



ECOVOLUNTEER EXPERIENCE

Field research on Wolves

The Biological station "Chisty Les" of Central Forest Nature Reserve

RUSSIA - 2008

THE ECOVOLUNTEER PROGRAM

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As it is necessary for you in this project to be able to communicate in English (or in Russian), this text is provided only in English.

Annually, under the supervision of this researcher the text is updated. Nevertheless you may experience some changes in the field compared to the brochure text. It is inherent to wildlife research programs that during the operations incidentally changes are necessary because of unexpected results, behaviour by the wildlife, etc. Be prepared for such changes. (Last update November 2007)

PREFACE

In the Biological Station "Chisty Les" of the Central Forest Nature Reserve (CFNR) in Central European Russia, wolves live in one of their natural habitats, the taiga. The reserve is created in 1931 on 350 kilometres northwest of Moscow and holds a heart of 600 km² of vast forest. The biological Station was created in 1985 by the famous biologist Valentin Pazhetnov and it is located about 150 km west of the reserve.

In 1991 Vladimir Bologov took over the Wolf Project from his father. He is now supervising the project and the research on the wolves. Bologov is employed by the CFNR and he co-operates with scientists from Russia, Germany and Great Britain. To secure the continuation of his research he needs the help of ecovolunteers like you. You can participate in the research on the distribution and the behaviour of wolves by helping the researchers with their fieldwork: searching for footprints, faeces and prey leftovers of wolves.

The area in which you will be working holds a large diversity of typical taiga animals and plants. Next to wolves, you can find brown bears, lynxes, European minks, elks, and many bird species such as cranes, black grouses and black storks. The fir and birch forests are hardly affected by human influences and maintained their original structure and function. The forests alternate with rivers (with of course beavers) and raised bogs; a paradise for nature lovers.

No other animal species evokes such conflicting emotions as wolves do. Some people admire and protect them; others despise and kill them. The thought of being in the vicinity of wolves is exciting and certainly not threatening: the researchers often have difficulties to actually see the wolves. Also the farmers near the reserve seldom see them, as healthy wolves usually stay away from people.

Nowadays people realize that wolves are a very important part of nature and the image of wolves is changing, partly because of research and education. Research has proven that wolves have a regulating function within nature; the populations of predators and preys regulate each other, and that wolves are intelligent animals that live in family groups with complex social structures.

Participation in this project provides a perfect opportunity to you to learn how to 'read' and interpret nature. While you assist the researchers with their fieldwork, you will learn about the wolves and about the people who live in the small, traditional villages near the reserve.

Beware: the aim of the project is NOT to see wolves (though it is possible). The aim of these research expeditions is to collect data about the ecology of wolves. There is a small chance to see wild wolves. However, Vladimir sometimes has tame wolves in an enclosure and you can spend hours on the tower watching the behaviour of them and collecting data about wolf's day (night) activity.

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1 INTRODUCTION

For millions of years wolves and humans have lived closely together. As they use the same food-resources, there have always been conflicts between them. Recently, we have learned more about wolves and we started to appreciate them. Not long ago, wolves could be found on the entire Northern Hemisphere; in Western Europe the last wolf was shot less than 150 years ago. In southern and eastern Germany and the southeast of France small populations of wolves have been re-established. Because of their adaptability, wolves can survive in many different habitats, such as tundra, taiga, forest, steppe and semi-desert. Nowadays the only large populations of wolves are found in remote areas in North America and the former Soviet Union. Some small populations can be found in northern, eastern and southern Europe.

1.1 Wolves in Russia

The major threats for the wolves in Russia are hunters. In the beginning of the previous century, wolves in Russia numbered about fifty thousand, but during the revolution, the forties and the seventies many of them were shot. After the Second World War hunters dramatically diminished the population of wolves. Eventually the hunting of wolves decreased and their population started to grow again. Between 1971 and 1976 their number increased with 20% every year and grew from 2,500 to 8,000 animals (for European part of Russia). Today, the population size is stable and there is a small growth. Two families of wolves are found around Biological Station, your working area.

1.2 Research on wolves

In the last decades much research on wolves is done in America and eastern and southern Europe. Ecological research has been focusing on the behaviour of wolves towards their prey, and this research has resulted in a more positive attitude towards wolves. Tourists came to observe wolves, but unfortunately not everybody joined in this new trend. Sadly, specialized travel organizations still offer wolf-hunting trips to Eastern Europe and other wolf-areas.

In the Tver region of Russia in the Central Forest Nature Reserve, research has been carried out for the past 30 years using just tracking and howling. The research probably would not stand up to scientific scrutiny as it is based on thirty years of accumulative experience and thousands of collective kilometres of observation, not the methodical collection of data to answer a pre-prepared hypothesis. Without collars, the hypotheses are generated by the observation.

Central to the start of wolf research is the knowledge of the wolf pack territories and their borders. The research was originally started by Viktor Bologov, a game biologist who worked as a head ranger from 1974 until 1990 in the Central Forest Nature Reserve. He was able to begin unfunded wolf research as his work required him to spend time in the forest. Throughout his time as a ranger he walked over 30 000km, recording traces of and visual meetings with wolves. Their tracks were followed, and by imitating the howls, lairs and temporary dens were discovered. The wolf pack territories within the area were determined by connecting the most remote tracks from the den in a convex polygon to result in approximate demarcation. Based on prior knowledge of wolf behaviour, most prints found within the borders of each territory belong to the resident pack and so individuals could be recognised and their behaviour studied. Research without money or technology is possible: in Russia, it is proven. His son, who took over this research, offers you the opportunity to participate in it. Most of the fieldwork is still done in a traditional way and the researchers spend most of their time walking through the forests. You help them with their search for all kinds of wolf-trails, for instance, footprints, faeces and prey leftovers. When the howling of a wolf is heard, the precise location is charted. This way the researchers gain insight on the size of the populations, the migration routes, the hunting behaviour and the resting- and meeting-places of the wolves in the area.

The research on wolves continues today although it is now located approximately 150km from the main area of the Central Forest Nature Reserve in a small satellite site known as 'Chisty Les' Biological Station. The emphasis of the research has changed as the territory borders and the approximate den areas used by the wolves are already known. The single track of an alpha male crossing a stream in a particular area can indicate whether the pack is using the usual den site or not; the wolves' habits and movements are so ingrained that knowledge is almost instinctive. The study of an animal from scratch such as this, without the use of any technology, will probably not occur again.

1.3 On wolves

Wolf packs consist of three levels of importance to the wolf population as a whole. Of first importance for the present time is the breeding pair, the alpha male and female. Second are the wolves that are able to breed but do not as they do not have alpha status (non-breeding adults). However, should something happen to the alpha pair they could take on breeding status, therefore making them important for the future. Last are the pups that, until old enough to breed, are irrelevant to the survival of the wolf. The composition of these levels within a pack may change up to 30% annually (without human intervention) due to pup births and deaths, and natural immigration and emigration. These changes can be established by assessing the number and size of prints found within a territory each year.

Wolves are large canines that live in a *pack* with a strong social structure. They weigh between twenty-five and sixty kilograms. The leading animals, the *alpha-dog* and the *alpha-bitch*, mate for life. Wolves are physically adjusted to hunting, pursuing and killing prey larger than they are. Their long legs are fit to run long distances without a pause, even in snow. There is a large variety in appearance between populations of wolves that live in different habitats, for instance in body size, colour and markings. In Eurasia and America several subspecies originated. The most well known subspecies is the grey timber wolf of Canada and Alaska, the largest modern wolf. The colour of the fur varies from almost white to nearly black. Within a pack, many different colour varieties can be found, but the most common colour is greyish.

At night the wolves keep warm by wrapping their tails around their legs and noses. The warm air that they breathe out circulates around the legs and the air that they breathe in is heated up first. In the European part of Russia, the common European wolf is found. This subspecies is of average size with a short, rough, mostly grey fur with some black and brownish colour. They live in small families of about seven animals: a father, a mother and the cubs from the last season. The family stays together for about ten months. During the winter the young of the season before last sometimes join up with the family again.

1.3.1 On the trail of wolves.

Tracking is best carried out during the long winters when snow cover occurs for up to five months. Throughout the time of research, it was found that wolves generally travel about 17 kilometres per day in the winter (the distance in summer is not known as long-distance tracking can only be carried out during snow). By human standards this could take all day; for wolves this is just several hours of travelling. This means that for the rest of the time they are not very active and are not the constant travellers often portrayed by films. Observations of hand-reared wolves over three years appear to confirm this.

Everything that indicates the presence of wolves is called a trail. Visible trails are for instance, footprints, faeces and prey leftovers and an audible trail is the howling of wolves. Field research on wolves mainly consists of looking for and analyzing these trails. The most difficult aspects of this research are:

- 1) *Identification*: Is it the trail of a wolf or of a wild dog, or that of a hybrid between a wolf and a dog? Is it maybe the trail of a bear or a lynx?
- 2) *Interpretation*: What was the animal doing?

The trails give us information about prey preference, migration routes, food intake, group size, group dynamics, etc. It is important that the trail is still fresh and the trails are easier to identify when several trails are found at the same location. The Russian researchers will point out the different characteristics, so you will learn to identify the trails of different species, such as lynxes, bears and elks. You will not only learn much about wolves, but also about many different other animals. The way the researchers identify and interpret the trails almost seems some kind of 'Art'. When you also want to acquire these skills, you will have to participate in the research for at least two months, as it is not possible to master this 'Art' in a few weeks.

1.3.2 Locomotion and footprints

Wolves can walk or run for hours at a stretch: seven kilometres an hour when they walk and fourteen kilometres an hour when they run. They can run up to sixty kilometres an hour when they are in pursuit, but they can only keep this up for twenty minutes. When they are hunting they sometimes cover more than one hundred kilometres a night.

The footprints of wolves tell us something about the number of wolves and whether they are adults or juveniles. Several outside influences can affect the trails: footprints are more distinct on a soft soil than on solid grounds and the sun often enlarges footprints in the snow.

Wolves are so-called *digitigrades*; they walk on their toes. The soft callosities and non-retractile nails make their feet well adjusted to walking on a rough, rocky ground. Bristly hairs around the callosities provide some insulation and also a firm grip on slippery ice. The callosities and the nails together form the footprint. The middle toes are placed a bit further to the front than the side-toes. Compared to the print of a dog, that of a wolf is more elongated. The footprint of a lynx is easily distinguished from that of a wolf by the round form and the absence of nails (lynxes have retractile nails). The relatively large front paws of wolves prevent them from sinking in the snow, as the body weight is evenly spread over the four legs. Because of the narrow chest, the forelegs and hind legs are in line with each other. When a wolf runs, it puts its hind paw on the print of its forepaw (the prints of dogs are next to each other). The size of the footprint depends on the size of the wolf, the soil and on the way of locomotion.

When a wolf walks over mud or snow, the toes are slightly spread which results in a larger footprint. 'Reading' the footprints and traces of various animals, especially in fresh snow, is well developed in the reserve. You will find scientific researchers and local rangers quite experienced in interpreting the animal behaviour from the footprints.

1.3.3 Foraging and faeces

Hunting techniques, group size and the availability of food all mutually influence each other. Although their diet can consist of small animals, like rodents, and vegetable food, like fruits, wolves are specialized in hunting large ungulates. In the Central Forest Nature Reserve the wolves feed on elks and boars in winter, but they are rather opportunistic animals that will eat whatever is available, for instance, hares, mice, beavers, plants, berries and even fish. Analyzing the faeces discovered this.

For scientific ease, the diet of wolves is normally grouped into the percentages of different prey found in x number of wolf scats. What is little known is that the diet of wolves varies not only among territories, but also individuals within a pack. Within the reserve, faeces were never closely examined by the rangers (understandably), but simply glanced at to establish what obvious remains were present as moose, beaver, dog and livestock are easy to identify. The wolf prints were then tracked back to the carcasses to gain insight into their diet.

The three wolf pack territories on the reserve covered different habitat types. It was found that whilst the adults and pups of all three territories lived on a diet of predominantly moose, the non-breeding adults within the packs sometimes hunted separately and therefore had a different diet, the contents of which were determined by their territory. (In Russian, these small bands of individuals are known as 'staya', as opposed to the entire wolf pack which is known as the 'semya'). The first pack's territory was mostly off the reserve and buffer zone border and contained a large network of roads which hunters used. Three members of the resident pack were found to scavenge the remains of moose killed by hunters, although as far as was seen, the alpha pair did not scavenge. The second territory contained two villages on its border but no roads within it, and three of the pack preyed on loose dogs in the villages. The final territory also contained few roads but housed many streams, and beaver formed part of the diet of two individuals (interesting in that once the remains of the first seen beaver kill by these individuals was discovered, seven more were found in two weeks. After this, beaver became a regular part of these individuals' diet. This is typical of the opportunistic hunting nature of wolves; novel prey will be tried and if successful, the hunts repeated). These observations of separate feeding activity fly in the face of the traditional idea of a wolf pack as a mutual prey-sharing entity; kills are obviously not always commonly distributed.

The leftovers of a prey tell something about the predator that killed it. Wolves usually take hold of the hind legs of a large prey and start eating near the bowels or the thighs. Lynxes on the other hand bite their victim in the neck and strangle them. The nails of the lynx often leave deep marks on the back of the prey and sometimes you can even see the four small imprints of the canines. Bears tear up the carcass and leave few remainders. Also the trails around the carcass can tell something about the predator; the trails of bears are easily distinguishable from those of wolves. When a carcass has been lying there for some time, several different animals often gnaw it. This makes it difficult to determine what animal killed it. On the location of the killing many trails can be found, such as, footprints, tufts of hair and blood, but these trails fade away after some time.

1.3.4 Communication

Communication is very important for wolves, both within the pack and between the packs. Co-ordination between the animals is essential and wolves have several ways of signalling each other. Their most important signal is smell, and wolves have scent glands that secrete a personal odour, a kind of fingerprint. Wolves use the odorous in their urine and faeces to mark their territory, which is about three hundred km². They not only mark the borders of the territory, but they also mark every ninety meters of their trail. In winter these marks are easy to spot in the snow. The anal glands around the anus release their secretion on to the faeces.

Next to this marking, the wolves make their presence known by howling. In former times this typical wolf sound was considered sinister and scary, but nowadays people appreciate it as being the characteristic 'music' of the wild. Wolves can howl individually or as a group. By howling, the hunters keep in contact with their pack, and the packs inform each other of their whereabouts. When other wolves or packs are nearby, they will usually respond. A wolf that is about to leave its pack to start one of its own, howls to attract other 'lonely' wolves to form a pack with. Young wolves start to practice howling when they are still puppies, but they only acquire the real choir-howling when they are about two years of age. The howling-concert usually starts at dusk and it continues for fifteen minutes. Depending on the direction of the wind it can be heard on a distance of two to three kilometres. The howling apparently is not very species specific, as wolves (especially the young ones) also answer the 'howling' of the researchers and the bells of a church. Chances are that you will hear the howling of wolves when you are in Russia. When one wolf starts, other wolves will soon join in and a symphony of many different pitches arises. The show ends as sudden as it started and leaves an overwhelming impression on the human listener.

1.3.5 The new generation.

The rutting season starts in January and in spring four to eight cubs are born. Wolves regulate their own population size: when food is scarce the litters are small and when food is abundant the litters are large. The mother to be withdraws in a den she dug herself and the other pack members guard the entrance. After the cubs are born, she stays inside the den for three weeks and the other wolves provide her with meat. When the eyes of the cubs open after ten to fifteen days, they are a bright blue colour. The eyes turn to the characteristic yellow colour after three months. When the cubs come out of the den they are very active and playful. By playing with each other and with the adults they learn everything there is to know about being a wolf. In summer the pack moves from one place to another and often stays at open places in the forest near water. In October the cubs accompany the adults on their first hunting-trips and after much practice they can participate in the hunt themselves. The cubs are fully-grown and sexually mature at twenty months of age.

Within the reserve, it was found that breeding wolf pairs have a preferred denning area of around 20 square kilometres in which to give birth to the pups, although the actual den itself could be anywhere within this area. The pups tend to stay within the area up until late August or the beginning of September, after which they start to follow their parents throughout the territory. It is well known that the pups are left in areas while the parents hunt, commonly termed 'rendezvous sites'. Research on wolves is easier during the breeding season as the pups tend to stay within these sites for certain lengths of time and the parents return regularly, as opposed to winter when they tend to move and rest in different places every day.

At the time of the research, three adjacent wolf pack territories lay within the Central Forest Nature Reserve and buffer zone borders. As the wolf density within the region was fairly high, the territory margins were relatively fixed. Rare to that year was the discovery of the den areas of all three wolf packs, established by a mixture of tracking, howling and the checking up of reports from rangers.

2 LOCATION

You will be located in the Biological Station "Christy Les".

This Biological Station belongs to the *Central Forest Nature Reserve* but it is at 150 km distance from the reserve. From time to time Vladimir also works in the reserve and therefore there is a small chance that you will not only be located at the Biological Station.

2.1 Biological Station "Chisty Les"

Since 2001 the project located on Bubonitsy - main village of the Biological Station. In 1985 the Forest biological station "Chisty Less" = "Clean Forest" was created by the famous biologist Valentin Pazhetnov on about 150 km west of Reserve. The nearest town is Toropets, the oldest town of Russia, with many archaeological and historical remains. The primary aim of the station is to study brown bear and wolf ecology. The station focuses on research and rehabilitation of brown bear and wolf orphans, harvested by men at the age of birth up to three and half months old. This has resulted into 105 bear-cubs being set free into the wild in the last 28 years. Since 2001 18 wolf-pups were released back into forest.

Previously, from 1975 on, studies on brown bear behaviour in natural conditions already have been made in the Central Forest State Reserve. Items of study on the orphaned bear cubs were the development of defensive behaviour over food, orientation skills, social relations and nest-building activities. This research resulted in the description of complicated biological forms of brown bear behaviour. The following years the studies on cub behavioural development were continued on the Biological Station. This research provided the foundation for the development of a method for brown bear orphans reintroduction into the wild.

The successful adaptation of the released bear-cubs to the natural conditions resulted in a follow-up with six captive-born bear one-year old cubs. In 1997 and 1998 these cubs were equipped with radio-tags in the ears before setting them free (two bears every year). The batteries operated up to three months. These bears were registered time and again during that period and some of them were repeatedly registered in the following years. The two primary survival factors for the rehabilitated bear orphans appear to be a firm display of fear towards humans and the ability to forage in nature.

As the bears are orphans they did not have the opportunity to be educated by their natural mother and to develop their behaviour through imitation. But apparently the rehabilitated orphans are able to accumulate sufficient fat for wintering, to build a den that is not different from a den of a wild bear in the same district. These orphans did not run into problems and they were able to winter successfully.

Apparently the developed method for rehabilitation of bear cubs, both wild-born and captive-born cubs, for reintroduction into the wild is successful. These results may in future prove to be important also for working with other, rare species of bears.

2.2 Central Forest Nature Reserve

In the southern taiga of Central European Russia the *Central Forest Nature Reserve*, CFNR, is situated. The reserve is on about 350 kilometres northwest of Moscow and measures about six hundred km². Reserve located near Nelidovo – one of typical small provincial towns of Tver region.

Within the reserve is a heart of more than two hundred km². In 1931 the area was declared a strict reserve: any human activities except for scientific research are forbidden since then. The use of pesticide and herbicides is prohibited within one kilometre from the reserve. The activities of farmers, hunters, fishers and mushroom-collectors are controlled by the reserve supervisors and are allowed (with limitations) in the buffer zone. Forests, marshes and raised bog dominate the hilly landscape. The highest altitudes are 220 to 270 meters and the climate is temperate.

According to the geographical degree of latitude comparable with Denmark in Western Europe, one would expect to find deciduous forests in stead of the typical southern taiga. Firs occupy half the reserve. The pine-trees (10%) mainly grow on the transitions between forests and marshes. There are also some deciduous trees, such as birch (28%), trembling-poplar (12%) and some alder trees. Within the reserve 546 species of plants are found: 16 species of trees, 22 species of bushes, 12 species of dwarf-bushes (many of them fruit in autumn) and 490 species of herbs and grasses. People have had hardly any impact on this reserve forest; the original structure and natural function is still intact, although there are some traces visible of natural storm damage and forest fires. Because there is hardly any pollution of the water or the air and the environment is very stable, this area is an example to the whole central part of European Russia. In 1985 the CFNR received the UNESCO-status of Biosphere-reserve and it is now a scientific research area where many people are at work. The research focuses on the preservation of endangered plant- and animal species.

The reserve is the source for rivers flowing to the Baltic, the Black Sea and the Caspian Sea. Nearby is the origin of the Volga and the Zapadnaja Dvina as well. Also, the area has no serious pollution problems, and it is said you might even drink the water of the smaller rivers in the reserve.

Next to the wolves, the brown bear, the lynx, the European mink, the marten, the otter and the beaver are completely protected. Fifty-five mammal species live in this area and 240 bird species, such as the wood grouse, the black grouse, the hazel grouse, the white grouse, and the black stork, cranes and birds of prey (eagles, owls). Also five species of reptiles and six species of amphibians are found in the area.

The research covers the whole reserve. In the winter of 2003-2004 two families of wolves lived here, with seven and five individuals respectively. The territory of one family measures about five hundred km². After the seventies only a few isolated, remote areas remained with more than ten wolves per thousand km². From here, the wolves dispersed again in the eighties and the nineties and soon they occupied their original habitats again. There was enough food for the wolves and their population grew, but at the same time wolf-hunting still continued.

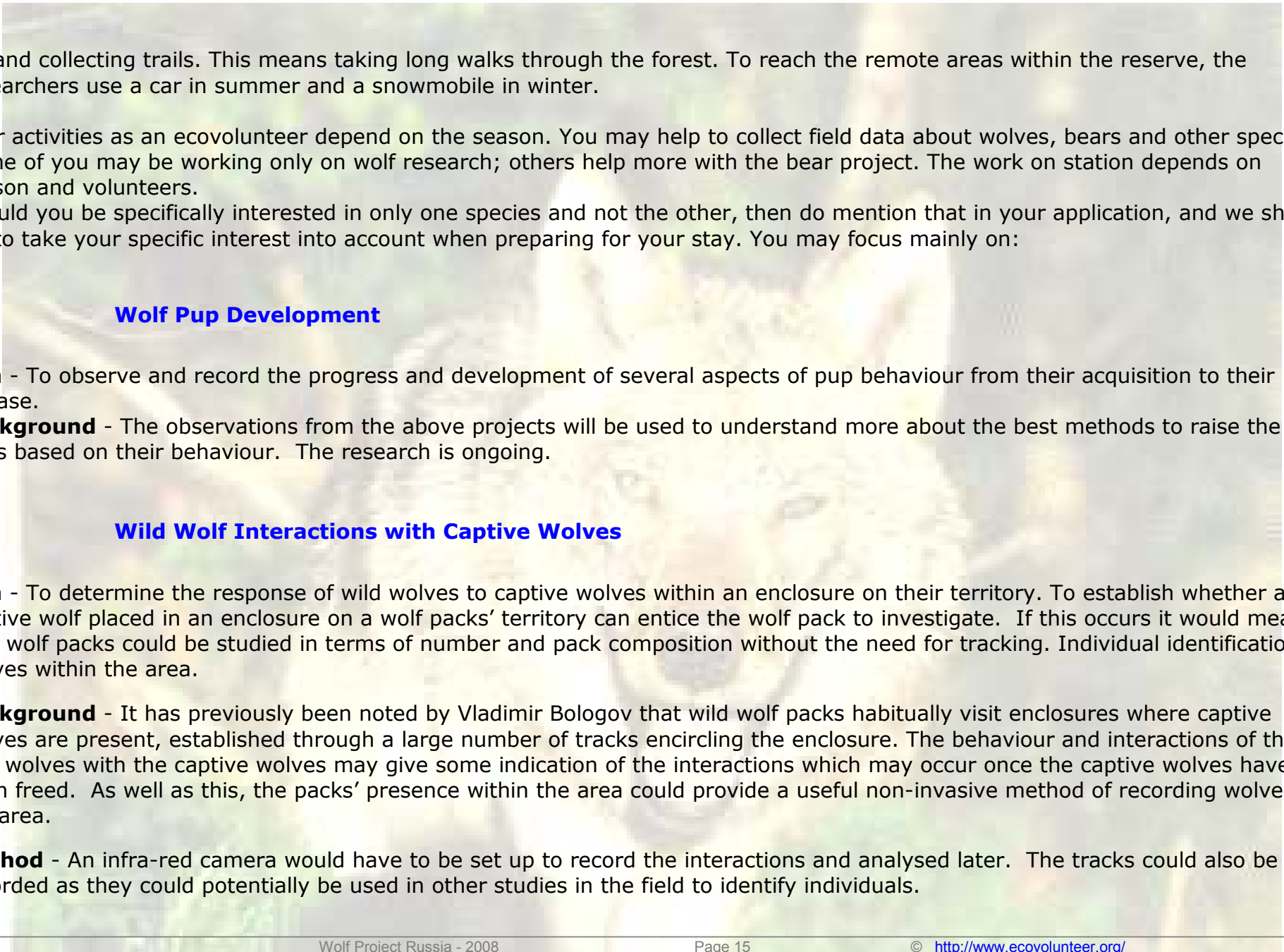
3 THE WOLF PROJECT

In Russia wolves are not protected by law. They are hunted all year round through shooting, traps, poison and den hunting. The government pays a bounty for every hunted wolf which is the same for both adults and pups. After getting the bounty the pups are often sold for more money (up to 100 US\$) to private zoos or to people who want a wolf as a pet. Those that cannot be sold are killed. The project's aim also is to save 5 - 7 wolf pups per year from that fate by buying them and then raising and returning them to the wild, although this depends on the availability of pups and funding. This work is based on 10 years of experience and has resulted in 8 pups being successfully rehabilitated. The pups are raised with minimal human contact to give them the best possible chance of survival when released. This work is combined with research into both wolf ecology and the practical management of the human/wolf conflict in the surrounding regions. The results are communicated to the public through environmental education to the locals and their children. More than 500 children per year attend a two-week summer ecological school or wildlife project days based at the biological station. This research and education, combined with the rehabilitation of the wolf pups, is the first step towards the aim of the abolition of the bounty system and introduction of a 'close season' for wolves during the time they have their young.

Biologist Victor Bologov started the wolf research in 1973. After he retired in 1991 his son Vladimir Bologov continued his work. Vladimir works as a scientist for the CFNR, together with other scientists from the University of Moscow and other countries. To be able to collect as much data as possible, he called in the help of the Ecovolunteer Program. The project focuses on the research on wolves in the area. The main goals of the research are:

- 1) Collecting data on the activities of the wolves in nature, e.g. trails, preys and faeces. This is done in the frame of the long-term investigation on the monitoring of the population structure and biology of the large predators (wolves, lynxes, and bears).
- 2) The wolf research include: tracing of wolf families that live in the area around Biological Station at the north-west side of the Tver region.
- 3) During the fieldwork the exact number of wolves within the families, their sex and age are determined. The main routes of local migration and the migration distances at the individual territories are studied. Also some research on feeding activities is done (amount of domestic and wild preys).
- 4) Day-to-day description of nature is the main task of all researchers in the World. This description includes meteorological observations, seasonal changes of vegetation, records of all species of plants and animals, population survey, etc. Your observations might become part of this.

During the research, most of the time is spending in the forest and the researchers use mainly traditional fieldwork methods. There are no financial means to purchase for instance radio-telemetry equipment, so most of the fieldwork consists of searching



for and collecting trails. This means taking long walks through the forest. To reach the remote areas within the reserve, the researchers use a car in summer and a snowmobile in winter.

Your activities as an ecovolunteer depend on the season. You may help to collect field data about wolves, bears and other species. Some of you may be working only on wolf research; others help more with the bear project. The work on station depends on season and volunteers.

Should you be specifically interested in only one species and not the other, then do mention that in your application, and we shall try to take your specific interest into account when preparing for your stay. You may focus mainly on:

3.1 Wolf Pup Development

Aim - To observe and record the progress and development of several aspects of pup behaviour from their acquisition to their release.

Background - The observations from the above projects will be used to understand more about the best methods to raise the pups based on their behaviour. The research is ongoing.

3.2 Wild Wolf Interactions with Captive Wolves

Aim - To determine the response of wild wolves to captive wolves within an enclosure on their territory. To establish whether a captive wolf placed in an enclosure on a wolf packs' territory can entice the wolf pack to investigate. If this occurs it would mean that wolf packs could be studied in terms of number and pack composition without the need for tracking. Individual identification of wolves within the area.

Background - It has previously been noted by Vladimir Bologov that wild wolf packs habitually visit enclosures where captive wolves are present, established through a large number of tracks encircling the enclosure. The behaviour and interactions of the wild wolves with the captive wolves may give some indication of the interactions which may occur once the captive wolves have been freed. As well as this, the packs' presence within the area could provide a useful non-invasive method of recording wolves in the area.

Method - An infra-red camera would have to be set up to record the interactions and analysed later. The tracks could also be recorded as they could potentially be used in other studies in the field to identify individuals.

3.3 Ecology of a Closed Habitat (Long term)

Assessment of changes to territory borders needs to be done during snow (Dec – April)

The general stages of the project (i.e. monitoring of kills) are done year-round

Aim - To determine the interactions (both direct and indirect) between wolves, humans and prey within and around a wolf pack territory.

Background - Wolves and humans are essentially ecological competitors. They capture the same prey and occupy the same space, and it is this competition which eventually leads to conflict. A long term study over a period of several years could result in valuable information regarding prey fluctuations caused by either wolves or humans, and movement of the wolves in response to these fluctuations. Other aspects could also be studied such as the indirect effects humans have on wolf behaviour through activities such as logging and agriculture. The analysis of the close proximity of wolves to human settlements (by noting tracks near villages) will provide information on whether increasing wolf presence is correlated with domestic animal predation.

Method - The first phase of this project will involve the mapping of the study area. A wolf-pack territory needs to be determined (this will be done with help from Vladimir Bologov who has prior knowledge of wolf distribution within the area) by analysing tracks and establishing a territory based on area use. The centre of the territory will be determined as the area most often used by the wolves.

Once the territory boundaries have been established a digital map of the area can be generated using GIS, showing roads, streams, territory border, human settlements within the area, temporary roads (for example tracks used only in winter), clear cuts, fields and their use etc. This will enable an indication of wolf movement based on landscape ecology and changes.

The final aspect of this project will be to record annually prey species and number (this can be done in winter based on track numbers), kills made both by humans and wolves (both wild and domestic), changes to the landscape (such as agriculture and human settlement changes), territory expansion or reduction and pack changes. Within a few years patterns of human and wolf movement should begin to emerge.

3.4 Success of Rehabilitation Program

Depends on wolf numbers released- but would be an ongoing study from the time of release in April

Aim - To establish the success of the rehabilitation program through the monitoring of released pups.

Background - Between 2001 and 2006 18 wolves have been released into the wild after being hand-reared by Vladimir Bologov. Two of these were killed by wild wolves; however for the rest no information is available. There is some information regarding their survival through tracks but no other information can be gleaned such as diet, territory and migration. If GPS collars can be acquired then their behaviour after release can be recorded as well as variations between the behaviour of them and wild wolves.

Method - If GPS collars can be acquired it would be a simple task to collect the data and plot it on a map, super-imposed on data collected from wild wolf tracks to assess the difference in movement.

3.5 Wild Wolf Howling During Breeding Activity

May to Aug/Sept

Aim - To establish the howling activity of wolves during the breeding season and assess whether different breeding packs can hear and respond to each other.

Background - It is well known that wolves howl, however, it is little studied or known why they do. To hear the howls you need to be in fairly close proximity to the wolves; in order to get a more accurate picture you need to be in close proximity for a lengthy period of time, not always easy as wolves move around. The breeding season (May – September) is ideal to study them as there is no danger of the wolves moving half-way through the study. They howl less in the breeding season but it is not known whether breeding packs hear and respond to each other as their dens are so far apart it is impossible for the human ear to distinguish responses (approximately 20-30km apart). By staying near the dens, time, duration, frequency and distance from camp of howling can be recorded and compared with notes from other dens to establish whether a pattern of howling activity emerges.

Method - A minimum of 2 volunteers per den will be camping between 500m and 1km away from different dens to record the frequency, time, duration and distance from camp of wolf howls simultaneously. This data will be collated to establish if a pattern emerges. The howls could be recorded using a microphone to establish more information.

4 HOW YOU CAN HELP

You are welcome to participate in the project. The project depends on the help of people like you, as it is difficult for them to collect enough data otherwise. You can participate in the activities mentioned on the previous pages.

You should realize that you are participating in an ecovolunteer project, not in an outdoor sports holiday. The needs of the project will decide what has to be done and when and where it has to be done. During working hours you are supervised by the project management. The accommodation is not luxurious, but sufficient; bathing and cooking facilities are available.

You must have a positive attitude towards living and working in a small international group of enthusiastic people and take the responsibilities that this way of life holds. Please be aware that the living circumstances allow little privacy. Your stay at the project will be rather primitive compared to your way of life at home.

It is important that you realize that the station is not a professional tourist organization, but a Russian nature conservation institute. You can expect good and friendly supervision and co-operation from your colleagues. The atmosphere at the project is informal and relaxed and by mutual arrangement many things are possible.

Walk on the ruts up to 20 km per day, register and put on the map footprints of wolves, bears and other animals. To spend time on observe tower get dates on 24-hours activity to observe for wild and released bears.

4.1 Activities and possibilities

You participate in the research on the distribution and the feeding behaviour of wolves.

Your activities will mainly consist of taking long walks through the forest in search for trails that indicate the resting- and meeting-places of wolves. You will be looking for faeces (for the feeding behaviour research), or for footprints of wolves and other large mammals, or for leftovers of preys (for the research on the physical condition of the prey).

Sometimes you may even actually spot a wolf.

During these searches you can enjoy the beautiful nature of the European-Russian taiga. When you participate in this project, you will be surprised how much you can learn about nature by observing very accurately. It gives you the opportunity to experience all aspects of nature and to learn about the conflicts between humans and wolves in a remote area where the people still live a traditional life.

4.2 Itinerary

First day

Meeting in Moscow (Saturday) or Staraya Toropa (Sunday) train station, transfer to the project location the Biological Station "Chisty Les" (five-six hours drive by car from Moscow or one hour from train station).

First week:

Training for field work. You will learn practical skills on the field work that have to do with safety precautions and survival in the forest, determining and identifying track of animals, how to work with a map, compass and GPS (global positioning system), how to arrange a camp in nature, how to start a camp fire etc.

Sunday

Free day (maybe have a try out for the Russian sauna).

Second week (and following weeks):

Actual field work.

Each field work week needs to be reported on by writing in English a report.

Penultimate day:

At the end of each week fieldwork is reserved for report writing by you according to instructions by the researcher.

Last day:

Departure and transfer to Moscow.

5 TRAVEL INFORMATION

5.1 Dates

(Excluding travel to and from Russia): as specified on the website <http://www.ecovolunteer.org/> or your national ecovolunteer website (see: <http://www.ecovolunteer.org/contact.html>).

For long(er) term applications individual dates can be set, subject to approval by the project management. Try to plan your arrival and departure dates to be Sundays.

5.2 Duration

A minimum of two weeks.

5.3 Capacity

Maximum five ecovolunteers at a time.

5.4 Prices

As specified on the website <http://www.ecovolunteer.org/> or by your national booking office.

Applications for this project have to be made at least five weeks before scheduled date of arrival.

5.5 Included in the price

- Accommodation (see below)
- All meals (see below)
- Supervision
- Participation in the project in accordance with this brochure
- Advice about personal travelling necessities and literature

5.6 Not included in the price

- Travel / Flight to and from Moscow, additional hotel in Moscow when needed
- Transfer from Moscow to the biological station v.v. (see below)
- Passport / visa (see below)
- Travel- and cancellation insurance (all participants should carry both; see below)
- Personal expenses like telephone bills, souvenirs, etc.

5.7 Language

Very few people in this area of Russia speak any English or German. Be prepared for problems in communicating with the Russian people. Also staff may not be fluent in English. Be prepared for this and be not afraid to show initiative by yourself. Passively waiting till others take care for you is not a rewarding attitude in this project.

5.8 Attainability

The project has telephone and Internet, but you should prepare your family at home for actually not being able to reach you during your stay at the project. The connections with the project often are problematic, even when tried within the country from Moscow.

In case of any emergencies at home, please have your folks inform your booking office. Through the Ecovolunteer Network your booking office can try to establish contact through special contact person in Moscow, for whom it will be easier to contact the project than for people from outside Russia.

5.9 Accommodation

Simple double and single rooms at the research station. During fieldwork a small wooden house or, in summer, a tent is used (please bring your own sleeping bag).

Accommodation will be in the family home during winter in 2-bed rooms so privacy is minimal. The house is heated by wood stoves. In the summer research is often carried out in the forest and so you will stay in tents. When there are several volunteers/students at the same time you may stay in a self-contained house about 4km away from the main station. All accommodation has electricity.

Sometimes Russian families take in ecovolunteers. This gives you a unique opportunity to learn more about the Russian way of life. Living circumstances will be rather primitive compared to western standards and do allow little privacy. On the other hand, the Russian tradition of hospitality can be stronger than in many western countries.

You will be offered three Russian meals a day and a snack during fieldwork.

5.10 Food

When camping or staying in the self-contained house food is cooked by yourselves. A list of items required can be given to Vladimir who will purchase them for you. Many items such as milk and eggs can also be bought from the local people (as well as vegetables in the summer). When staying with the family food is generally self-service. Eating is Russian-style; you eat when you are hungry as there are no fixed mealtimes. Meals usually consist of rice, pasta or potatoes and some meat; soup is also often cooked. Meals are mostly prepared without meat so vegetarians can survive, albeit simply.

5.11 Flights

You will have to arrange for your own transport from home to Moscow and back. Your booking office can inform you on the flight possibilities for you starting from your country and if necessary, provide you with tickets.

5.12 Transfer Moscow to the project

You will have to travel to Moscow, Russia independently. There are two ways to travel from Moscow to the project location, independently and also a pre-arranged transfer from Moscow by car may be possible. You will receive detailed information on this from your booking office after booking.

Should you want to drive with your own private car independently in Russia to the project, then be advised that this will not be easy, as indications for directions and route often fail along Russian roads, and local people on the countryside usually do not speak any language other than Russian. So make certain that you are well prepared for that.

5.13 Insurance

You are required to carry both travel insurance and cancellation insurance that fully cover for all costs of illness, rescue and repatriation. The Ecovolunteer Program and the wolf project and their employees will accept no liabilities that could have been covered by travel insurance and / or cancellation insurance. Your booking office may provide you with information on the availability of these insurances in your home country and may provide these insurances for you.

5.14 Passport and visa

You (or your booking office) will have to arrange for a visa independently. Your booking office will inform you on the requirements and prices for obtaining a valid visa for participants with your nationality.

5.15 Conditions for participation

This project is suitable for everyone who has a normal physical health, who can walk long distances and who can ski (in winter). You must speak English or Russian and you must be between 18 and 50 years of age. The maximum is not fixed but as the work can be extremely physical (you may need to hike up to 20km per day or cross-country ski in the winter) you need to be very fit. You should be committed to nature conservation and animal protection and have a positive attitude towards working with people from different countries. When you have a hearing problem or when you are very overweight, you may experience some problems during this project.

5.16 Climate

The climate in Russia is continental (temperate). Temperatures fluctuate between -30 degrees Celsius in winter and +30 degrees Celsius in summer. The amount of precipitation is almost the same as in Western Europe, but in Russia a large part of it is

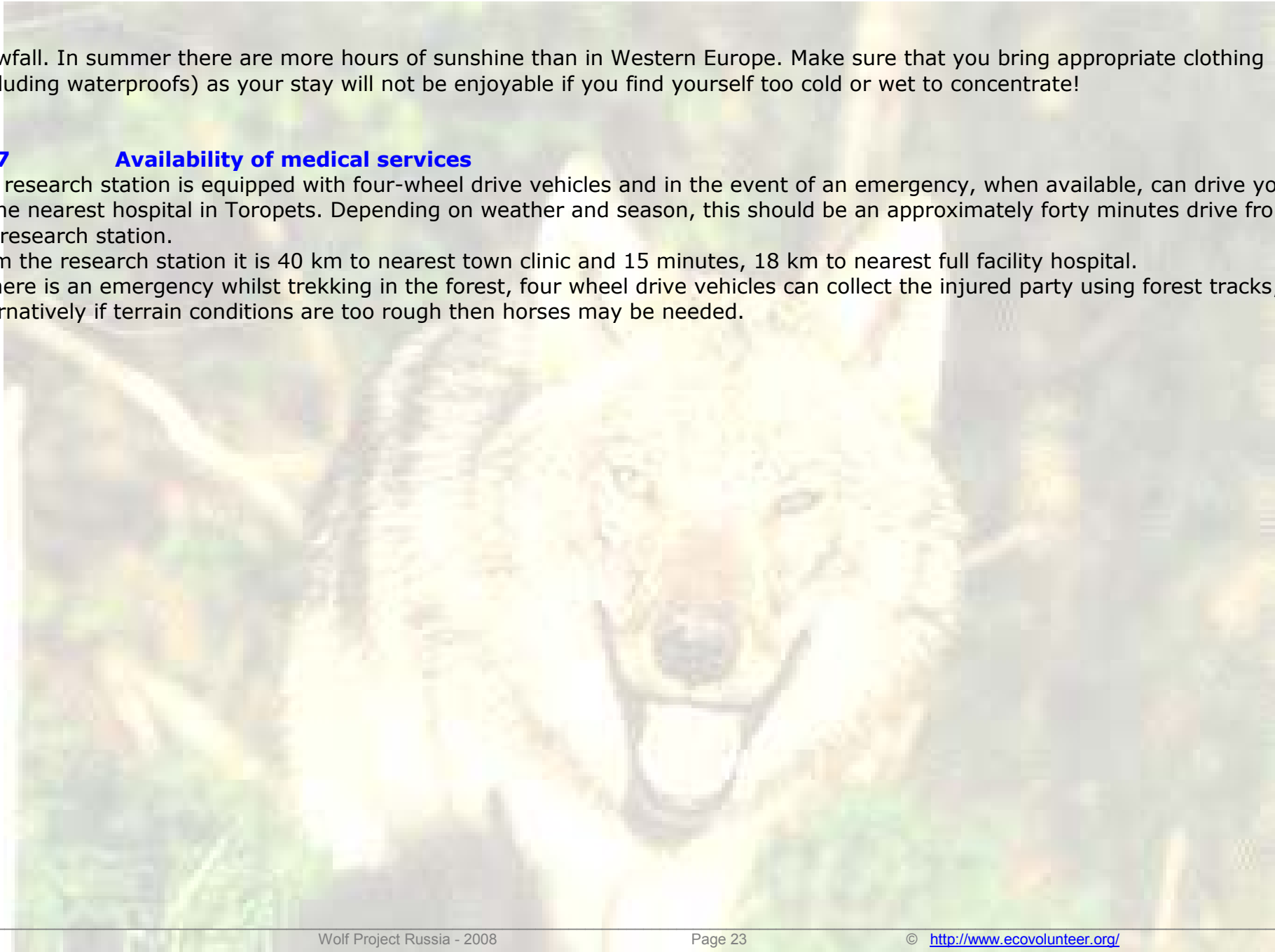
snowfall. In summer there are more hours of sunshine than in Western Europe. Make sure that you bring appropriate clothing (including waterproofs) as your stay will not be enjoyable if you find yourself too cold or wet to concentrate!

5.17 Availability of medical services

The research station is equipped with four-wheel drive vehicles and in the event of an emergency, when available, can drive you to the nearest hospital in Toropets. Depending on weather and season, this should be an approximately forty minutes drive from the research station.

From the research station it is 40 km to nearest town clinic and 15 minutes, 18 km to nearest full facility hospital.

If there is an emergency whilst trekking in the forest, four wheel drive vehicles can collect the injured party using forest tracks; alternatively if terrain conditions are too rough then horses may be needed.



6 TRAVELLING NECESSITIES

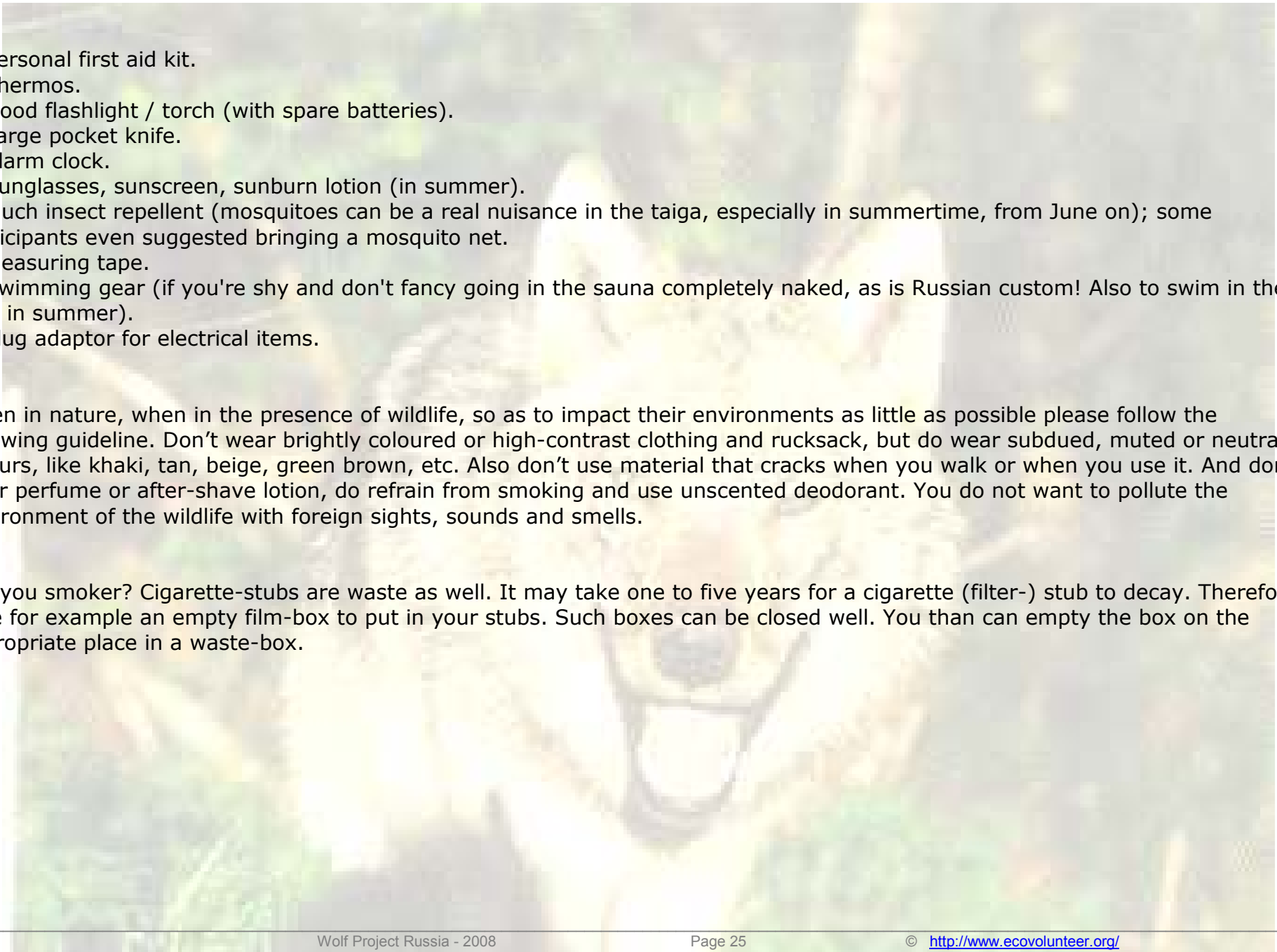
You do not need a special outfit, but you should keep in mind that you are spending much time in woody and marshy terrain. Strong walking shoes with grip soles (for instance softwalkers) that support the ankles are an absolute must. In spring, summer and autumn you are advised to bring rubber boots with grip soles.

It depends on the season what kind of clothing you should bring. In autumn, for instance, the morning temperatures fluctuate between -5 degree Celsius and +5 degrees Celsius. In winter the temperature can drop to -30 degrees Celsius. As there often is a large change in temperature during the day, it is advised to wear several layers of clothes so you can take of a layer when you are getting warm. It is strongly recommended that you bring waterproof and windproof clothing. In the winter it is best to dress in layers, making sure that the outer layer is waterproof. In spring and summer it is warmer but mosquitoes are prolific and so long sleeves and trousers are preferable. Good, sturdy walking boots which have already been worn in are essential.

On request of the supervisor of the project, we advise you to bring your own sleeping bag and enough warm clothes.

Below, you will find a list of some items you are recommended to bring with you:

- Valid passport.
- Visa.
- Warm clothing (several layers) - depending on the season.
- Waterproof clothing (especially coat and trousers).
- Strong, waterproof shoes with grip soles for walking in the snow (in combination with 'gamaschen' or in combination with waterproof trousers that fall over your boots).
- Rubber boots with grip soles.
- Waterproof gloves, scarf, hat or cap.
- If desired, covers to protect your shoes against the snow.
- (Woollen) socks.
- Towels.
- Small rucksack.
- Sleeping bag.
- Compass, if desired.
- GPS (not a requirement but will come in handy if you have access to one)
- Binoculars (e.g. 8x50).
- Dictionary (English-Russian Russian-English) and if possible, field guides.
- Camera and film rolls (keep the reflection of the snow and the dark forest in mind).

- 
- Personal first aid kit.
 - Thermos.
 - Good flashlight / torch (with spare batteries).
 - Large pocket knife.
 - Alarm clock.
 - Sunglasses, sunscreen, sunburn lotion (in summer).
 - Much insect repellent (mosquitoes can be a real nuisance in the taiga, especially in summertime, from June on); some participants even suggested bringing a mosquito net.
 - Measuring tape.
 - Swimming gear (if you're shy and don't fancy going in the sauna completely naked, as is Russian custom! Also to swim in the lake in summer).
 - Plug adaptor for electrical items.

When in nature, when in the presence of wildlife, so as to impact their environments as little as possible please follow the following guideline. Don't wear brightly coloured or high-contrast clothing and rucksack, but do wear subdued, muted or neutral colours, like khaki, tan, beige, green brown, etc. Also don't use material that cracks when you walk or when you use it. And don't wear perfume or after-shave lotion, do refrain from smoking and use unscented deodorant. You do not want to pollute the environment of the wildlife with foreign sights, sounds and smells.

Are you smoker? Cigarette-stubs are waste as well. It may take one to five years for a cigarette (filter-) stub to decay. Therefore, take for example an empty film-box to put in your stubs. Such boxes can be closed well. You than can empty the box on the appropriate place in a waste-box.

6.1 LITERATURE

We especially recommend you to read at least one serious book on wolf biology / bear biology and Russian nature and one travel guide on Russia before participating in the project. Your ecovolunteer experience will profit greatly from that pre-information.

We especially recommend you to bring with you to the project a guide on footprints and trails, on vegetation, on mammals and on birds. When you possess more specialised guides, you are recommended to bring them as well.

You may consider bringing English or German field guides and books on wolf-ecology and on nature and leaving these behind when you return home. That way the project may build up a small library that can be of use for Russian scientists and students. The price of a high quality western field guide easily equals a monthly salary for a Russian scientist, so you will understand the importance of such gifts.

Also English language (nature) magazines you may buy at the airport when travelling to Moscow may be highly appreciated when you bring them with you to the reserve instead of leaving them behind in the plane.

7 MEDIA

"Planet Wolf" CNN, USA, 1998

"The wolf man of Russia" NATIONAL Geographic Society, 2002

"He who understands wolves" ARD, Germany, 2002

"Werewolf" Actual Films, Russia, 2003

"Wolfspakt" ARD, Germany, 2005