development
- Insisting on only sustainable development of resources
- Limiting population growth and immigration

Convention on the International Trade of Endangered Species of Wild Fauna & Flora

What can you do? →

- Local herders can report poaching of species listed under the CITES convention
- Report violations to nearest volunteer ranger, PA ranger or *soum* inspector
- Write down number of animals taken, car's license number, number of people involved & number of guns
- Report individuals who are participating in the trade of CITES species & parts
- Not poach listed species
- Not participate in trade of wildlife parts

CITES Species in the Eastern Steppe:

- | | |
|------------------------------|-------------------------------|
| - Eurasian Otter | - <i>Canis lupus</i> |
| - Grey Wolf | - <i>Gazella subgutturosa</i> |
| - Goitered Gazelle | - <i>Otocolobus manul</i> |
| - Manul (Pallas') cat | - <i>Grus vipio</i> |
| - Japanese White-naped crane | |
| - Saker Falcon | - <i>Falco cherrug</i> |
| - Imperial Eagle | - <i>Aquila heliaca</i> |
| - Great Bustard | - <i>Otis tarda</i> |
| - Eurasian Eagle Owl | - <i>Bubo bubo</i> |
| - <i>Lutra lutra</i> | |

Convention on Migratory Species (CMS) or Bonn Convention

What can you do? → Help protect species that are listed under this convention & their habitats

- *Procapra gutturosa*, Mongolian gazelle
- *Gazella subgutturosa*, Black-tailed Gazelle
- *Grus vipio*, White-naped crane

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- *Grus leucogeranus*, Siberian crane
- *Grus monacha*, Hooded crane
- *Anser cygnoides*, Swan goose
- *Anas formosa*, Baikal teal
- *Haliaeetus leucoryphus*, Pallas' sea-eagle

What can you do? ➔ Avoid camping in migration corridors, keep livestock out of corridors & important habitats for these species, avoid creating habitat fragmentation

Ramsar Convention on Wetlands

Mongolia has 11 Ramsar sites totaling 1,439,530 hectares

Sites in the Eastern Steppe

Province	Name	Date Designated	Land Area
Dornod	Lake Buir and its surrounding wetlands	22/03/04	104,000 ha
Dornod	Mongol Daguur	8/12/1997	210,000 ha
Sukhbaatar	Lake Ganga and its surrounding wetlands	22/03/04	3,280 ha
Khentii	Lakes in the Khurkh-Khuiten Valley	22/03/04	42,940 ha

You can help protect these sites!

What can you do? ➔

- Protect & restore wetland habitat & Ramsar sites
- Keep poachers out of wetlands
- Discourage egg collecting
- Build bird watching structures & limit human presence to these areas so birds aren't disturbed
- Monitor wetland wildlife populations & share information with PA rangers & other communities

Benefits ➔

- Education & enjoyment for children & community
- Ecotourism development for the community
- Potential for future project funding – Ramsar

THANK YOU FOR YOUR ATTENTION! DISCUSSION

Lesson III.4. Conservation activities concerning the fauna and flora of Mongolia

Aimag Environmental Agency: *Activities being implemented to protect the animal population*

1. Determine the number animals and fish to be hunted each year:

The Minister of Nature and Environment sets the number of animals and fish to be hunted every year taking into consideration animal resources. The number of animals to be hunted must be limited. If the number of animals hunted is exceeded, it is considered illegal hunting. The *Aimag* Citizens Representative Khural makes a resolution in which the number of animals to be hunted in the *aimag* area is approved, according to the permits of the Minister of Nature and Environment, which is also applicable for all *soums*.

The *Aimag* Environmental Agency issues tags on which animal origins are identified for permitted hunting, and controls implementation.

2. Conduct an animal population census and research animal resources:

As a result of undertaking the animal population census and identifying potential animal resources, animal breeding and habitat protection measures are taken. It is essential to find true facts on animal distribution, population, reproduction and resources. As it is defined, an animal distribution is a favorable living area where animals reside and migrate. If the animal population is too limited, this may lead to extinction. Specialists, who conduct research, determine the number of animals to be hunted, their distribution, population size and reproductive success. /Lesson 3.5/

3. Set fees for hunting and fishing and spend the resulting revenue on protection measures:

A person has to pay fees for every animal and fish that is harvested. This is referred to in the Law on Hunting. The amount of the fee to be paid is determined by the law. The fees collected are spent on wildlife management and protection.

4. Set hunting seasons and enforces them:

A person must hunt within the appointed period. If an animal is hunted during the period not permitted by the law, this is considered illegal hunting or poaching. Hunting is regulated with the purpose of sustaining animal numbers, and increasing population numbers during breeding, wintering, migrating and hibernating seasons. For instance, marmots are allowed to be hunted from August 10th to October 1st. Hunting is forbidden except during this period. /Lesson 4.2. /

5. Provide proper hunting:

It is forbidden to use eruptive substances for hunting, and electric shocks, weapons or torches for fishing. Forcing animals to slide on the ice and chasing them into heavy snow is also forbidden. It is also prohibited to hunt animals that are unable to protect themselves due to natural disasters such as severe storms, drought and heavy snow fall, migration, animals that are emerging from hibernation, and destroying and damaging nests or dens.

6. Restrict the number of animals to be hunted:

Prohibitions are required on animals whose populations are extremely limited, need special care for breeding and conservation, and for which there are no more hunting resources. Upon the Minister of Environment's order marmot hunting is prohibited until 2008. The purpose of this order is to increase the marmot population through restricting hunting.

7. Conserve rare and very rare animal species:

Rare and very rare animals are registered in the International and Mongolian Red Book and appendices of conventions. There are several international conventions and contracts regarding the conservation of rare and very rare animals. /Lesson 3.3/

8. Protect animal habitats:

Habitat protection means to completely conserve the living environment of animals, their food and water resources. Animal protection will certainly be improved under the special protected areas. It is forbidden to run any services and industries in the protected areas. For example, gazelle's migratory paths have been closed up because of railway and mining procedures. Areas with unique nature and rare species have been taken under special protection of the state.

9. Animal Introductions:

The concept of reintroduction is an intentional transportation and introduction of threatened and rare species with the purpose to protect them and increase their population numbers.

10. Environmental control measures:

State environment inspectors of the *Aimag* Expert Inspection Office and rangers carry out duties to conduct inspections within their territory and remove violations that have been discovered as a result of the investigation.

11. Providing and promoting information:

A variety of trainings and workshops are hosted with the aim to improve citizens' ecological education and raise their awareness of animal protection.

12. Biotechnical measures:

Biotechnical activities are focused on the improvement of animal habitats and food resources. Local communities now have a responsibility to protect natural resources within their territory in accordance with the changes made to the Environment Protection Law. Therefore, we are setting objectives to transfer the natural resource conservation duties to local citizens; assign volunteer rangers and have them work efficiently; pay attention to raising the public ecological education; expand the involvement and effort of all level governors in nature protection; and use a wide range of up-to-date training and promotion techniques through the effective use of foreign-invested projects and events.

Plant protection measures:

1. Establish the quantity of plants to be harvested every year:

The Ministry of Nature and Environment define the quantity of plants to be collected and prepared per year, taking into consideration the plant resources. If the quantity of plants collected is exceeded, they are confiscated by the State Environment Inspector. The *Aimag* Citizens Representative Khural makes a resolution in which the quantity of plants is defined, pursuant to the amount approved by the Ministry of Nature and Environment, and have *soum* rangers and inspectors follow this resolution.

2. Describe plant resources through conducting studies on plant abundance:

Scientific research organizations implement measures to protect plant resources and increase their abundance based on plant surveys conducted with the purpose to document plant resources and quantity.

3. Pay fees for plant harvesting:

Persons who use plants for any purposes are required to pay fees. Income generated from the fee collection is spent on plant conservation and increasing plant resources.

4. Establish the plant collecting seasons:

The Ministry of Nature and Environment defines the period in which plant harvest is suitable. Plants have to be harvested within the stated period.

5. Protection of very rare and rare plants:

Mongolia's plant resources are categorized as very rare, rare, or abundant. Very rare plants are defined as plants which have no natural restorative capacity and are in danger of extinction. Rare plants are defined as those with limited natural restorative capacity and are potentially in danger of extinction. The distribution areas of rare plants are being taken under special protection of the state and local areas.

6. Prohibit and set limits for plant harvesting:

It is prohibited to collect very rare and rare plants that are threatened by extinction and insufficient resources, with the aim to protect plant distribution areas and gene pools.

7. Cultivation and introduction of plants:

Plants are cultivated using the latest techniques in various areas whose plant growing conditions are similar to each other with the purpose of increasing its abundance. In addition, different sorts of plants are transported and introduced to completely different regions. All those measures are activities focused on protection of plant resources and genetic funds. *Saposhnikovia divaricata* and licorice are grown by their seeds in Khalkh gol *soum* of Dornod *aimag*.

8. Environmental control measures:

State environment inspectors of the *Aimag* Expert Inspection Office and rangers carry out duties to conduct inspections within their territory and remove violations that have been discovered as a result of the investigation.

Protected Areas Administration of Eastern Mongolia: *Implementing activities regarding the protection of fauna and flora*

Conducting research and studies are a principle part of establishing biodiversity abundance and defining further protection measures.

1. Systematically undertaking surveys aimed at establishing the natural status of the area and its evolution, upgrading management policy, and collecting and entering into a database all the facts, data, and results of the surveys conducted in the special protected area.

2. Develop a proposal to take an area under a special protection of the state and submit it:

In the scope of the survey, the SPAA determines if the area that contains a distribution of rare and very rare species is completely included in the special protected area, and if they need to expand the boundaries of the special protected area. The SPAA then submits the proposal to the Minister of Nature and Environment.

As of today, the SPAA has developed a proposal to take the wetlands near Buir Lake under state protection as a nature reserve in order to protect its fauna and flora. The SPAA submitted the proposal to the *Aimag* Citizen Representative Khural.

3. Biodiversity protection in the frame of international cooperation:

- A project on biodiversity protection and paths for sustainable development of Eastern Mongolia has been successfully completed by the UNDP and the project considerably contributed to conserving Eastern Mongolia biodiversity, improving local population's livelihood, and providing them with necessary information.
- Joint international conventions and agreements:

Mongolia Daguur Strictly Protected Area:

- Convention on Wetlands of Waterfowl Habitat /1997/
- North Eastern Asian Crane Conservation Network /1997/
- Trans-boundary Special Protected Area including Mongol-Daguur SPA, Dauriskii Zapovednik, Dalai Nuur PA /pursuant to the contract to establish the International Strictly Protected Area of Daguu (29.03.1994)/

Ugtam Nature Reserve:

- North Eastern Asian Crane Conservation Network /2000/

Dornod Mongol Strictly Protected Area:

- Man and Biosphere Network –1995/2005/

Buir Lake and its neighboring wetlands:

- Ramsar Convention /2004/

A proposal to involve Mongol Daguur Strictly Protected Area into the "World Man and Biosphere Resource Network" has been developed and submitted to the Ministry of Nature and Environment.

3. Within the territory of the strictly protected area of International Daguur, joint research on biodiversity is being conducted as well as various contests are being organized to provide biodiversity protection.

4. Monitoring and Inspection

5. Training and promotion regarding nature conservation

The information and promotion network with the purpose to provide ecological education to local populations has been already set up and is regularly operating. We are making every effort to improve citizens' knowledge and access to the information on biodiversity by promoting through the media. Moreover, we are constantly promoting and appealing communities to environmentally sound use of natural resources.

Wildlife Conservation Society: Mongolia Program Activities

WCS SITE CONSERVATION: *WCS-International saves wildlife and wildlands by understanding and resolving critical problems that threaten key species and large, wild ecosystems around the world.*

WCS IN MONGOLIA

- 1989 – George Schaller in the Gobi and Eastern Steppe
- 1990 – 1993 Snow leopard surveys in Altai and Gobi & wild camel and Gobi bear research
- 1998 – Mongolian gazelle research project
- 2004 – Eastern Steppe Living Landscapes program began with support from USAID

WCS Mongolia Country Program: USAID Funded Projects

- *Eastern Steppe Living Landscape Project*
 - USAID Global Conservation Program; Bureau for Economic Growth, Agriculture and Trade
- *Avian Influenza Surveillance in Wild Migratory Birds*
 - USAID Mongolia AI Funds
 - WCS GAINS Program: Global Avian Influenza Network for Surveillance
- *Migration & Ecology of the Mongolian Gazelle*
- *Marmot Population Survey*

WCS Country Program: Non-USAID Funded Projects

- *Wildlife Trade & Hunting Management*
 - World Bank: Netherlands Environment Mongolia Trust Fund (NEMO)
- *Saiga Antelope Conservation & Research in Western Mongolia*
 - National Geographic Society
- *Mongolia's Reindeer People: Cultural Survival through Conservation*
 - Axis-Mundi Foundation & the Indo-Mongolian Society

The Eastern Steppe Living Landscape Project:

Sustaining Wildlife and Traditional Livelihoods in the Arid Grasslands of Mongolia

Landscape Species Approach: WCS' Approach to Planning Conservation at the Landscape Scale

- A wildlife-based strategy for defining and conserving wild landscapes
 - WCS uses a formal process to select a suite of focal species
 - The suite is used to conserve healthy landscapes & provide protection for all conservation targets

What are Landscape Species?

- The Landscape Species suite efficiently and effectively represents:
 - Important habitats
 - Important threats
- Landscape Species: Are area demanding, require habitat heterogeneity, are vulnerable to threats, perform important ecological functions, are socio-economically important

Landscape Species Selection

Landscape Species Selection Software is used to select a suite of species given this information about candidate species: *Habitats, Threats, Management Zones, Vulnerability to Human Activities, Area Requirements, Ecological Functionality, Socio-Economic Importance*

The Landscape Species Suite

- | | |
|-----------------------|------------------------|
| (1) Mongolian gazelle | (5) White-napped crane |
| (2) Grey wolf | (6) Asiatic grass frog |
| (3) Eastern moose | (7) Saker falcon |
| (4) Siberian marmot | (8) Taimen |

Conservation Landscape Building: Forming a bridge between biological & human landscapes

Analyze potential abundance of landscape species vs. their threats using GIS:

- Create a biological landscape map for each Landscape Species, including their potential abundance
- Map threats to Landscape Species such as human activities
- Combine these maps to create a Conservation Landscape for each species
- Using the Conservation Landscape map, implement conservation efforts where they are most needed & most likely to be successful

Herder Community-Based Nature Conservation Project

Goal = to assist herder communities to preserve natural resources within their leased lands with emphasis on pasture & wildlife management, monitoring & protection

- Revisions of the Environmental Protection Law state that herders can cooperate together to form... "*Community partnerships to protect the environment...made up from community members that have a common goal to protect and own their local wildlife resources...*" Article 3, Section 2, Provision 8
- **Establish community conservation plans:**
 - WCS can facilitate workshops on: Pasture management and monitoring, and wildlife monitoring & protection "...to have a volunteer environmental protector and provide incentives for effective protection." Article 15, Section 1, provision 11

Avian Influenza Surveillance in Wild Migratory Birds: Importance in understanding Highly Pathogenic H5N1

USAID-Mongolia, Wildlife Conservation Society, U. S. Geological Survey, Biological Resources, United Nations FAO, Mongolian Academy of Sciences, Mongolian State Central Veterinary Agency
Cooperative Research on Migratory Bird Movements

- Capture migratory birds at-risk or involved in avian influenza outbreak mortality events
- Mark individuals with satellite transmitters to document their migration routes and use areas
- Share real-time migration data through a publicly available webpage
- Avian Influenza Surveillance – 9 sites in 2006

2005 survey: Visited 9 sites, 878 birds sampled, 5 dead birds tested positive for H5N1 at Erkhel Lake, 118 dead birds total

2006 survey: Visited sites all over the country, 121 birds sampled, None positive for H5N1, Later, H5N1 positive birds found at Erkhel Lake

Eastern Steppe: Migration & Ecology of the Mongolian Gazelle

Goal: To conduct research on the migration & ecology of the Mongolian gazelle; To develop a sound management strategy for the conservation of gazelle and their habitat

Activities: Driving Survey, Population Estimation = 1,197,800; Genetic Analysis; Disease and Parasite Monitoring; Training, Education, & Conservation

Gazelle Management & Action Plan: Sustainable Hunting and Habitat Preservation

Marmot Population Survey of the Eastern Steppe

- Evidence of a significant decline in Siberian marmot population: 495,000 in 2005, down from 6 million in 1990
- Important member of the Mongolian steppe ecosystem ('keystone', ecosystem engineer)
- Significant economic importance, Food & local trade, Fur trade
- Current country-wide hunting ban due to recent declines

Marmot Conservation Goals

Assist Mongolian wildlife managers to assess effectiveness of marmot hunting ban

Collaborate with Mongolian wildlife managers, communities and scientists on how to conserve marmots for the future.

Wildlife Trade & Hunting Management Project

Goal: To improve hunting management & wildlife trade enforcement in Mongolia

- Rapid declines (50 – 90%) in economically important wildlife species in Mongolia have occurred because of the wildlife trade.
- Markets in China, Korea & Russia have increased demand for wildlife products & increased the types & values of species traded

Wildlife Law & Management Project Activities:

Activity 1: Legal Basis for Hunting Management & Wildlife Trade Enforcement

Data exchange project with the State Specialized Inspection Agency designed to identify "hot spots" of poaching and illegal wildlife trade on the Eastern Steppe

Activity 2: Pilot Project for Protected Area/Border Guard Training

Developing a Wildlife Protection Program in Nomrog SPA

Providing Physical Capacity for Wildlife Protection in Nomrog SPA

Saiga Antelope Conservation & Research in Western Mongolia

Objectives: *Evaluate the interest in saiga conservation; and assess feasibility of biological data collection for conservation of saiga and their habitat*

- Population surveys and animal movements

Met with representatives from key Mongolian institutions involved in saiga conservation. These meetings underscored needs such as:

- Information on seasonal movements and migration
- Effects of competition with livestock in areas with low and high herder densities
- Development of a rigorous method for assessing population trend; etc.

Conducted field surveys of Sharga-Mankhan Nature Reserve, Khar Us Nuur National Park & Huysiyin Govi:

- 560 saiga were observed (10 – 19 October 2005).
- More surveys will be conducted in summers 2006 and 2007

Mongolia's Reindeer People: Cultural Survival Through Conservation

Goal = *to help empower the Tsaatan people in preserving their ancestral forests & associated wildlife while maintaining their unique culture*

- A collaborative effort with the Axis-Mundi Foundation & the Indo-Mongolian Society

Threats to Tsaatan culture:

- Deterioration of reindeer herds – genetic inbreeding, poor nutrition, wolf predation, & disease (700 reindeer in Mongolia)
- Loss of natural resources to gold mining & commercial hunting
- Loss of nomadic movements, ancestral ties & language (30 families in Mongolia)

International workshop – summer 2007

- Purpose: To investigate how the Tsaatan people might legally & sustainably manage their land & wildlife
- *Involve stakeholders including:* Tsaatan representatives, Local & central government officials, Wildlife biologists, International organizations & agencies

Tsaatan Hunting & Conservation Areas: Areas off-limits to commercial hunting

Tsaatan Naadam – June 2007

WCS's Mission: The Wildlife Conservation Society's International Conservation program saves wildlife and wild lands by understanding and resolving critical problems that threaten key species and large, wild ecosystems around the world.

WCS Strategies: Site-based conservation, Research, Training and capacity-building, new model development, informing policy, Linking zoo-based and field-based conservation

Lesson III.5.a. Wildlife Monitoring and Data Collection

Making observations and accurately recording information

The first step to taking good notes is to be a good observer. You must be clear about what you see and hear, or, just as importantly, what you didn't see or hear. Try to be as specific as possible while collecting the information (i.e. making the observation). When making an observation, separate in your mind what you have actually seen (or heard, smelled, etc.) from the possible implications of what you have seen. A second thing to remember when making observations in the field is to focus on the important details first. Since animals usually flee when approached by people, try to focus on important identifying marks such as coloration, size, habitat, and method of traveling. Unusual behaviors should be given particular attention. Similarly, note important information first. When using data sheets fill in as many boxes as you can, then add comments as necessary to allow the information in the boxes to be interpreted correctly.

For general observations of wildlife, protection staff should note:

- Date and Time;
- Location - a description in words, and map coordinates;
- Species;
- Number seen (record number of adult males, adult females, sub-adults / juveniles and infants if possible);
- Estimated total number;
- Habitat type where animals were observed;
- Any interesting observations, such as food, behavior or species heard but not seen.

Handbook for Volunteer Rangers

Field books are pocket-sized, bound, or loose leaf notebooks, with blank or lined pages. If possible the paper and binding should be of good quality. Commercially available notebooks made from water resistant paper are particularly well suited to conditions in the field. Notes should be written using a sharp pencil. Pencil is permanent and not affected by water; whereas most inks fade and many is water soluble. Mistakes should be crossed out and not erased with a rubber. Erasing causes smudging and may result in the loss of valid information.

Later, the dates covered in the book can be written on the front cover. Every page should be numbered. The first few pages should be left blank in order to leave room for an index of the contents of the book (for example, "Map of Trail System - p.8"). No page should be torn out. If something is incorrect, a large "X" should be made through that section or page.

In it they should describe daily activities (where they have walked and when) as well as observations of interest (tracks, animal behavior, trees fruiting, trees cut down illegally, snare lines, animal carcasses etc.). The current date and the location should always accompany any recorded observation.

Precision of observations: Always record observations precisely. For example, if counting gazelles on line transects all distances should be noted to the nearest metre. If using calipers to measure the length of gazelle dung all observations should be noted to the nearest millimeter. Decide what precision is reasonable prior to data collection and record all observations with the same accuracy (number of figures / decimal points). When distances or ages are estimated this should be clearly stated in your notes.

Data Collection Methods

Direct Counts: line-transect survey, Strip-transect survey, point survey, square survey

Indirect Counts: feces survey, burrow and nests survey, track survey

Counting Methods

Direct Counts

Strip-transect survey: Normally survey 2 sides along a strip. You can use this method for birds and rodents. All animals within the width of the boundaries of the transect are counted, and any animals beyond the strip are ignored. The data obtained are the numbers of animals seen within the strip. Assumptions: animals must be accurately designated as in or out of the strip and all animals within strip are counted.

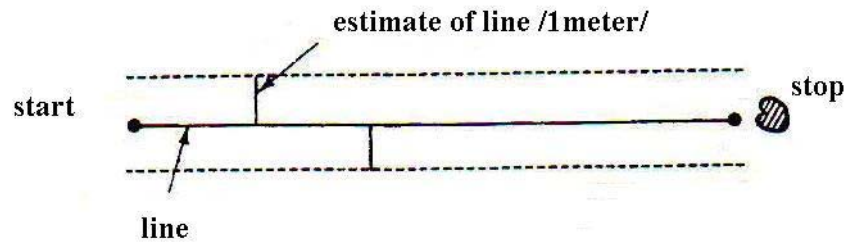


Fig III.4. Strip-transect survey

Line-transect survey: This method is useful for big mammals by horse, camel or car in a territory.

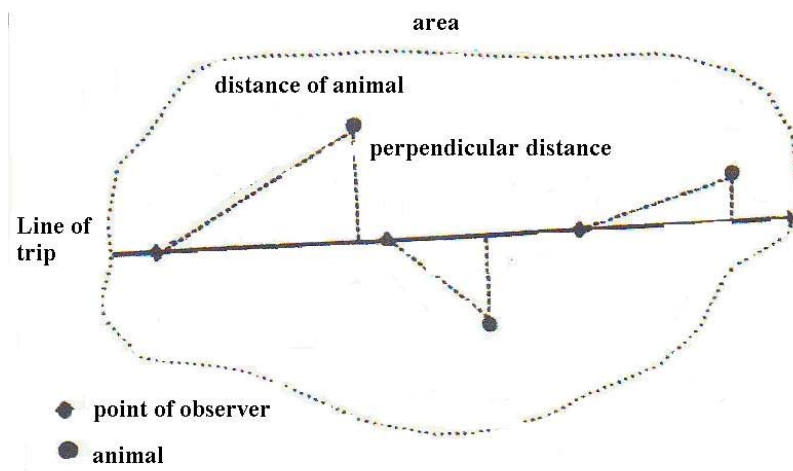


Fig III.5. Line transect

You must estimate the distance from the observer to the animal and record the angle of the animal from your transect. Then you can calculate the perpendicular distance of the animal from your line (transect).

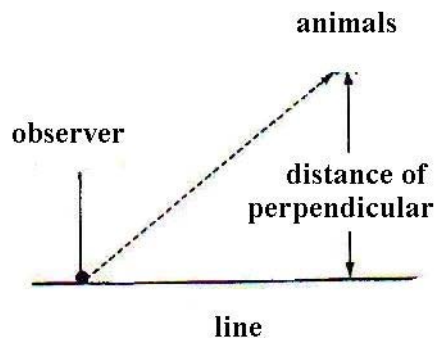


Fig III.6. Estimation of perpendicular distance using the distance from observer to animal and sighting angle from transect line.

Point survey: Conducted from a fixed point. Animals are detected for a set period of time, 10 or 20 minutes, etc. This is considered a very short transect, and also uses a probability detection curve to estimate density. It is usually used for birds (sightings and song). This method requires well trained individuals and estimating observer bias beforehand.

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Indirect Counts

Recording tracks and sign

A few people are brought up in societies where tracking is necessary for their survival. They gain detailed knowledge of tracks from watching and being taught by the members of their community who are already skilled trackers. For the rest of us, the best way to learn is to spend as much time as possible looking at tracks, and keeping records of everything we find. By sketching and measuring tracks, it is possible to learn what a 'typical' adult track looks like for any given species; how the tracks of different age classes differ from these, and how to distinguish the tracks of closely related species. By keeping careful records of the conditions in which a track is found, the effects of different substrates on track morphology can be studied.

Animal spoor, including prints, scat, scraps, dens or nest, etc., provide a valuable indicator of animal presence and can be used to survey populations. Some species e.g. mammals, are more amenable to censusing using spoor, and different types of animals sign - e.g. scat, tracks and scent marks - are useful for different species.

Tracks: Trackers Field Kit. A trainee tracker should never go anywhere without a small kit for recording tracks. Volunteer Rangers should work to develop the ability to identify the spoor of different species, i.e. which prints belong to which species. Fine silting soils, fresh snow, and muddy banks to rivers, creeks, lakes, oases, etc. are ideal spots for locating well delineated prints.

Nests: The ability to recognize the nests or dens of particular species should also be developed. Sites of dens or nests should be recorded and records maintained. Often nest or den density is a good estimate of population density. Finally, a variety of other signs, such as ungulate bedding sites, browse lines, prey carcasses, claw rake marks on tree trunks, etc., should be identified and recorded.

What to record: To keep your own track measurements consistent and comparable with other reference collections, it is important that you record certain features in a recognized way. Figure 4 shows which measurements to take for two types of tracks; one from an animal with soft pads (a carnivore), and a typical ungulate track (antelope).

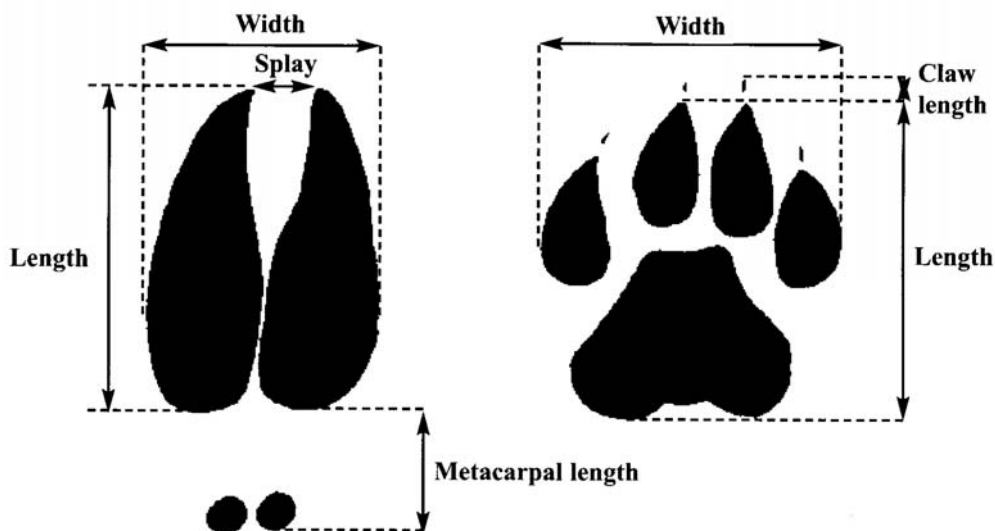


Fig. 4. Standard measurements from two common kinds of tracks, on the left an ungulate, and on the right a carnivore

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Measure the width of a track (1) from one side of the track to the other at the widest point. Measure the length of the track (2) (on its own first, not including the claws or dew claws), then measure any other component parts such as the distance from the rear of the hooves to the rear of the dew claws, or from the front of the pads to the tip of the longest claw. When measuring tracks made by hooves, always record the distance between the front points of the cleaves (3) as the degree of splay can occasionally be useful in telling certain species apart, as well as telling front and hind tracks apart from each other.

As a fast moving foot enters a soft substrate, it is liable to leave a hole larger than the foot itself, so make sure that your measurements are from the edges of the track itself, which should be imprinted at the bottom of the entry hole.

Recording data: Although your initial measurements will be recorded in your notebook, ideally you should transfer your data to a check sheet as soon as possible. In this form it is less likely to be lost or destroyed. If you use a separate check sheet for each species, you will be able to compare variables such as different age-classes, front and hind tracks and gaits at a glance. The following list suggests information that you should record whenever you measure a track, and also represents the headings you should use on your check sheet.

1. Date
2. Location
3. Substrate - Is the track in earth or sand? Is the ground wet, damp, or dry? Soft, firm, hard or crumbling? Is the ground flat or inclined? Be as precise as possible.
4. Age-class of animal - Unless you can be any more precise, use terms such as adult, sub-adult, juvenile or infant. If you know the sex of the animal then you can record it under this heading on your check sheet as well.
5. Front or Hind - (F/H) Specify, if possible, whether it is the animal's front or hind print you are measuring.
6. Left or Right (L/R) Is the track from the animal's left or right side?
7. Gait - Was the animal walking, trotting, loping, galloping, or jumping etc.? (See Fig. 13.2).
8. Track Width - (T. Width)
9. Track length - (T. Length)
10. Step, Stride, Straddle, Bound, Distance to Median Line (see Fig. 13.3).
11. Other - used for any miscellaneous notes you may wish to add - this category should include, where appropriate, the distance between the front points of two cleaves (splay), the distance to the dew claws, or the distance between the toes and the claws.

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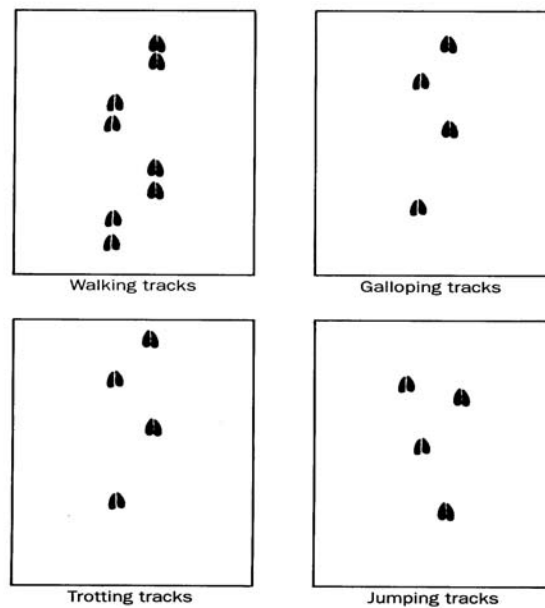


Fig. 5. Configuration of tracks made by animals moving at different speeds.

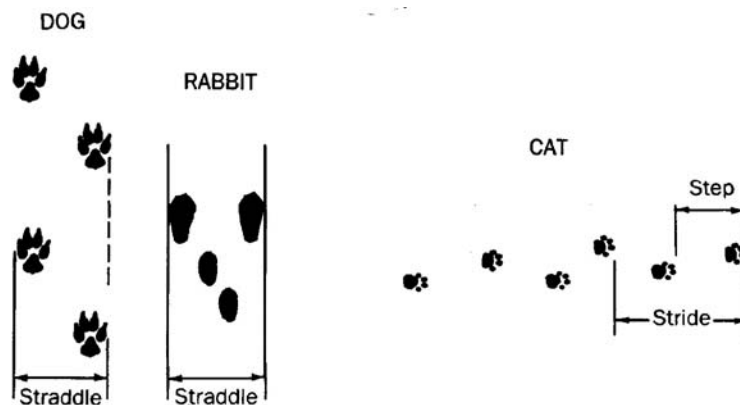


Fig. 6. Measuring step, stride and straddle from tracks can help interpret an animal's behavior.

Track Drawings: There is no better way of getting to know an animal's tracks than by drawing them. The process demands that a track be studied at length and all its subtleties appreciated. Besides the training in observation that track drawing provides, the practice enables the tracker to build up a reference collection of tracks from as many species as possible. When looking at the tracks of a new species, you will rarely find the 'perfect' track straight away, but by gradually upgrading your track drawings as you find more representative examples for a particular species, you will be made aware of the many ways in which variable factors such as substrate and gait can

Influence a track. An example of how substrate can effect the morphology of a track is given in Figure 7. Although the tracks shown were all made by the same animal, the track to the left was made on firm soil that in the middle on soft mud, and the track to the right on a hard, compacted surface. The tracks are drawn at a third of their normal size.



Figure 7. Tracks of an animal in different substrates. Always record the substrate when recording and drawing tracks since the shape and size of a track is affected.

Ideally your own track drawings should be life-size. To ensure accuracy, always begin by measuring the track at its widest and longest points and mark these out on the page before beginning to draw in the details of the track itself. In many animals, the front and hind tracks differ in size and occasionally in form, so make sure you get drawings of both. Also, do not limit your collection to adult tracks, but whenever you get the chance, record those of juveniles and infants as well. Your check sheet of track measurements will eventually begin to reveal to you what the ‘average’ track dimensions are for each species. But do not be tempted to use mathematically derived dimensions to create your definitive drawing. Simply choose one of your field drawings that best represents the trends shown by your measurements, and use this. Once you are happy with a drawing in your field notebook, make a neat copy of it into a larger book to be kept out of the field and used for your eventual reference collection. Always remember to record details of the substrate in which the track was found.

Lesson III.5.b. Map and Compass Use

Many conservation officers know the areas where they work very well. This may include practical knowledge of terrain, travel routes and landmarks. For example, if you encounter poachers or an illegal camp or a carcass of an endangered species, you will need to convey this information accurately and quickly to your superiors. You may need to use maps to provide instructions to your colleagues on how to get to the places where you observed the illegal activity. In order to do this properly you need to understand the principals of navigation.

IMPORTANT!! EVEN WITHOUT THE USE OF SPECIAL NAVIGATION AIDS SUCH AS GPS YOU CAN FIND YOUR WAY BACK HOME IF YOU HAVE A MAP AND COMPASS!! IF YOU CANNOT SEE THE SKY YOU CAN STILL USE A COMPASS TO FIND NORTH.

In many parts of Mongolia, visibility across the terrain is good thus making navigation easy. However, in featureless landscapes such as the Eastern Steppes and Gobi Desert it may be difficult to locate distinctive landmarks thus creating the possibility for getting disoriented or even lost. However, if you do lose your way, you are carrying a compass and you have a good working knowledge of the area (such as knowing that an access road running north-south is to your west, or that all rivers drain eastwards) you can never be lost. You simply have to follow a compass bearing towards a path, road or familiar river.



What is a compass?

A compass is an instrument used to indicate direction. It is made of a magnetized needle that floats freely (often in a liquid). The needle always points north and is surrounded by a moveable dial on which the four "points of a compass" are written (North, South, East and West). The dial is further divided into 360 equal sized parts, called degrees, the standard unit measure for directions and angles (Fig. 1).



How do you use a compass?

To use a compass, hold it level so the needle can swing freely. When it stops moving, align the "N" on the compass dial with the red or dark tip of the needle. When North (N) is properly in place you can accurately read the other compass directions (South, East and West) from the dial. If you have a compass which uses a freely rotating card with compass directions written on it (instead of just a needle) you can read the compass directions straight from the card without further adjustments. In addition to the four directions of North, South, East and West, compasses indicate direction using degrees. This allows for greater accuracy in defining a direction. There are 360° in a full circle. North always equals 0° (read zero degrees) or 360°, East equals 90°, South equals 180°, and West equals 270°. The circle can be further broken down into named sub-divisions: North East is exactly half way between North and East, at 45°; North East and East North East are exactly between North, North East, and East, at 22.5° and 67.5° respectively, etc. (Fig 2).

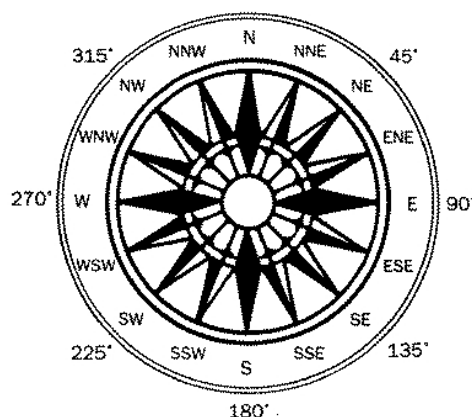


Figure 2. Compass directions

Other directions are usually referred to by a number (called a bearing), for example, 49°. To "take a

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compass bearing" means to align the compass with some distant object of interest and to read the "bearing" (for example, 86°) from the compass dial. Some compasses have sighting mechanisms or mirrors that allow you to look at the distant object and the bearing at the same time. This allows you to take a more accurate reading. Because they depend on magnetism to work, compasses should not be used around large sources of iron or steel, or near electrical or magnetic currents. Therefore, compasses should not be used in or near a car, truck, or power lines. Even a nearby gun barrel carried by a ranger or guard can affect a compass reading. If you must use a compass near any of these things move the compass around the object to see what effect the object has on the compass.

Declination or magnetic deviation

A compass is the best instrument available for determining direction. However, compass needles are not pulled to the true (geographic) North Pole, but to a heavily magnetized point 500 miles from it. The difference in compass angle between true north and magnetic north is called the "declination" or "magnetic deviation". The size of the declination changes between different places on the earth, and in any one place with time. Deviation, which is always small in the tropics, but can be significant at higher latitudes, is often pictured on the edge of carefully drawn maps along with a statement of the rate at which it will change (see Fig.3).

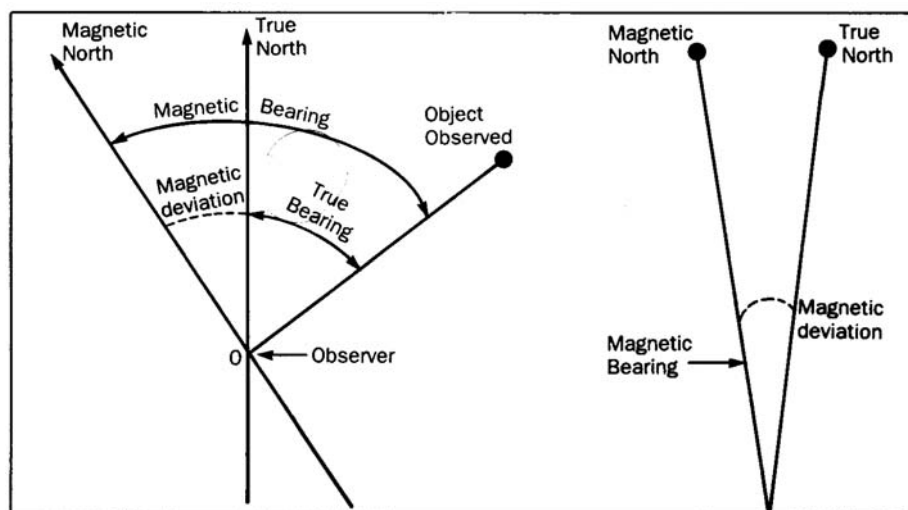


Figure 3. Declination or magnetic deviation

When using a compass, there are times when it is important to account for deviation, and other times when it is not. Small differences in compass angle have a greater effect over longer distances. Therefore, you should account for deviation when walking long distances that must be accurately mapped or navigated (for example, a long transect or a park boundary). On the other hand, you can ignore declination when walking short distances, or when navigating using local landmarks. Deviation also can be ignored when drawing small-scale maps (for example, of a small trail system). Around the equator if deviation is ignored it typically results in errors of 50-100m over a kilometer (about 17m per degree of deviation per kilometer traveled).

Correcting for deviation

In the example in Fig 3 magnetic north is $5^\circ 50'$ west of geographic north. We can correct for this deviation in one of two ways:

- 1) The dial on most good compasses is fixed by a small screw which can be loosened, to adjust for

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declination. In this example adjust the dial such that when the red arrow points North the dial reads $360^{\circ}-5^{\circ}50' = 354^{\circ}10'$.

- 2) If your compass cannot be adjusted for declinations add $5^{\circ}50'$ to the bearing you wish to follow. For example, if you want to walk due east (90°) follow a bearing of $95^{\circ}50'$ on your compass. Alternatively, if taking a bearing, subtract $5^{\circ}50'$ from the observed compass direction.

What is a Map?

A map is a representation of a landscape in two dimensions. It uses symbols to represent the features found on a piece of land. Different kinds of maps focus on different features. Some kinds of maps and their characteristics are;

- 1) Roadmaps. These maps illustrate the network of roads in an area or a region, usually along with settlements, airports, built-up areas and other human features that are connected via the road network.
- 2) Topographic maps. These feature terrain, rivers, vegetation and human features. Terrain is interpreted by contours – lines that join places of equal elevation above sea level. These maps show small areas in much detail so they are most useful for field conservation staff.
- 3) Political maps show man-made features, such as the boundaries between countries, or the locations of cities, villages and roads.
- 4) Satellite maps. These maps are based on information interpreted from photographs taken very high above the Earth's surface. They show large areas in small detail. They are useful for monitoring changes in vegetation and in landscape level planning.

Maps can indicate which parts of a reserve that are inaccessible, due to the presence of large rivers, wide swamps or high mountains, or which areas are far from roads, trails or waterways. Conversely, maps can show areas that are accessible and the access routes in and out of the reserve, and potentially used by poachers.

There is always something new to learn from a map. Refer to them often, especially when new information is brought in from the field. Check the date of any map you use and decide if it is still relevant. Aerial photographs and even satellite images are becoming increasingly available and can complement the information available from maps.

What features are important in a map?

All maps should clearly indicate orientation and scale. Furthermore, all symbols should be defined, and the map should be dated. Finally, the site of the map should be located within a larger known area.

Orientation

North, South, East, and West indicate direction throughout the world. On most maps, North is towards the top of the map, but this is not always the case. Therefore, any map should clearly indicate which way is North. A simple arrow pointing North with an "N" marked next to it is usually sufficient (Fig.4). Once North is defined, any other direction (East, West or South) is evident.



Figure 4. North arrow from a map

Scale

A map must include a scale in order for it to be useful as a source of spatial information.

Scale refers to what a given distance on the map represents on the ground. Maps drawn in the same scale can be compared easily, because any given feature (e.g., a lake, road, or the bend of a river) is the same size on both maps. Scales are usually presented in two ways;

1. The scale of a map can be presented numerically, as a ratio between the distance on the map and the distance on the land. For example, on a map with a scale of 1:50,000 (read 1 to 50,000) 1 centimeter on the map represent 50,000 cm (or 500m) on the ground.
2. A scale can be presented graphically (see Fig.5). Graphic scales can be used to measure distances on the map itself. Place a piece of paper along the edge of the scale and mark on the paper each kilometer line (or other distance) with a pencil. Then move the marked paper to the area of the map you wish to measure. Alternatively, measure the scale with a ruler and calculate the distance that is equivalent to 1cm. Thereafter multiply the number of centimeters and millimeters measured with your ruler by the distance equivalent to 1cm. To measure the length of a meandering stream or road, lay a string on top of the curving line, then measure the length of the string using the scale or your ruler.
3. Note that if you magnify or reduce the map using a photocopier the graphic scale remains true (if copied with the rest of the map) but the numerical ratio written on the map will no longer be a true representation of map scale.

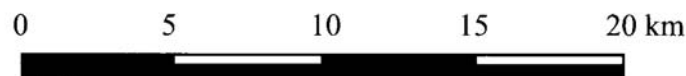


Figure 5. Scale bar from a map

Locate the Site

Any map should have a title, for example "Choibalsan", or "Ulaanbaatar". Even with a title, sometimes it is difficult to determine the location of the area represented in the map. Therefore, for any map that will be read by people unfamiliar with the area, the site of the map should be located relative to the surrounding region. This can be done in two different ways, though both can be used for the same map;

A picture of the focal map can be drawn in relation to a larger map, and placed in the legend (see Fig.6).

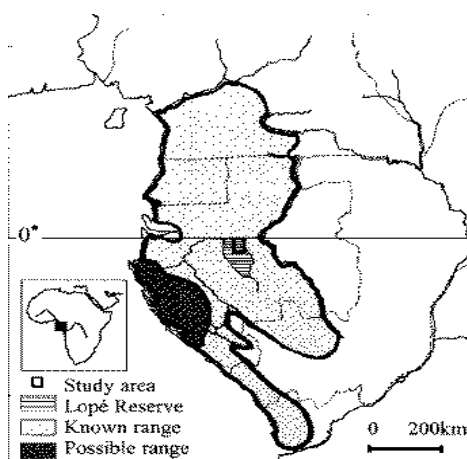


Figure 6. Locating a focal area within a larger area

1. Longitude and latitude lines can be included in the map (see Boxes 1 & 2). Longitude and latitude lines are recognized worldwide. Therefore, anyone, anywhere reading a map can know the location of the region pictured. Longitude and latitude lines should be marked on any map that is widely distributed. Lines of longitude and latitude that form the borders of a map are generally marked in the corners. Other longitude and latitude lines can be marked along the edges. If you look at a topographic map of the area where you work you will see longitude and latitude clearly labeled every 5' for maps at a scale of 1:50,000 or every 10' for maps at 1:200,000.

Symbols

Map features are defined using symbols. Both man-made and natural features can be defined using symbols. For example, villages, roads, railroad tracks, wells, streams, mountain tops and waterfalls can each have their own symbol. Different features can be defined using different colors, for example;

- Man-made features tend to be marked in black
- Water features tend to be marked in blue
- Vegetation features tend to be marked in green
- Terrain features tend to be marked in brown

Features may also be distinguished by widths of lines, or different pictures, such as a triangle for a tree. Any symbol used in the map should be defined in the map's legend. A legend is a box located near the edge of a map that has examples of each symbol, together with an explanation of what that symbol means. Sometimes a group of maps will have only one common legend, but these maps should always be found together, such as in an atlas.

Contour Lines

Contour lines are lines on a map that join all the places that have a common elevation. Contour lines define the presence of hills, valleys, streams and all the other vertical measurements of the land. Contour lines can indicate if an area is mountainous or flat, which way streams are flowing, or which way slopes are facing (see Box 3).

Contour lines (together with a scale) allow you to calculate the steepness of a slope or trail. The difference in elevation between one contour line and the next is called the "contour interval". Contour intervals remain the same throughout any one map. The contour interval can differ between maps and depends on the steepness of the area. In flat areas the contour interval may be only 10m, which means the elevation difference between one contour line and the next is 10m.

In mountainous areas, the contour interval may be 50m or 100m. Maps with contour lines are called

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"topographic maps" because they show the topography, or surface features, of the area. Topographic maps are widely used to navigate in natural areas where there are few roads or man-made features to act as landmarks.

Sketch maps

A "sketch map" is a map showing the relative locations of objects without precise measurements of the distance or direction between them. To make a quick sketch of the locations of ger tents on the reserve boundary you might take a compass bearing on the line which passes through the centre of the tent area and then estimate the distance between tents at opposite extremes of this central axis. Once you have put these details down on paper you would then sketch in the relative positions of the remaining tents by eye.

Sketch maps are a useful way to record spatial information, but generally they are intended for limited use by the map maker. They are not for wide distribution because they are not drawn with precision, therefore, they are open to misinterpretation if read by someone else. Specifically, sketch maps are not quantifiable. In other words, it is not possible to take numerical measurements from a sketch map and use them to calculate distances, densities, areas, etc.

Overlays

An overlay is a way of using an existing map to produce a new map, or simply to add new information to an existing map. An overlay is produced by 1) placing a clean piece of paper over an existing map, 2) tracing the features you need as a base from the old map onto the clean paper (such as park boundaries, rivers and roads), and 3) adding new information to the new map (such as the distribution of forest, gazelle sightings, or good agricultural soil, or the locations of ger tents). Overlays are useful because they can be made quickly and still contain much of useful information.

Finding your way using a map and compass

To find your way in an unknown, road less area you will need a map and a compass. Before you start walking or riding, use the map to look for the easiest or desired route to your destination. The shortest distance between two points is a straight line. But if large rivers, swamps or steep slopes fall along that line, it might be easier and quicker to plan a route around them. Waterways and ridge tops are often good places to walk, as major animal trails tend to follow these features. Try to minimize the number of contour lines that you cross so that you minimize the number of hills you must climb.

The best way to walk in an unknown area without getting lost is to walk from one clearly identifiable landmark to another, such as from a large bend in the river, to a hilltop, and then to a recognizable clearing; or alternatively from summit to summit along a ridge. Mark your route on a map in pencil. Use straight lines where there are no paths to follow. Straight lines will allow you to use your compass to walk a compass bearing.

Calculating a bearing

You can use either a protractor or a compass to calculate the bearing you should follow to go from point A to point B on a map:

- First draw a faint pencil line joining points A and B;
- If you are using a compass, place the edge of the compass so that it lies between the points with the arrow pointing from A to B.

Without moving the compass from that point, rotate the compass dial until the north arrow on the compass is parallel with the north arrow on the map. Then read the number on the compass dial (Fig.7).

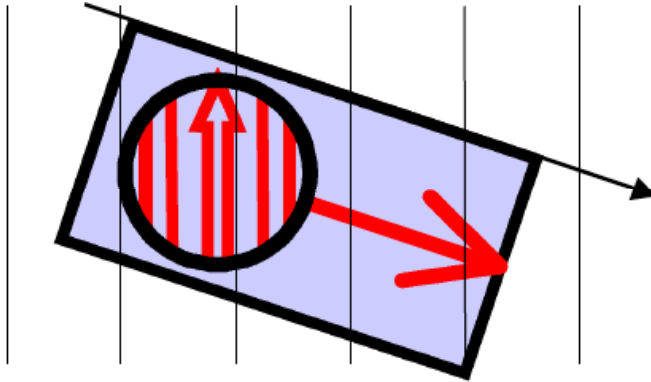


Figure 7. Using a compass to take a bearing on a map

- To use a compass, line the north on the scale of your compass along map north. Then rotate the body of the compass (holding the scale still) until its north is in line with the line you have drawn between A and B, and read the bearing off the scale.

Orienting a map

To use a map in the field first you must orient the map to either a compass or to visible features in the landscape. You can orient the map to your compass by turning the map around until magnetic north on the map is lined up with north on your compass. You can orient the map to visible features in the landscape, such as mountaintops, by turning the map so that from where you are standing distant features line up with the map. From there the map can help you identify other distant features, and the compass can give you bearings towards them.

Walking a compass bearing

Usually during your normal duties your movements in the reserve will take you on non-linear paths of travel. On rare occasions, however, you may wish to walk or ride a compass bearing. For example, you may be asked to participate in a survey of Mongolian gazelle following line-transects. When you walk or ride a compass bearing you walk/ride a straight line in a single, pre-determined direction. First decide on the map where you are and where you want to go. Calculate the bearing between the two points as detailed above. Once you have calculated the bearing hold your compass in front of you and rotate the scale of the compass to the correct angle.

Hold the compass still and rotate your body around until the needle of the compass corresponds to the north on the scale, and your chosen bearing is pointing directly away from you. Look ahead and choose a clear landmark, such as the top of a hill or a rock (use the sight of the compass if there is one to help choose the best landmark). Walk to this landmark. You can deviate around small objects; ditches or crevices, as long as you get to the chosen landmark and are careful it is the right one. When you get there stop and repeat the same process, using a new landmark. For long distances, as you make your way towards your destination check that the features you pass correspond to those you expect from the map. If you will be walking long distances a compass with a strap worn as a watch is convenient as it keeps both your hands free.

Navigating around obstacles

If you are demarcating a park boundary or cutting a line transect on a compass bearing and you come to a big obstacle, such as a ravine, use the following procedure to maintain your compass bearing

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(see Fig.8).

Turn and walk exactly 90° or 270° from the direction you were traveling. When you have gone beyond the ravine, measure the distance you have deviated from your bearing or transect and proceed along your original compass bearing. When it is possible, turn 90° or 270° again, and walk the same distance back to your original line. Then turn one last time back on your original compass bearing to follow your original course. Alternatively, if you can see across the obstacle, send one of your colleagues to the far side and have him or her stand at the point which corresponds to the continuation of your line.

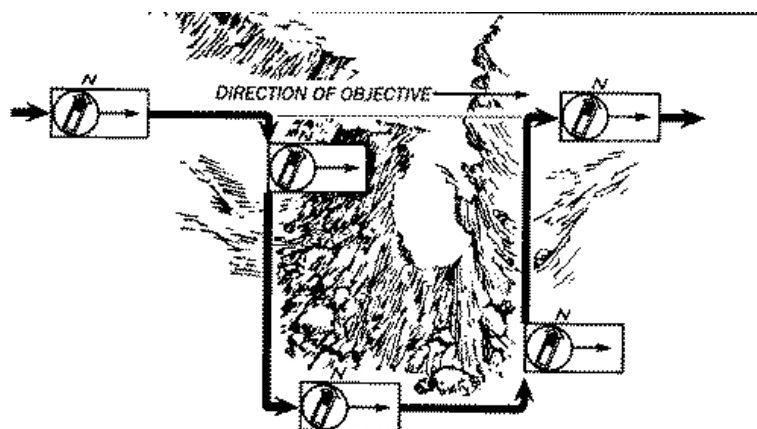


Figure 8. Navigating around an obstacle

Determining an exact location through triangulation

Sometimes you may want to mark on a map the exact spot of a gazelle kill, or an illegal hunting camp, or you may want to find your location if you are lost. To find your location using triangulation, use a compass to measure the three directions to three identifiable landmarks, such as mountaintops. If only two landmarks are visible this method will work, but not as accurately as when three landmarks are used. If a number of landmarks are visible choose the "sharpest", such as a mountain with a well defined peak rather than a plateau. Estimating the distances to these landmarks is helpful but not necessary. Plot on your map the back-bearing to each of the landmarks. A "back-bearing" is found by adding or subtracting 180° to a compass bearing (to keep the result between 0° and 360°). This gives you the angle you would get if you were looking in exactly the opposite direction, in other words, from the distant point back to the point where you are standing now. You should be standing at the intersection, or crossing, of the three back bearings (Fig.9).

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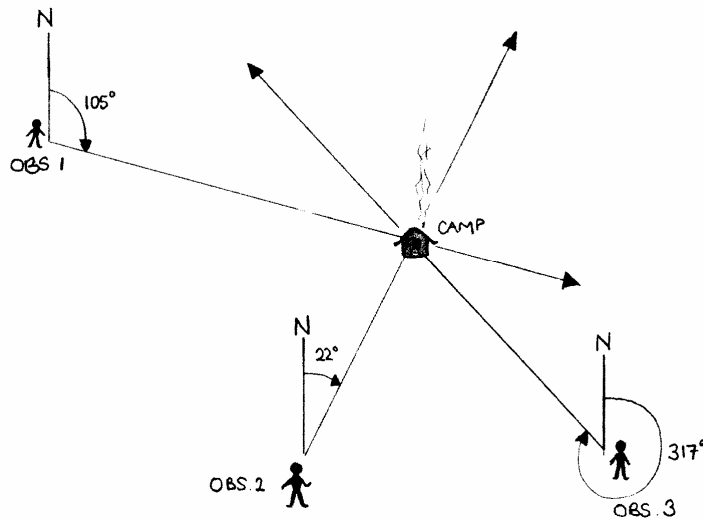


Figure 9. Using triangulation from three observers to plot the position of a poachers camp.

Often these three lines do not cross at exactly the same place due to errors in measurements of bearings. Instead they delimit a triangle within which your location should lie. If the area is large try taking your measurements again to see where the error occurred, or add further landmarks. The same method can be used to plot the source of a noise, such as an animal call or a gunshot. If three observers in different positions hear the call or explosion, each can note the time (to be sure they are indeed hearing the same sound) and take a bearing. The location of the animal or gunshot will be where the three bearings meet. Alternatively, if the noise continues for some time or is repeated intermittently a single observer can change his or her position and triangulate from repeated back-bearings.

Latitude and longitude

Longitude and latitude lines provide a global, or worldwide, system for locating places on the earth. This system was developed to deal with the fact that the earth is a sphere, resulting in a curved (rather than flat) surface, which is difficult to divide into regularly shaped sections.

- Longitude lines run North and South (see Figure 10.11). They number from 0° (read 'zero degrees') to 180° in two directions, East (E) and West (W). 0 runs through Greenwich, England. Ulaanbaatar is at 106° E longitude (read 105 degrees east longitude), Choibalsan is at 114°E longitude and Sumber is at 118°E longitude.
- Latitude lines run east and west. They number from 0° to 90° in two directions, north (N) and south (S). 0 follows the equator and 90 is at the North and South Poles. Ulaanbaatar is at 47° N latitude (read 47 degrees north latitude), Choibalsan is at 48°N latitude and Sumber is at 47°N latitude.

To be more exact about a location, latitude and longitude lines each can be divided into smaller units, called minutes and seconds. One degree is divided into 60 minutes. One minute is divided into 60 seconds. Therefore 30 minutes equals one half of a degree, and 3600 seconds equal one whole degree. Detailed locations can be written as follows: 37°22'30" E, 2°15'45" N (read 37 degrees, 22 minutes, 30 seconds east longitude, and 2 degrees, 15 minutes, 45 seconds north latitude). Since maps are flat representations of a curved land surface they never can give a true representation of the shapes of different land masses, particularly when map scales are large. To allow for this distortion a number of different systems (called geodetic systems) are used in mapping to represent a flat projection of the land, since distortions differ in different parts of the world. All good maps state in the legend which system was used when plotting the map.

III.6. Discussion on activities implemented by WCS Mongolia and further cooperation, including the autumn workshop

Each volunteer ranger was given a handout with the following list of questions, and asked to use these questions to form goals and objectives for wildlife and pasture management in their areas.

- (1) Which wildlife species do you think are most important in your area?
- (2) How has the wildlife populations in your area changed?
- (3) What wildlife conservations issues are there in your community's area? [What are your concerns about wildlife populations in your area?]
- (4) What wildlife protection issues exist in your area?
- (5) What are your goals for wildlife conservation in your area? Explain why these goals are important to your community.
- (6) List specific objectives (tasks) for wildlife conservation & management in your area in order to accomplish your goals.
- (7) How will you evaluate whether your goals and objectives are being accomplished? List the monitoring activities you will do to track your progress.
- (8) What outputs do you foresee from your wildlife management actions in your area?

Future Community Activities with WCS:

Community wildlife management & monitoring plans: Send us your goals & objectives for wildlife management in your area – begin with the 8 questions about wildlife in your area. This doesn't have to be a full plan, but needs to address specific goals & objectives. Also include your idea of the desired result – what change your management activities will elicit. Send by post or e-mail **by July 1st** to: WCS, P.O. Box 485, Post Office 38, Ulaanbaatar 211238, sbolortsetseg@gmail.com, awinters@wcs.org. We will choose 3 communities to visit & help further develop their wildlife management plans...and provide wildlife monitoring & management training.

A field course will be hosted by WCS at the end of August for volunteer rangers & community leaders with Tony Lynam, WCS's ranger training expert. The 3 communities will be used as examples of wildlife planning & implementation while providing training for all the other communities. Please send us your ideas for wildlife management, monitoring & protection in your areas! We look forward to working with you in the future!

Outcomes of the discussion session:

Participants exchanged ideas with volunteer rangers concerning how to increase economical growth while maintaining ecological balance. The volunteer rangers were very interested in the topics discussed and they were also very keen on obtaining more information about wildlife behavior.

IV. Wildlife protection and natural resource management

Lesson IV.1. Who are rangers?

Rangers mostly stay under the open sky, working in the wilderness in beautiful nature. They are an implementing body, working closely in nature, representing environmental conservation organizations, enforcing the environmental protection law, and collecting primary information for research.

Rangers are obligated to conduct studies and surveys on evolution, formation, and change to the environment within their territory. They also carry out duties to prevent local communities and foreign visitors from possible natural disasters and provide for their safety and welfare.

They are also required to give advice about stopovers and set out travel routes, working closely together with citizens, organizations, and economic entities running the travel industry.

Rangers and volunteer rangers should be well aware of provisions of the environmental law and be able to apply them in case the law is violated.

The environmental protection law of Mongolia and regulations on employing volunteer rangers states that rangers must have graduated from at least high school.

Rights and responsibilities of conservationists and volunteer rangers

Rangers shall exercise the following rights:

1. Oversee the implementation of the environmental protection legislation complied with citizens, organizations and economic entities, within any territory.
2. Enter the premises of organizations and business entities in order to conduct investigations, take samples and have them tested under their control.
3. Take any form of public transportation ahead of the queue or hire a vehicle in the event of any natural disaster or sudden emergency.
4. While monitoring implementation of the environment protection legislation, inspect citizen's and transportation documents, and in the case of any violations, confiscate the documents, items illegally hunted, collected, prepared, mined, and equipments and tools used.

Rangers shall carry out the following duties

1. Strictly follow and carry out the environmental protection law and its regulations.
2. Record information about individuals who violate the law, including name, address, type of violation, damage caused, and condition of the violation, and have the violator sign the document. If the violator refuses to sign, a comment should be written by the ranger.
3. Impose administrative penalties on citizens, organizations and economical entities that have violated the law, stop any illegal activities, and give comprehensive information on the justification and reason for the violation in the document or sheet officially designated according to the law.
4. Respect the legal interests of citizens, organizations and economic entities and maintain the technological secrets while taking measures against the violation.
5. Register items, weapons and tools confiscated and documents temporarily confiscated, leave the copy of the registered document with the owner, and transfer the firearms and tools, within an appointed period of time, to authorized organizations for their safe disposal.
6. Enhance local communities' participation in the activities related to nature protection and its proper use and restoration; oversee the implementation of the nature protection law; encourage their initiative and provide advisory, organizational, and cooperative activities.
7. Take preventative measures against possible natural disasters and sudden emergencies within their territory.
8. Grant permits on natural resource utilization, pursuant to the law.

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9. Instruct citizens, organizations, and business entities on the subject of contracts, special permission, and licenses, and the target areas where natural resources may be obtained. Monitor their activities.
10. Immediately inform the governor of the appropriate level about any natural disaster or sudden emergency and take measures against its hazardous consequences.
11. Organize nature restoration activities within their territory.

Full rights of volunteer ranger

Volunteer rangers shall exercise the following full rights regarding Environment Protection Law.

1. Oversee implementation of the Environmental Law and its regulations to citizens, organizations and economic entities within their territory.
2. Enter into the premises of organizations and economic entities within the territory and carry out inspections.
3. Inspect hunting and natural resources use permits, check if fees are paid, and guide the target area.
4. Bring a temporary injunction against citizens, economic entities or organizations that have violated the laws and have them leave the area immediately.
5. Document the facts for the violations such as illegal hunting, mining, and illegal utilization of natural resources, and submit a report of these to the State Environmental Control Inspectors.
6. Immediately inform the State Environmental Control Inspectors, rangers and governors at an appropriate level about cases of illegal hunting, mining, and natural resources utilization.
7. Report information on forest and steppe fires, floods, and other natural disasters to the governor at the appropriate level, and take measures to alleviate consequences and damages.
8. Promote nature conservation, organize and involve citizens to combat against law violations, and solicit their assistance to stop any violations within their territory.
9. Manage the area where citizens use natural resources for household use within their territory
10. Establish waste disposal points and have the citizens throw the waste away in specially designated areas.
11. Protect the inflow of spring and other water sources and prevent them from damage and pollution, and take them under the local protection.
12. Work in a close cooperation with the non-governmental organizations operating in the field of nature protection and received their support and assistance.
13. Introduce the results of their work to the *Soum* and *Duureg* Citizens Representative Khural, send their reports to *Aimag* and City Environmental Agency, and have their reports assessed by them.
14. Supervise and monitor activities within the territory of the state environmental control inspector and rangers.

The structure of environmental inspection and its rights and responsibilities

a. State Expert Inspection Agency

The head of the State Expert Inspection Agency (SEIA) is approved by the prime minister of Mongolia. Rights of senior inspectors and inspectors of the Environmental Inspection Agency are issued by the head of the State Expert Inspection Agency and inspector in-chief. The cabinet ministry grants the rights to the inspector in-chief.

1. The SEIA is in charge of carrying out expert inspection under its full rights described in the Law on Expert Inspection, and will be financed from the state budget.
2. The SEIA shall exercise the following full rights.

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3. Take control over the implementation of the laws and regulations.
4. Provide management to local expert inspection offices.
5. Prepare and retrain qualified staff and provide them with favorable working conditions and other social services
6. Study the implementation of the laws and regulations on expert inspection and submit the proposals to improve related laws and regulations to the appropriate organizations.

The state inspector in-chief, state senior inspectors, and state inspectors of Environmental Inspection Agency shall work at the SEIA. As of today, there are more than 400 state inspectors of the Environmental Inspection Agency.

b. Local Expert Inspection Office

The head of the SEIA shall approve the nomination of the head of the Local Expert Inspection in agreement with the *aimag* and city governors. The state inspectors of the Environmental Inspection Agency shall be appointed by the *soum* and *Duureg* governor and their full rights shall be granted by the state inspector in-chief.

Local Expert Inspection Offices shall carry out expert inspection activities, within their territory. These measures shall be carried out by environmental inspectors at all levels.

State inspector's in-chief and state inspectors of the expert and environmental inspections shall exercise the following full rights.

1. Carry out control over the implementation of the laws and regulations to be complied with by management staff and state inspectors.
2. Enter the premises to be investigated and carry out the investigation.
3. Involve the specialists in the inspections and have the expert organizations conduct laboratory tests in order to investigate the problem accurately under the agreement with related organizations.
4. Have relevant staff, organizations and economic entities release detailed information, research materials, references, and other documents necessary for the investigation, without any charge.
5. Confiscate items hunted, collected, or prepared by citizens, economic entities or organizations that have violated the laws, and have them compensate for the damages to the environment.
6. Stop the service or production, if the service has a direct or indirect negative impact on the environment, or if potential damage to the environment is proved.
7. Stop any violations discovered through the inspection, assign a task to be carried out in a certain period of time to related citizens, organizations, and business entities, so as to remove the violations and take care of the implementation.
8. Transfer all the inspection facts and documents to the police station if citizens, organizations, and economic entities bring about serious damage to the environment
9. State inspectors are obligated to strictly follow with the laws and regulations, carry out their duties free of external pressure, respect the prestige and legal interests of the state, organizations, economic entities and officials, refuse to investigate problems related to themselves, their families, and relatives, and carry out a complete investigation.
10. The state inspectors of environmental inspection are responsible for the truth of the evidence, facts, figures, official documents, reports, conclusions and inspections made by them.
11. Impose administrative penalties according to the law.
12. Other full rights pursuant to the law.

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c. Soum and Local Environmental Inspectors

State inspectors of the environmental inspection shall work in *soums* supervising and guiding rangers and volunteer rangers. State inspectors conduct control over the implementation of the Compendium of Environmental Laws within their *soum* territory.

1. *Soum* ranger's document violations of the law impose fines, compensations and penalties to citizens, organizations, and economic entities that have violated the law, and develop petitions to stop any illegal activities which are submit it to the state inspector.
2. Grant permits for natural resources to be used for household purposes in accordance with the law.
3. Direct people to target areas where natural resources shall be obtained according to special permits, licenses, and contracts made with citizens, organizations, and economic entities, and constantly monitor permit implementation.
4. Conduct observations and research changes to the environment's status and its resources and enter the related information into the database.
5. Immediately report natural disasters, sudden emergencies, and serious violations to the governor at an appropriate level and the head of environmental agency, and take measures against their adverse consequences.

State inspectors of environmental inspection shall exercise other rights and obligations pursuant to the law.

d. SPAA Rangers and State Environment Inspectors

1. Oversee the implementation of the Environmental Law and other legislation regarding environmental protection, stop any violations, and take appropriate action against guilty parties.
2. Enter the premises of economic entities and organizations and carry out inspections in order to oversee the implementation of legislation.
3. Inspect temporarily confiscated documents of persons suspected to have violated the law, and, if deemed necessary, carry out inspection of his/her vehicle and confiscate guns and items illegally hunted, collected and prepared.
4. Bring a temporary injunction against citizens, economic entities, or organizations who have violated the law, regulations, or protection directives by conducting activities which have negative impacts, assign and require them to do a specific task within certain period of time.
5. Wear a uniform and distinguishing badge, as well as carry instruments and weapons during completion of assignments.

Order # 87, Passed in 2006 by the Cabinet Minister says a ranger shall be in charge of 50.0 hectares of land in the alpine zone, 40.0 hectares of area in forest-steppe, and 90.0 hectares of area in the steppe zone in the special protected areas, and 70.0 hectares of area in the alpine zone, 50 hectare in the forest-steppe, and 100.0 hectare of land in the steppe in national parks.

State inspectors of environmental inspection, in close cooperation with *soum* and local rangers and rangers working in the special protected areas, are permitted to mediate any violations occurred to the environment. It is also possible to minimize the violations as a result of collaborating with legal organizations. Volunteer rangers working in the local areas are the key force in discovering and removing violations through fair actions. Their main duties also include involving more citizens in nature protection activities and extend the frame of activities. Stated otherwise, volunteer rangers are required to closely cooperate with local administrative organizations.

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Employing Volunteer Rangers

Article 1. Purpose of the Regulations

- 1.1. Volunteer rangers are appointed in order to implement and assist the monitoring activities on sustainable use, protection, and restoration of natural resources in the local community.
- 1.2. The volunteer ranger will conduct his duty according to Mongolian Laws on Forest protection, Wildlife, Hunting, Land etc.
- 1.3. The volunteer ranger will educate and raise awareness in the community about the environment in order to monitor the implementation of laws and regulations.

Article 2. Required qualifications for volunteer ranger

1. High school graduate or higher education
2. No criminal record.
3. Well respected in the community and known to be honest.
4. Have a stable domestic life so that he/she can conduct monitoring activities and have an interest in conservation.
5. Familiar with the necessary laws so that he/she can operate independently.
6. A local citizen.

Article 3. Size of an area the volunteer ranger will be responsible for

- 3.1. For each volunteer ranger:
 - High mountain region 25.0 ha,
 - Patch woods 30.0 ha,
 - Steppe 125.0 ha,
 - Desert steppes 150.0 ha,
 - Desert 200.0 ha,
 - Urban green area 10,000 ha,
 - Planted forest should not be more than 10km each.
- 3.2. A volunteer ranger in may be hired where endangered species and natural resources need protection and be in charge of a part or the whole distribution area.
- 3.3. If the volunteer ranger works at the state protected area, the administrator of the protected area will determine the area limit.

Article 4. Nomination of volunteer ranger

- 4.1. Bag, Khoroo local citizens' meeting have the right to determine the area in accordance with Article 3, and the number of rangers will be determined in accordance with Article 2, and nominate the necessary number of rangers.
- 4.2. Bag, Khoroo citizens can nominate their own or other members' names.
- 4.3. Bag, Khoroo local citizens' meeting will discuss each candidate, take a vote and choose the necessary numbers of candidates
- 4.4. The Bag and Khoroo Governor shall send the proposals regarding the candidates nominated in the Bag and Khoroo Citizens' Local Khural to the *soum* and *duureg* Governor within 7 days.

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- 4.5. The *soum* and *duureg* governor shall submit the proposal to discuss and appoint the person nominated for the volunteer ranger by the *soum* and *duureg* Citizens Representative Khural, to the *aimag* and Capital City Environmental Agency within 7 days.

Article 5. Appointment of a volunteer ranger, dismissal from a post, and approval for his full rights

- 5.1. The head of the *aimag* Environmental Agency would verify candidates' documentations and pass along the candidates who qualify to the *aimag* Governor for the appointment.
- 5.2. The *aimag* and *duureg* governors shall release an order to appoint the citizen proposed by the Environmental Inspection Agency as a volunteer ranger.
- 5.3. If there is a reason for the governor to disapprove the nomination he will send the name back to the *soum* with an explanation so that they can re-elect another candidate.
- 5.4. In the protected areas, the local *aimag* or *duureg* governor has the right to appoint or dismiss the volunteer ranger based on the suggestions from the head of the Protected Area Administration.
- 5.5. A citizen who was appointed as the volunteer ranger will receive a license and a pin.
- 5.6. Upon receiving the license and the pin, the authority and the full rights of the ranger will be confirmed.
- 5.7. The design of the pin and a license will be approved by the Ministry of Nature and Environment.

Article 6. The timeframe for the volunteer ranger's authority

- 6.1. The authority and rights for the volunteer ranger will continue for 4 years.
- 6.2. If the ranger is respected in the community and performs his duty exemplary, the *aimag* governor will renew his authority for 4 more years.
- 6.3. If the ranger does not perform his lawful duty or is implicated in a criminal activity/environmental crime, the *aimag* governor will dismiss him before the expiration of his duty.
- 6.4. The *aimag* governor will make a decision for hiring another ranger in place of the dismissed one as stated in Article 5.
- 6.5. The appointed ranger in place of the dismissed one will fulfill the rest of the period.
- 6.6. The Ministry of Nature and Environment will appoint additional volunteer rangers with full authority for areas that have been targeted for illegal exploitation or are vulnerable, and State Protected Areas that need additional law enforcement.
- 6.7. If necessary, the volunteer rangers will be organized as a team and work in a collaborative effort under the leadership of a state inspector or ranger.

Article 8. Rewards for volunteer rangers

- 8.1. The *soum* governor will reward volunteer rangers in the following manner:
 - 8.1.1. Volunteer rangers will be rewarded 15% of the fines collected from illegal activities.
- 8.2. The Ministry of Nature and Environment will summarize the volunteer rangers according to the following categories:
 - 8.2.1. Numbers of crimes and violations discovered.
 - 8.2.2. Drop in the number environmental crimes.
 - 8.2.3. Value of the natural resources collected from the criminals, and ecological and economical restorations.
 - 8.2.4. Amount of fines collected.
- 8.3. Evaluated by categories above, the top ten most successful rangers will be awarded annually by Ministry of Nature and Environment.

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- 8.4. The Minister of Nature and Environment shall reward a volunteer ranger who has revealed any violations 20% of the income received as a compensation for the natural resources illegally prepared, collected and hunted, based on the reference of the *aimag* and capitol city Environmental Inspection Agency.
- 8.5. The *soum* governor will reward one, and the *aimag* governor up three, volunteer rangers who have exemplary records annually.
- 8.6. The *soum* and *duureg* governors shall be responsible for providing the volunteer ranger with the required means of transportation, self-defense, and communication equipment and tools.

e. Ranger's ethics

Whom do rangers communicate with? As expected, rangers meet people of all levels with different professions, various qualities, and backgrounds of education. Remember, you will meet the following types of people:

- | | | |
|---------------------------|--------------------------|------------------------|
| * affluent or poor | * amiable and helpful | * arrogant and haughty |
| * hot-tempered and fierce | * boastful and conceited | * strong or weak |
| * calm and relaxed | * sober or drunk | * clever or dull |
| * anxious and awkward | * crazy and mad | * stubborn and mulish |
| * self-centered | * aggressive and savage | * fair and honest |

Try to adhere to the following rules of behavior when you communicate with people of these personalities.

- Respect Mongolian traditions and customs – when you visit others follow the old customs to listen to and respect the elderly and care for the young.
- Respect others – It's important to treat people equally, even if they are guilty in front of you. There is a saying "Do not look down on others, do not underestimate yourself as well".
- Pay attention to your attire – Remember the proverb "People are welcomed by their appearance and are judged by their intelligence." You should take into consideration the ways you dress, talk to others, and your behavior in the community. Do not ignore what you have to do – You are working for the state representing your fellow citizens. There are people, mountains, and your home country supporting and protecting you all of the time.
- Always take the initiative – You are obligated to serve the state. While serving your duties, take the constant initiative.
- Learn to compromise – Confess your guilt if you were wrong, or mistaken, or misunderstood others. No one is perfect, therefore, everyone makes mistakes. Don't repeat the mistakes you have made before.
- Do not forget the above-mentioned valuable moral principles – You need to always remember the above principles and ethics.

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The table below shows **the sequence of a meeting** that the ranger is supposed to follow when investigating ordinary citizens, people suspended in violation, and people who break the law.

A. Meeting ordinary people	B. Meeting people suspended in violation	C. Meeting people who violated the law
<ol style="list-style-type: none"> 1. Greet and welcome the person you are meeting 2. Introduce yourself and the purpose of the matter 3. Ask the name, address and purpose of the person you are communicating with 4. Ask the person whether he needs your help 5. If deemed necessary, explain the related laws and regulation 	<ol style="list-style-type: none"> 1. Greet and welcome the person you are meeting 2. Talk about ordinary matters with the person 3. Observe the situation 4. Ask the name, address and purpose of the person you are communicating with 5. Introduce yourself 6. Show the evidence 7. Explain your duty and carry out an inspection 8. Apologize if the person is not guilty 9. Discuss simple matters 10. Depart leaving a warm atmosphere 	<ol style="list-style-type: none"> 1. Greet and welcome the person you are meeting 2. Introduce yourself 3. Show the evidence 4. Ask the name, address and purpose of the person you are communicating with 5. Explain the justifications for the law violation and related provisions of the law 6. Try to explain well the damage caused by the person who has violated the law 7. If the person is armed, investigate his weapon and dismantle its bolt and bullet for safety 8. Inspect the license of possession. 9. Keep records. 10. Impose a penalty according to the law.

The ranger's ethics and requirements for the job have been reflected in the law on Civil servant.

Article 4. The principles of the civil servant

1. According to 1.2 of the Constitution of Mongolia, the fundamental principles of the civil servant are the principles of democracy, justice, freedom, equality and friendship and respect for the law.
2. The civil servant shall adhere to the following principles:
 - 1/ the principle of directing and being directed
 - 2/ the principle of being transparent
 - 3/ the principle of serving the nation
 - 4/ the principle of having equal rights for being employed, according to the terms of the law
 - 5/ the principle of being qualified and being stable in his post
 - 6/ the state shall provide the civil servant with the conditions to exercise his rights
 - 7/ the state shall be liable for the damage caused by the civil servant due to implementing his rights, in accordance with the law.

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Who fills out violation sheets?

Prior to keeping a comprehensive record of the violation, the State Inspector or the Environmental Inspection State Inspector will question the law violator clearly and fill out a specific sheet. The questions include the date in which the law was violated, the name and location of the violator /citizens, organizations, business entities, and specific information on the violation. Then the document is signed by the violator or the person representing the organization or economic entity and the third body, who is present during the questioning, acts as a witness.

After that, the record on the violation is completed by the answering questions and a violation sheet and sheet for compensation payment are filled out by the State Inspector. A copy of the sheet signed by the violator is left with the violator. If the violator is in disagreement with any of these documents, he or she has the right to address the inspector of the next higher level or make a claim to the court within 10 days. Generally, volunteer rangers are obligated to keep a detailed record of violations and the progress of investigations, and transfer it to the Environmental Inspection State Inspector for final rulings.

Lesson IV.2. ECOLOGICAL AND ECONOMIC IMPORTANCE OF WILDLIFE, Governor's order #248, 2005, and its supplements

MONGOLIAN LAW ON HUNTING /2000. 5 . 05/

The wildlife are the state property, as it is defined in §10.1 of the Constitution of Mongolia.

MONGOLIAN LAW ON HUNTING RESOURCE USE PAYMENT AND ON HUNTING AND TRAPPING AUTHORIZATION FEES /1995. 5 . 22/

§5.3. Upon consideration of the animal reserve, distribution ecological and economic importance, demand, and the purpose of use, the Cabinet Ministry shall establish the animal's ecological and economic assessment, the standard price for animals hunted, as well as the precise amount of payments for hunting reserve use and authorization fees for hunting and trapping animals within the limits.

Cabinet Ministry order # 248, 2005
Supplement 1

ECOLOGICAL AND ECONOMIC ASSESSMENT OF WILDLIFE /in thousands of tugrugs/

Common Name, Sex, Age		Ecological and economic value		
		male	female	juvenile
One. Mammals				
1	Przewalskii's Wild Horse	4000.0	5200.0	6800.0
2	Asiatic Wild Ass	2000.0	2600.0	3400.0
3	Bactrian Camel	3700.0	4810.0	6290.0
4	Argali	9000.0	11700.0	15300.0
5	Siberian Ibex	2000.0	2600.0	3400.0
6	Siberian Elk/ Red Deer	2500.0	3250.0	4250.0
7	Elk	2800.0	3640.0	4760.0
8	Reindeer or Caribou	2000.0	2600.0	3400.0
9	Musk Deer	2000.0	2600.0	3400.0
10	Siberian Roe Deer	140.0	182.0	238.0
11	Wild Boar	200.0	260.0	340.0
12	Mongolian Saiga Antelope	2000.0	2600.0	3400.0
13	Goitered Gazelle	1500.0	1950.0	2550.0

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14	White-tailed Gazelle	40.0	52.0	68.0
15	Asiatic Wild Dog	1000.0	1300.0	1700.0
16	Grey Wolf	60.0	78.0	102.0
17	Red Fox	80.0	104.0	136.0
18	Corsac Fox	40.0	52.0	68.0
19	Snow Leopard	4000.0	5200.0	6800.0
20	Eurasian Lynx	2000.0	2600.0	3400.0
21	Sable	300.0	390.0	510.0
22	Marten	300.0	390.0	510.0
23	Eurasian Otter	500.0	650.0	850.0
24	Beaver	500.0	650.0	850.0
25	Muskrat	5.0	6.5	8.5
26	Wolverine	15.0	19.5	25.5
27	Manul or Pallas's Cat	300.0	390.0	510.0
28	Eurasian Badger	110.0	143.0	187.0
29	Brown Bear	2000.0	2600.0	3400.0
30	Gobi Bear	5000.0	6500.0	8500.0
31	Marmot	25	32.5	42.5
32	Tolai Hare, Mountain Hare	6.0	7.8	10.2
33	Raccoon Dog	80.0	104.0	136.0
34	Steppe Polecat	2.5	3.25	4.25
35	Marbled Polecat	2.5	3.25	4.25
36	Siberian Weasel	5.0	6.5	8.5
37	Other species of weasels	2.5	3.25	4.25
38	Brown Squirrel	25.0	32.5	42.5
39	European Wild Cat	500.0	650.0	850.0
40	Alaschan Souslik	5.0	6.5	8.5
41	Other souslik species	1.5	1.95	2.55
42	Siberian Chipmunk	1.5	1.95	2.55
Two Birds				
1	Whooper Swan	75.0	97.5	127.5
2	Bewick's Swan	60.0	78.0	102.0
3	Siberian White Crane	200.0	260.0	340.0
4	Japanese White-naped /Hooded Crane	75.0	97.5	127.5
5	Red-crowned Crane	37.5	48.75	63.75
6	Houbara Bustard	75.0	97.5	127.5
7	Kite	100.0	130.0	170.0
8	Dalmatian Pelican	500.0	650.0	850.0
9	Eurasian Spoonbill	9.0	11.7	15.3
10	Black Stork	40.0	52.0	68.0
11	Greater White-fronted Goose	40.0	52.0	68.0
12	Bar-headed Goose	40.0	52.0	68.0
13	Swan Goose	40.0	52.0	68.0
14	Lesser White goose	40.0	52.0	68.0
15	Other goose species	10	13	17

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16	Relict Gull	50.0	65.0	85.0
17	Ring-necked Pheasant	30.0	39.0	51.0
18	Altai Snowcock	75.0	97.5	127.5
19	Baikal Teal	40.0	52.0	68.0
20	Other goose species and wetland bird species	15.0	19.5	25.5
21	Baer's Pochard	10.0	13.0	17.0
22	Mandarin Duck	10.0	13.0	17.0
23	White-headed Duck	10.0	13.0	17.0
24	Eurasian Bittern	10.0	13.0	17.0
25	Great White Egret	10.0	13.0	17.0
26	Asiatic Dowitcher	10.0	13.0	17.0
27	Black-winged Stilt	10.0	13.0	17.0
28	European Turtle Dove	10.0	13.0	17.0
29	Towny Owl, Owl, Eurasian Eagle Owl	9.0	11.7	15.3
30	Saker Falcon	3000.0	3900.0	5100.0
31	Red-footed Falcon	1500.0	1950.0	2250.0
32	Amur Falcon	500.0	650.0	850.0
33	Other falcon species	450.0	58.5	76.5
34	Black Grouse, Capercaillie	10.0	13.0	17.0
35	Hazel Grouse, Ptarmigan, Chukar, Pallas's Sandgrouse	9.0	11.7	15.3
36	Cinerious Vulture, Bearded Vulture	100.0	130.0	170.0
37	Eagle, Buzzard, Hawk	100.0	130.0	170.0
Three. Fish				
1	Sturgeon: à/ more than 1m	200.0	260.0	340.0
2	á/ up to 1m	150.0	195	255
3	Taimen: à/ more than 1m	100.0	130.0	170.0
4	á/ up to 1m	75.0	97.5	127.5
5	<i>Tinka tinka</i>	40.0	52.0	68.0
6	Grass Carp	40.0	52.0	68.0
7	Silver Carp	40.0	52.0	68.0
8	Haitaj Sailpin	40.0	52.0	68.0
9	Omul, Siberian Whitefish	4.5	5.85	7.65
10	Amur Carp	3.0	3.9	5.1
11	Umber	2.0	2.6	3.4
12	Other fish species	1.5	1.95	2.55

MONGOLIAN LAW ON FAUNA /2000. 5. 05/

Article 25. Reimbursement for Damage Caused to Fauna

- 25.1. Persons liable for losses to fauna as a result of violation of the legislation on fauna shall reimburse said losses caused.

- 25.2. The amount for reimbursement shall be twice as much as the ecological and economic assessment rate determined by the Cabinet Ministry.

Permitted Hunting Seasons /Mongolian Law on Hunting. Article 13/

Hunting and trapping of game animals for household and industrial purposes is permitted as follows:

- Siberian Roe Deer, White Tailed Gazelle, Wild Boar from August 1st until December 1st.
- Brown Bear from August 1st until November 16th.
- Sable, Stone Marten, Raccoon Dog, Eurasian Lynx, Wolverine, Red Fox, Corsac Fox, Brown Squirrel, Alpine Weasel, Mountain Hare, Tolai Hare from October 21st until February 16th of the following calendar year;
- Marmot from August 10th to October 16th;
- Muskrat from October 16th to January 1st of the following calendar year;
- Eurasian Badger from September 1st to November 1st.

Hunting of birds and fishing for household and industrial purposes is permitted as follows:

- Hazel Grouse, Ptarmigan, Rock Ptarmigan, Pallas Sand Grouse, Black Grouse and Western Capercaillie, from September 1st until March 15th of the following calendar year.
- Geese, ducks and other water and wetland birds from April 1st to May 1st and from September 1st to October 21st;
- Siberian Whitefish from October 20th to August 1st;
- Fishing in Lake Buir from August 1st until May 15th of the following calendar year;
- Baikal Omul from September 15th to December 1st;
- Omul from November 15th to August 1st of the following calendar year;
- Siberian Ide from August 1st to April 15th of the following calendar year;
- Fishing for other species from June 15th to April 1st.

Animals may be hunted or trapped outside the established hunting seasons for the purposes of removing sources of infectious diseases and for scientific research. The State Central Administrative Organization shall establish hunting seasons for other animals. The State Central Administrative Organization shall establish the hunting seasons and fees for special purposes for those animals.

In order to issue permits for hunting and trapping animals, laws and regulations on hunting and the maximum level of species allowed to be hunted and trapped annually shall be applied and approved by the Ministry of Nature and Environment and *soum* and *aimag* governors. Game animals may be hunted or trapped for the following purposes.

- Household
- Special purposes
- Industrial

Licenses shall be issued for hunting game animals for household use

Special permission shall be granted for hunting and trapping for special purposes

Contracts shall be issued for hunting game animals for industrial purposes

Issuance of license for hunting for a household purpose

The format and numbering of licenses for hunting and trapping for household purposes shall be similar throughout the country and be approved by the Minister of Nature and Environment. /Supplement of the Ministry Environment's Order 161, 1995/

Licenses for hunting and trapping species shall be granted by an official who is authorized by the *soum* governor.

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Licenses shall include the first and last name of the hunter, the species and the quantity of the game animals, the hunting season, the location, the amount of fees to be paid, and shall be signed and stamped by that official.

A fee shall be received for the issuance of the license and the proof of the payment shall be handed over to the financial office.

Cabinet Ministry Order # 248, 2005

Supplement 2

HUNTING RESOURCE USE PAYMENTS AND HUNTING AND TRAPPING AUTHORIZATION /in thousands of Mongolian tugrugs/

Common Name		Hunting resource payments		Fees for household hunting and trapping license
		Commercial hunting and trapping	Cultural and scientific hunting and trapping	
One. Mammals				
1	Przewalskii's Wild Horse		800.0	
2	Asiatic Wild Ass		400.0	
3	Bactrian Camel		740.0	
4	Argali		1800.0	
5	Siberian Ibex		400.0	
6	Siberian Elk/ Red Deer		500.0	
7	Elk		560.0	
8	Reindeer or Caribou		400.0	
9	Musk Deer		400.0	
10	Siberian Roe Deer		28.0	28.0
11	Wild Boar		40.0	40.0
12	Mongolian Saiga Antelope		400.0	
13	Goitered Gazelle		300.0	
14	White-tailed Gazelle	8.0	8.0	12.0
15	Asiatic Wild Dog		200.0	
16	Grey Wolf		18.0	
17	Red Fox		16.0	16.0
18	Corsac Fox		8.0	8.0
19	Snow Leopard		800.0	
20	Eurasian Lynx		400.0	
21	Sable		60.0	
22	Marten		60.0	
23	Eurasian Otter		200.0	
24	Beaver		100.0	
25	Muskrat	1.0	1.0	1.5
26	Wolverine		3.0	
27	Manul or Pallas's Cat		3.6	3.6
28	Eurasian Badger		22.0	22.0
29	Brown Bear		400.0	
30	Gobi Bear		1000.0	

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31	Marmot	5.0	5.0	7.5
32	Tolai Hare, Mountain Hare		1.2	1.2
33	Raccoon Dog		16.0	16.0
34	Steppe Polecat		0.5	0.5
35	Marbled Polecat		0.5	0.5
36	Siberian Weasel		1.0	1.0
37	Other species of weasels		0.5	0.5
38	Brown Squirrel	10.0	10.0	10.0
39	European Wild Cat		100.0	
40	Alaschan Souslik	1.0	1.0	1.5
41	Other souslik species	0.3	0.3	0.45
42	Siberian Chipmunk	0.3	0.3	0.45
Two. Birds				
1	Whooper Swan		15.0	
2	Bewick's Swan		12.0	
3	Siberian White Crane		40.0	
4	Japanese White-naped /Hooded Crane		15.0	
5	Red-crowned Crane		7.5	
6	Houbara Bustard		15.0	
7	Kite**		20.0	30.0
8	Dalmatian Pelican		30.0	
9	Eurasian Spoonbill		1.8	
10	Black Stork		4.0	
11	Greater White-fronted Goose		8.0	
12	Bar-headed Goose		8.0	
13	Swan Goose		8.0	
14	Lesser White goose		8.0	
15	Other goose species **		2.0	
16	Relict Gull		10.0	
17	Ring-necked Pheasant		6.0	
18	Altai Snowcock		15.0	
19	Baikal Teal		8.0	
20	Other goose species** and wetland bird** species		3.0	
21	Baer's Pochard		2.0	
22	Mandarin Duck		2.0	
23	White-headed Duck		2.0	
24	Eurasian Bittern		2.0	
25	Great White Egret		2.0	
26	Asiatic Dowitcher		2.0	
27	Black-winged Stilt		2.0	
28	European Turtle Dove		2.0	
29	Towny Owl, Owl, Eurasian Eagle Owl		1.8	

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30	Saker Falcon		200.0	
31	Red-footed Falcon		100.0	
32	Amur Falcon		100.0	
33	Other falcon species		90.0	
34	Black Grouse**, Capercaillie**		1.8	
35	Hazel Grouse**, Ptarmigan**, Chukar**, Pallas's Sandgrouse**		1.8	
36	Cinerious Vulture, Bearded Vulture		20.0	
37	Eagle**, Buzzard, Hawk		20.0	20.0 /only eagle/

1. Wolf hunting, for a household purpose is acceptable without paying any fees.
2. Bird names marked with two stars /**/ in this appendix are permitted to be hunted for household purposes with a license or related permits.

Licenses shall be granted only to private citizens, not under a name of an organization or business entity. Bringing out and copying the license form is prohibited. Mongolian citizens are expected to obtain a one-time permission valid for up to 3 days for hunting birds or fishing and valid for up to 5 days for hunting other game animals which may authorize taking the following:

Hoofed animals -1

Marmots - 5

Other fur animal - 1

Hazel Grouse, Ptarmigan or Rock Ptarmigan, Daurian Partridge or
Pallas' Sandgrouse - 10,

Other forest, steppe and wading birds - 5

Taimen - 2

Other fish - 10

Foreign citizens temporarily and permanently residing in Mongolia's territory are allowed to fish only for household purposes, paying the same amount of fees as Mongolian citizens.

Making a contract for hunting and trapping game animals for commercial purposes

A contract shall be made with the *soum* Governor in the event of animal hunting and trapping for commercial purposes. The contract shall contain species and the quantity of the game animals to be hunted and trapped, the hunting season and location, the types and quantity of the animal parts and the types, amounts and fees to be paid. The fees for animal hunting and trapping shall be reserved in the local budget.

Granting permits for hunting and trapping game animals for a special purpose

Special permission for hunting and trapping animal species shall be issued by the State Administrative Organization and permits for hunting and trapping of other game animals shall be granted by the *soum* and *duureg* governors.

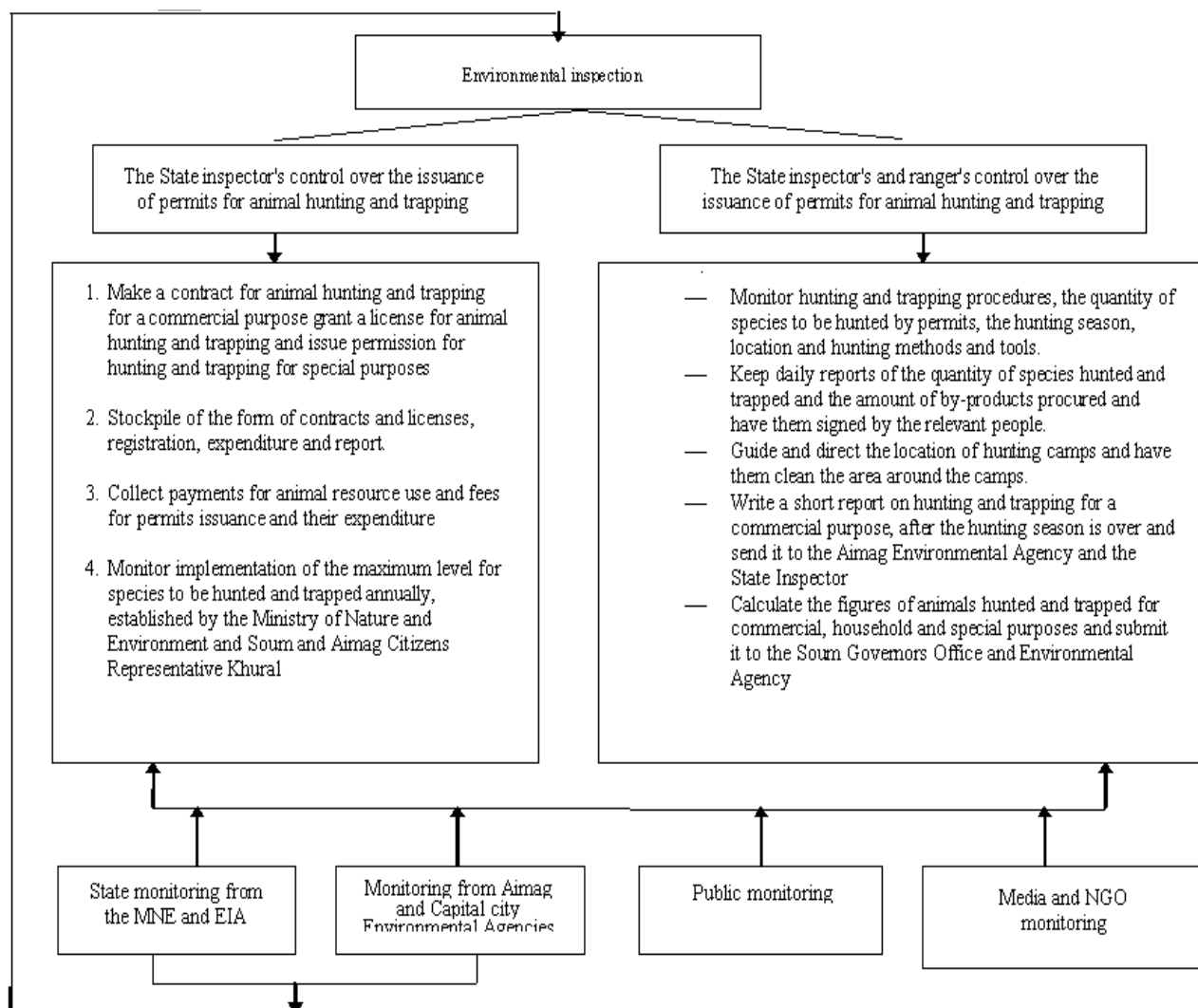
See types of special permits below:

- Endangered game animals for research, cultural and medicinal purposes.
- Special rate of fees paid by both foreigners and Mongolians.
- For regulation game animal herd composition and remedy the sources of infectious diseases for providing health and safety.

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- Sport hunting.

Granting permits for animal hunting and trapping, and Monitoring hunting and trapping activities



Lesson IV.3. Certification of animals and animal products origins, list of species and animal parts to be granted certification, and tagging

Mongolian Law on Hunting Article 7.3:

- 7.3. Environmental State Inspectors working in *soums* shall issue a certification of animal origins /hereinafter referred to as certification/ to private citizens, organizations and economic entities that are engaged in selling animals and their products.
- 7.4. The form and issuance procedure of the certification, as specified in 7.3 of the Law on Hunting and the list of animals and byproducts to be granted the certification, shall be approved by State Administrative Organization. Provisions 7.3 and 7.4 have been added by the law passed on August 25th, 2002.

Mongolian Law on Hunting, Article 15¹

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- 15¹.1. Selling and purchasing species and animal products without certification, referred to in 7.3 of the law, is prohibited. */This addition was made to the law and approved on April 25th, 2002./*

The following have been approved by the Minister of Environment's Order # 159, July 26, 2002

- Temporary procedures on issuance and usage of animal and byproduct origins' certification
- Form of the certification of origins
- List of species and byproducts eligible to grant the certification of origins

Minister of Environment's Order #159, 2002
Supplement 1

Temporary procedures on issuance and usage of animal and byproduct origins' certification

One: Provisions

1. This regulation shall be followed during taking control over the procedures to prepare, procure, transport, trade, purchase and transfer others, animals and their byproducts.
- 1.1. The purpose of the regulation is monitoring and supporting activities of private citizens, organizations and economic entities, engaged in hunting and procuring, processing and transporting animal products and stop violations regarding illegal hunting and illegal procurement, trade, purchase and transference of animal parts, hides, meat, fur, and other by-products.

Two: Issuance of certification to species and animal by-products

- 2.1. The certification of origins /hereinafter referred to as certification/ shall be granted to the game animals hunted, according to the hunting licenses, permits and contracts, taking into account of the maximum level for game animals, to be hunted for household and commercial purposes.
- 2.2. The State Inspector in the *soum* shall issue the certification, based on the contract for hunting for a commercial purpose and the license for hunting for a household purpose, granted by the *Soum* Governor' Office.
- 2.3. Private Citizens, organizations, and economic entities obliged to take the certification with them, while transporting and trading animals and their by-products within the territory of *soum*, *aimag* and capital city

Three: Certification and its monitoring

- 3.1. Form of the certification differs /certification and label/ depending on the type of species and shall have a registered and indexed serial number.
- 3.2. Policy Implementation and Coordination Department shall be liable for publishing, registering and delivering certifications to local areas.
- 3.3. The Center for Environment Monitoring, local organizations, and other legislative organizations shall conduct control over certification issuance and usage.
- 3.4. The length of the period in which certification will be valid, shall be set up by the negotiation between the State Inspector working in the *soum* and citizen requesting for the certification. The maximum length for the valid certification shall be no more than 6 months.
- 3.5. The certification is not allowed to be corrected and copied.
- 3.6. The certification shall be granted to animals hunted for household and commercial purposes.
- 3.7. The certification shall not be issued to rare and very rare animals and their parts, hides, meat and fur as well as the wildlife species, specified in the appendices I, II of the Convention on International Trade in Wildlife Species.

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- 3.8. Selling, purchasing, presenting, transporting and procuring species and animal parts, without the certification, are prohibited.
- 3.9. In case of processing commercially fur of the animal, hunted for export, household and commercial purposes, the certification and label for that product shall be removed and maintained as a result of making a protocol, under control of the Environmental Inspection State Inspector, and at last the certification for exporting shall be granted.
- 3.10. The certification shall be issued to animal-originated by-products confiscated.

Four: Miscellaneous

- 4.1. *Aimag* and Capital City Governors and State Environmental Inspection Inspectors shall send the report on the certifications issued to citizens, organizations, and economic entities, in their authorized territory, to the Policy Implementation and Coordination Department, within January 15th, of the next year.

Ministry of Nature and Environment's Order #159, 2002
Supplement 2

Certification of Origins Form

The certification of origins varies depending on the type of animal species: certification and label.

Certification

Serial number:

Number

Aimag

Soum.....

Name and address of the provider

.....

Quantity of animals:

Number of contract or license eligible for animal and by-product procurement:

.....

Name of by-products:

Types:.....

Issued year *month* *day*

Valid month

Granted

/stamp/

/Name, stamp and signature of the State Inspector granted the certification

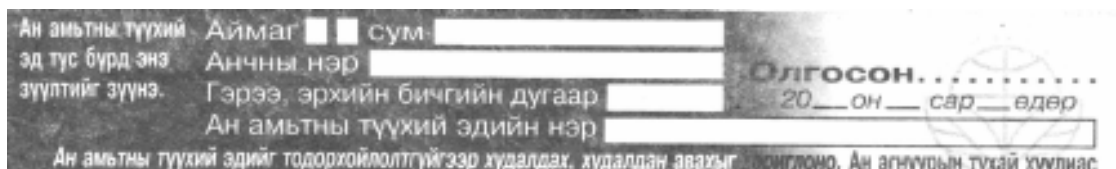
Tagging System

The tag shall be considered the same as a certification of origins. Tags shall be lockable and resistant from outside impacts. The tags issued in *aimags* differ in color and number. Each year the tags should be printed in a different color. The Policy Implementation and Coordination Department shall be in charge of determining the quantity, serial number, and color differences of the tags to be used annually, and discuss them at the ministers' meeting.

- Tag form
- Tag certification
- Tag /paper label/
- Tag size 2,54 ÷ 17,78
- One side of the tag has an adhesive part with the size of 2,54 ÷ 2,54 cm
- Cold-resistant and it has a protective cut

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- Print letters and shapes in the same color in the white background
- Adhesive part has seven numbers in order
- Print the tags in ten /Look at the figure below/



List of species and animal parts for certification

#	Game animals	Types of products	Explanation
1	Marmot	Fur	
2	Mongolian Gazelle	Carcass with skin	
3	Fish	Meat	
4	Game, steppe, forest, warding birds	Poultry, feathers	Hazel grouse, Partridge, Chukar, Pallas' Sandgrouse, Black grouse, Wood grouse, goose, duck
5	Red fox	Fur	
6	Corsac fox	Fur	
7	Deer	Antler Velvet	Antler velvet from reindeer raised on farms
8	Wild bore	Pork, fur, tusk	
9	Roe deer	Meat, fur, antler	
10	Squirrel	Fur	
11	Tolai hare	Meat, fur	
12	Eurasian Badger	Fur	
13	Raccoon	Fur	
14	Steppe Polecat	Fur	
15	Stone Marten	Fur	
16	Siberian Weasel	Fur	
17	Mountain Hare	Fur	
18	Rat	Fur	

IV.4. Discussion: Community and volunteer ranger participation in monitoring, information exchange, and cooperation with the *soum* inspector

In principle, volunteer rangers are required to read and study relevant laws and regulations. During implementation of the adopted laws and regulations, they should freely express their ideas and submit comments. Furthermore, they need to keep records on hunting information and violations, inform and exchange their ideas with the State Inspectors, and seek their advice. Even though the rangers face a large number of violators, they should be courteous, honest, and articulate when communicating with other people because they are representing the State.

Basically, volunteer rangers are the implementing and monitoring bodies of the Environmental Legislation.

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Erdenebaatar, the inspector of Bayantumen *soum*, spoke about challenges in the steppe region, and shared his work experience with the volunteer rangers. The discussion was very active and successful.

Comments

During the closing discussion session of the training, the volunteer rangers conveyed their suggestions and gave general comments about the training-workshop. They were most concerned about, and interested in, access to photos of wild animals and plant species, and comprehensive manuals. The volunteer rangers also promised to continue to study the Environmental Law and requested that the next training be held by WCS in the middle of September. There were several suggestions for future trainings made by the volunteer rangers, including: conducting a debate, holding a contest on information from the lessons taught that day, holding sport competitions, and organize environmentally sound activities such as planting small shrubs and trees, and picking up trash.

Conclusions

The training-workshop hosted by the Eastern Mongolia Community Conservation Association (EMCCA) NGO was successfully completed with assistance from the Wildlife Conservation Society (WCS) Mongolia Program.

The teacher-trainers, researchers, and biologists imparted valuable lessons and advice to volunteer rangers, and emphasized that nature conservation is the most important work for volunteer rangers. During the training, the volunteer rangers were provided with a handbook containing all the materials presented, and they considered this the best part of the training. Moreover, there was a considerable shift in the participants' motivation and involvement in the workshop over the final days of the training, and the participants became more open and energetic toward the end. In the evening hours, they met with instructors for advice regarding their community operations and environmental matters.

A total of 14 communities took part in the training-workshop. Of these, there were 11 male and 3 female volunteer rangers present.

We would like to express our deep gratitude to the all teacher-trainers and, in particular, the EMCCA and researchers from WCS Mongolia.

Appendix I: Letters from Herder Community Groups on goals and objectives for wildlife management in their areas

Group name: “Yusun erdene”

Brief introduction

Our group was founded in 2005 and cooperates with Herder Community Group to protect wild animals, fencing rivers, organize nature protection training and increase group members' livelihood level. The group has nine households' 20 members.

Tosonkhulstai natural resource place is the biggest in Dornod Mongolian protected area; it is the important place for white tailed gazelle's / procapra catturosa / acclimatization on feather grass steppe.

This area specially protected since 1998 by the Parliament's 28th resolution because this is the last steppe with feather grass and its native animal, white tailed gazelle /procapra catturosa/ in the world.

There are mammals, such as, white tailed gazelle /procapra catturosa/, marmota sibirica, vulves corsa, vulves vulves and canus lupus.

Local herders concern that people hunt many white tailed gazelle for food and others, this caused decrease and runaway from their acclimatization place. People hunt marmot by trap when they first came out of the den in the spring. Fortunately, marmot increases after prohibition hunting.

1. Marmot became fewer 4 years before, white tailed gazelle runaway since Nov 2006. In addition, deer and roebuck decreased in Khar yamaat /Black goat/ natural resource place.
2. White tailed gazelle decreased by 2000 head because of gold mining.
3. Rivers drained because of drought and pasture grass decreased. White tailed gazelle runaway from their native place.
4. Organize environment training, protect river source and work with finding network for illegal hunting. Inform herders about marmot acclimatization.
5. Advertise and organize training about white tailed gazelle runaway to keep ecological balance and need to inform to change herders idea to treat nature and wild animals.
6. - activate herders' involvement to protect nature and wild animals.
- organize acclimatization of white tailed gazelle.
- cooperate with herders to use pasture equally and qualify animals' species.
7. Do monitoring in certain times, observe every year, especially from April to October to define wild animals location to evaluate protection work.
8. Activate herders' participation and contract with suspicious citizens, who might hunt animals illegally.

Note:

- Provide volunteer protectors with license
- Needed government support
- Stop illegal gold mining in this area

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Group name: “Bayan ukhaa”

1. Marmot, deer need to protect.
2. There are not seen marmots in front of the Norovlin Mountain, Chono, Bazargur, in the western fronside of the Bayan – Ukhaa, Tsogdelger and behind the Ar bulag, Emeelt Mountain. Also, vulves corsa, vulves vulves and canus lupus are become rare.
3. - Marmot skin and oil price increased in the market. This business is secret and there are many illegal hunting, this caused to decrease marmots a lot.
- There are many advertisements to buy wolf, fox skin and meat with higher price.
4. Our group work as the following:
 - advertised marmot significance since 2005
 - informed rare animals, such as vulves corsa, vulves vulves importance to the environment
 - control wild animals and illegal hunting in this area.

Soum environment protectors do patrolling.

5. Purpose #1 – do counting and diagram wild animals in the Ugtam Mountains and group protected area in 2007 – 2008.

Purpose #2 – work out on management plan to continue group activity.

These will result following significances:

- protect wild animals from extermination danger and grow wild animals
 - educate people with ecological knowledge and widen control
6. Do counting immediately with Wildlife Conservation Society.
 - contract herders by short time to observe deer and marmots
 - need to migrate and acclimatize marmots in the east of the Temple. It is the best way to protect them from the illegal hunting.
 - Construct “ecological training center” near the Ugtam sanatorium.
 - Organize ecological training to the group members and other herders.
 - Research local herders’ livelihood level and teach to plant vegetables etc.
 7. Do monitoring every fall by the management plan, after counting wild animals with WCS, also, cooperation contract with WCS, Herder Community Group.
 - Marmot – group member B. Enkhbat
 - Deer – group member G. Batburd
 - Construction of “Ecological training center” and its activity – WCS, Group member D. Natsagdorj
 - Research local herders’ livelihood level and activities, teaching how to plant vegetables etc. – Environment protector B. Gantumur
 - “Ugtam management” plan, implement of this project – D. Natsagdorj and B. Gantumur

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- Then cooperate with Herder Community Group and WCS,
8. We hope that work will result well.
- Increase deer and marmot quantity every year and reach to normal.
 - The other animals will be protected and be free with no fear.
 - Herders educated with ecological training materials, treat, and take care to the nature.
 - In the future, our Ugtam natural resource place will be a friendly place to the wild animals and develop tourism.

Group name: “Zegstei”

1. Marmot, vultures, corsacs and vultures, white – tailed gazelle / *procapra gutturosa* / and deer need to be protected.
2. Marmot decreased much since 2000. White – tailed gazelle / *procapra gutturosa* / became fewer and its acclimatization changed because people hunt illegally and more. In addition, vultures, corsacs and vultures were hunted much, especially in the fall and winter because their skin price increased in the market.
3. Wild animals acclimatize distant from their own place, its cause transportation problem that we could not reach to take care and active environment protectors need to guard themselves.
4. However, there work herder group members, volunteer environment protectors to protect wild animals and nature. But it does not result well enough.
5. Local administrators need to define environment protection activity's frame. Volunteer environment protectors have to work by instructions and need to evaluate their work result.
6. Prohibit wild animal hunting for 2 years, control more and inform orally to the herders and the others by public press or TV.
7. Count animals closely to evaluate work result.
8. We try to work that result well.

Note:

We concern that white – tailed gazelle / *procapra gutturosa* / decreased much because many mining companies work in our country, that cause *procapra gutturosa*'s migration. Now there are many companies work in 1/3 territory of the Erdene soum. They do not protect wild animals.

Our group has two volunteer environment protectors.

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Group name: “Moilt”

1. Marmot needed to protect
2. Became rare and it has tendency to increase in last 2 years.
3. It is hard to protect animals from the illegal hunting and human unconscious activities affect a lot. Such as marmot, vulves corsac and vulves vulves need to protect.
4. Just control.
5. I think protection by fencing their territory is good that they can eat free and can be freely with no fear, because they will separate from the outside bad influences.
6. Soum administrators, environment protectors and herders need to unite protection activities and policies by contract. Do observing count.
7. Estimate achievement by certain animals quantity increase.
 - Research that animal’s constancy of acclimatization.
 - Try to stop illegal hunting.
 - Inform law to the herders.
 - Inform that animal and nature’s relation to the herders.
8. I think that work will result well.

Group name: “Ganga”

1. Ganga Lake protected area is naturally beautiful place with clean water. It is important that we should protect swans because swans decreased a lot which migrate in Ganga Lake.
2. 3 – 4 years ago, there was about 2000 – 3000 swans migrate and the lake was full with swans. Today they decreased a lot.
3. Lake water polluted because of tourist’s mess litters. In addition, pasture became worse and cattle increased which drink lake water.
4. However there works environment protection center, but it does not work good.
5. There is need to protect lake water pollution, develop and widen tourist activities, become migrate swans constantly.
6. Recover lake water, decrease soil erosion, improve protection and establish migratory and other bird research center.
7. Swans migrate in Ganga Lake.
8. It is convenient to live and raise swans when lake water pollution decreased. Moreover, swans might migrate a lot.

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Group name: “Buir Lake”

1. There is need to protect Buir lake’s fish and its minnows.
2. Fish growth decreased because black goose and **TURAG GOGOI** birds ate fish a lot.
3. - Buir Lake’s fish scarce a lot.
 - “Datchin” LLC works in Menen steppe for mining oil with many machines. It deteriorates pastures much and white – tailed gazelles became fewer.
4. Local protection is bad, we offer to protect this area strictly, but it does not solved.
5. – Protect fish and chase out black goose and **TURAG GOGOI** birds.
 - “Datchin” LLC need to use certain ways and its necessary to control its works.
 - It is good for white – tailed gazelles decrease. “Datchin” LLC need to decrease these gazelles scarcity.
6. - Chase out birds before they make their nest.
 - Government needs to add about this to the contract with this company and control.
 - Improve public control on this.
7. Count for estimate its certain circumstances. Also, count again after 3 years.
8. - Fish growth will be normal.
 - White – tailed gazelle’s life condition will be normal.
- Pasture deterioration and soil erosion will decrease.

Group name: “Chukh lake”

1. **Goal:** Herders near the Chukh Lake united volunteer in Chukh group to protect lake, its wild animals and pasture. Also, develop tourism in our country.
2. **Task:** This activity will provide area, which is located in the 730 km from the UB, 194 km from the Dornod aimag, Chukh soum territory near the Chukh Lake. In addition, it may widen to the nearest soum territories, such as, Kuhk Lake in the west, Ugtam, Dadal and Ulaanbaatar city.
3. We planned to plant trees to recover lake water and fence through the lake basin. Plant sea – buckthorn, black currant and yellow acacia trees in the north island of the lake.
4. Preserve pasture recourse.
5. Group members will control around the lake to protect crane, white – tailed gazelle /procapra cutturosa/, marmot, vulves corsac and vulves vulves from the illegal hunting.
6. Make information board near the lake, which is prohibit entering.

We, Chukh group herder members worked for 2 years to protect environment with following tasks.

1. Restore lake water.

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2. Plant trees, also fruit trees, such as, yellow acacia near the lake.
3. Fence pasture field to protect.
4. Protect wild animal resource.
5. Furnish camp near the lake.
6. Establish tourist camp.
7. Protect crane, white – tailed gazelle / *procapra catturosa* /, marmot, wildcat, badger, vulves corsac and vulves vulves from the illegal hunting.
8. Make information board near the water.

Answers of the research questions:

1. Crane, black goose, gazelle, roebuck, marmot, vulves corsac and vulves vulves.
2. – Marmot – decreases
 - Gazelle – local gazelles became fewer and migrate decreased in fall.
 - Roebuck – decreases
 - Vulves corsac and vulves vulves – became rare.
 - Birds – normal.
3. – illegal hunters increased.
 - Natural disasters, such as, drought affects to the wild animals.
 - People and cattle pollute water and pasture.
 - Communication /cell phone/ and transportation deficiency.
 - Poor legal knowledge and need to inform law on nature.
4. – Marmot – prohibited hunting for 2 years from the state and group members protect by contract and take care with horse riding.
 - Vulves corsac and vulves vulves – prohibited hunting from the Soum administrators, but it does not implement good enough.
5. – Protect wildlife living condition by naturally.
 - Leave pure nature to the future generation.
 - Protect nature's beauty and its relationship.
 - Keep ecological balance.
 - Herders income will increase when pasture grows well and cattle fatten.
 - Tour condition will improve.
6. – Prepare group plan to protect wild animals.
 - Volunteer environment protectors and herders need legal information.
 - Need to work with Bagh, soum administrators to protect wild animals from the illegal hunting and fire. Moreover, improve life condition of the wild animals.

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7. - Estimate achievement by quantity of the wild animals.
 - Group activity becomes constant.
 - Whether it made change in wild animal's life condition.
8. This results well.

Note:

We concern about our environment near the Chukh Lake because its water level decreases. We tried to restore it by the way that we bring water from the Ulz River and deep wells by channels. Unfortunately, it was not implement well because of financial problem. We hope that you can support financially our group protection activity.

Group name: "Delgermunkh"

1. Marmot, white – tailed gazelle / procapra cutturosa /, Kukh Lake fish, and strictly protected wild animals.
2. Marmot and white – tailed gazelle's / procapra cutturosa / quantity decreased a lot and its balance was lost.
3. Acclimatize marmot. Need to involve herders to the acclimatization activity by take care and incentive mechanism. For example, drivers need payment when trying to stop illegal hunting.
4. Herders protect marmot by contract. Environment protectors and polices control automobiles and penalize if needed.
5. Its important that there is need to herders protect marmot by their local citizenship. A protection wild animal is good for herders' livelihood level and ecological balance. Encouragement needed and restore spring and the rivers.
6. Advertise orally about wild animal protection to the herders. Increase herders' livelihood level.
7. – Oral inform to the herders about prohibition to sell marmot skin.
 - Contract herders take care for their area's wild animals.
 - Offer to solve to prohibit marmot hunting to the administrators.
 - Try to stop illegal hunting.
 - Prohibit gazelle hunting.
8. This may result well.

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Group name: “Buyant”

1. Marmot, deer, white – tailed gazelle’s / *procapra catturosa* / quantity decreases a lot and Buyant group members and the local administrators concern about it.
2. When marmot skin price was increased people hunt marmot early in the spring. It resulted that marmot quantity decreases. In addition, herders did not move to the other areas in last years, it caused deer and gazelle to become fewer.
3. - illegal hunting
 - Herders re- settles in the wild animal’s territory because of pasture.
 - There is no activity to protect wild animals from the local administrators.
 - Herders’ protection activity could not result well because everybody could not involve on it.
4. Group started to protect wild animals and pasture and gave pasture to the herders’ ownership. Our soum has just one environment protector, but it could not work well. Also there is no activity to protect wild animals in the aimag.
5. - Increase public involvement on wild animal protection. /training, meeting and informing/
 - Acclimatize wild animals, such as, marmot in the countryside and encourage herders.
 - Governmental and non- governmental organizations need to cooperate on protection of the wild animals.

Training and oral advertisement help to people to understand protection of the animals and they will involve this activity.
6. - Organizations, governmental or non- governmental, programs and projects, herder groups and the herders have to cooperate to that protection activity.
 - Advertise by public press.
 - Organize activities and involve herders.
7. - Organize wild animal acclimatization in Buyan – Owoo, Khundar with governmental organizations and other projects.
 - Make idea to love nature and wild animals to the herders. We will estimate it by the sociological research with questions.
 - If we advertise and inform well enough, other groups will cooperate with us.
8. Our work result after 3 – 5 years.
 - Animals, such as, marmot quantity will increase.
 - Increase number of the groups, which involve wild animal protection activity.

Group name: “Daguuriin shines”

1. We protect wild animals by contract and these animals need more protection.
 - Marmot, white – tailed gazelle / procapra catturosa /, antelope, vulves corsac and vulves vulves, and wild pig.
2. Marmot has tendency to increase, white – tailed gazelle / procapra catturosa / are in normal quantity since Oct 2003. Wild pig live in birch forest, but this forest fired and now wild pig became rare.
3. marmot protection difficulties:
 - Stop marmot skin industry
 - Poor transportation
 - No binoculars.
4. Group members protect animals in our area. Moreover, protection project members and our members cooperate with soum administrators by contract.
5. Keep natural beauty of our area and gain to increase wild animals. If we could keep natural balance and protect animals good, then our work will result well. It is good that we could increase wild animals and use legally.
6. – Stop skin industries are important. Group members could not work well because of financial problem.
 - Poor transportation and binoculars.
7. – Work as patrol
 - Contract to protect animals
 - Advertise
 - Make information board
 - Want to evaluate work result by the other specialists.
8. We evaluated that we work good.

Note:

However, ecological balance is normal and animals grow well, but human unconscious activities and natural disasters, such as, fire affect those animals. We tried to protect nature, but we have financial problems. Group members do protection by themselves.

Group name: “Dotuur bulag”

Brief introduction

Our group was established in 2005 and work for protect deer and ovis ammon in Darkhan mountain, fence rivers, pasture on salt marsh, organize nature protection trainings.

Darkhan Mountain is high in 1700m from the sea level, located in 20km west from Darkhan soum and occupies 6000hec area since 2002. This area was in plan of the Natural resource place in 2005, but it is not getting in that place until now.

There are mammals, such as, marmota sibirica, vulves corsa, vulves vulves, canus lupus, ovis ammon, procopra cutturosa and shrubbery, woody plants. Now there are about 60 ovis ammon and about 10 cervus elaphus. In 2005, there were about 100 ovis ammon and 30 cervus elaphus.

In last years, rain was poor and herders used pasture messy. Pasture deteriorated, white – tailed gazelle / procopra cutturosa / was decreased and rivers drained much. We concern much on it.

9. Deer, ovis ammon and marmot become fewer in Darkhan Mountain.
10. Deer is about 10, ovis ammon is about 50- 60 and marmot become rare.
11. Rivers in Darkhan Mountain drained because of drought and grass decreased. Ovis ammon become rare because foreign hunters hunted a lot.
12. We organize following activities such as, to restore rivers, pasture in salt marsh, prohibit marmot hunting and check constantly.
13. There is need to prohibit hunting ovis ammon, make incentive mechanism to the volunteer protectors and supply protection utilities. These are:
 - Binoculars
 - Transportation /horse/
 - Bodyguard utilities /stick etc./
14. Implement small projects on environment protection. Especially, protect rivers, acclimatization etc.
15. - Restore rivers, have constant water
 - Keep staying in this area when pasturing in salt marsh
 - Volunteer protectors will encouraged and become active when solve incentive problem
 - Work would become guarantee when provided by the transportation.
16. We hope that this work will result well. We need financial support.

Note:

- Provide volunteer protectors with license
- Involve volunteer protectors when implementing protection project
- Needed government support

Group name: “Shaazan Lake”

I think this is the basic activity is to activate group members participation to protect lake fish, steppe marmot, and white tailed gazelle.

9. Fish: keep lake water level normally. It is important that not to block lake water channels from the Kherlen River. Now these channels are became narrow because of soil and sand.
Marmot: there are only 20 marmots behind the Upper Enkh and grain field. It has decreased a lot.
10. Last years, lake fish and steppe marmots decreased a lot since 1990.
11. There is not any activity to protect these animals from the soum and local administration. In addition, there is illegal hunting.
12. Group members try to protect lake fish and steppe marmot in this area and try to stop illegal hunting. Joint control improved.
13. – activate wild animal protection
 - a. keep lake water level normally
 - b. Significance of this work is increase growth of fish and marmots in this area, and develops tourism near the lake; also, herders' income will increase etc.
14. The most important way to implement this work successfully is to activate and unite group members' involvement on protection wild animals. This will change herders' idea to treat nature and animals.
15. This work will result well when group activity become constant and group members united well. Now group activity is not became constantly.
 - There is need to organize training to support group activity and need financial support.
16. Now there works just one environment protector.

Note:

In addition, there is need to clean the lake water from the soil and sand to keep channels clean and constant; and to keep lake water level normally.