FACT SHEET
WOLF

SHUTTERSTOCK

HINTERLAND WHO'S WHO

50 years of showing you Who's Who

WOLF | *CANIS LUPUS*

CANADIAN WILDLIFE FEDERATION
FÉDÉRATION CANADIENNE DE LA FAUNE

This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :

Environment Canada
Environnement Canada

FACT SHEET
WOLF

QUICK FACTS

The wolf

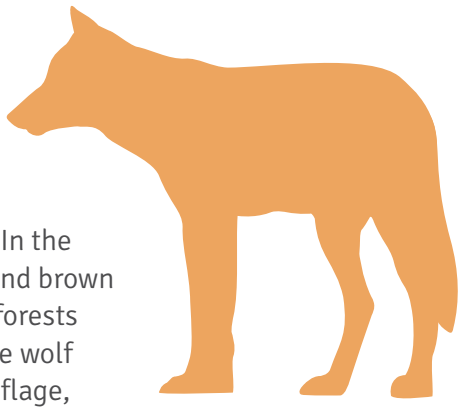
- is called grey wolf, timber wolf, tundra wolf and plains wolf
- has a highly organized social structure centering on a dominant male and a dominant female
- has been exterminated in many parts of North America
- works hard for its food—a pack kills only about one large mammal for every 10 chased
- howls as a form of vocal communication among packs
- uses scent marks as a form of chemical communication

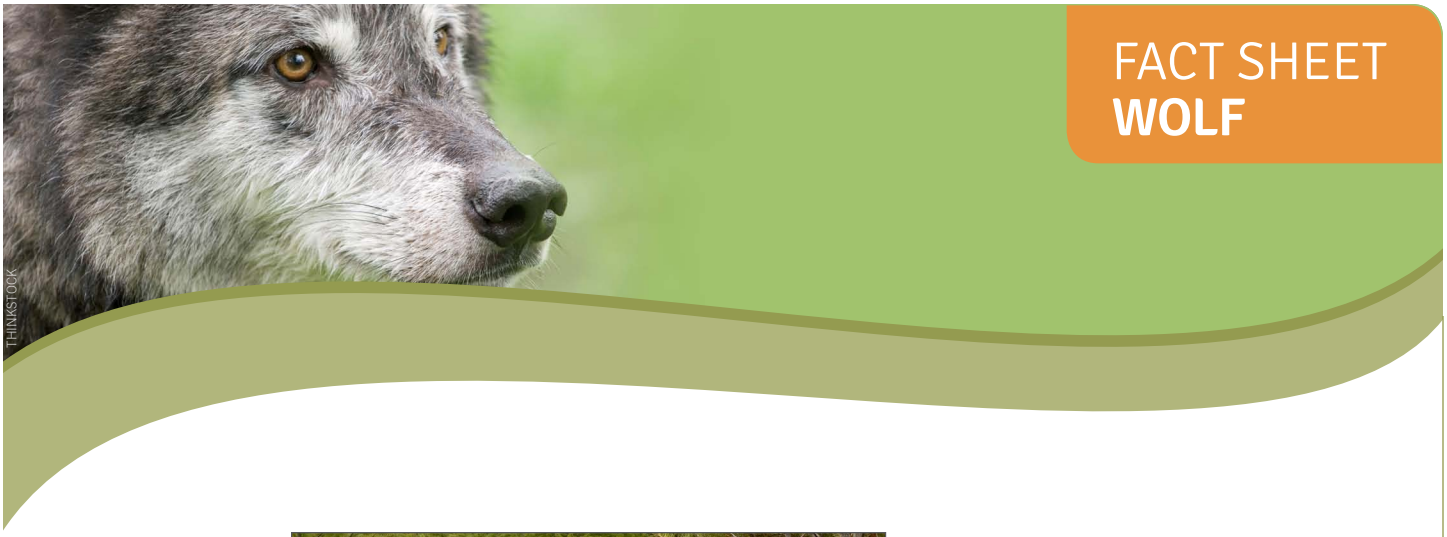
WOLF | *CANIS LUPUS*

DESCRIPTION

It is virtually impossible to describe the typical appearance of the wolf (*Canis lupus*). Wolves of many large Arctic islands and Greenland usually appear snow-white from a distance, but closer up often reveal grey, black or reddish shades. Wolves of northern North America vary in colour, while colours are more uniform in Eurasia. A single pack may contain animals that are black, shades of grey-brown and white. Wolves in the heavily forested areas of eastern North America are more uniform in colour. They are often a grizzled grey-brown, similar to some German shepherd dogs.

This colour variation is a good example of natural selection, a process that enables those animals best suited to a particular environment to survive. On the Arctic islands, where much of the ground is snow covered for at least nine months of the year, being white is a distinct advantage, so wolves in the Arctic may be nearly white. In the mottled grey, green and brown world of the eastern forests the normal coat of the wolf is an effective camouflage,





FACT SHEET
WOLF

as is the darker, or black, colour variation. As a wolf moves stealthily or rests, it blends into the background and is hardly seen.

Wolves in the Arctic and in other northern environments have extremely dense underfur, which insulates them against rigorous winters. Another adaptation to environment is their habit of hunting in packs, or groups, which enables them to kill large animals, such as deer, elk, moose, caribou, bison and muskox.

SIGNS AND SOUNDS

The howling of a wolf pack is one of the most awe-inspiring wilderness sounds. It is a form of communication among wolf packs.

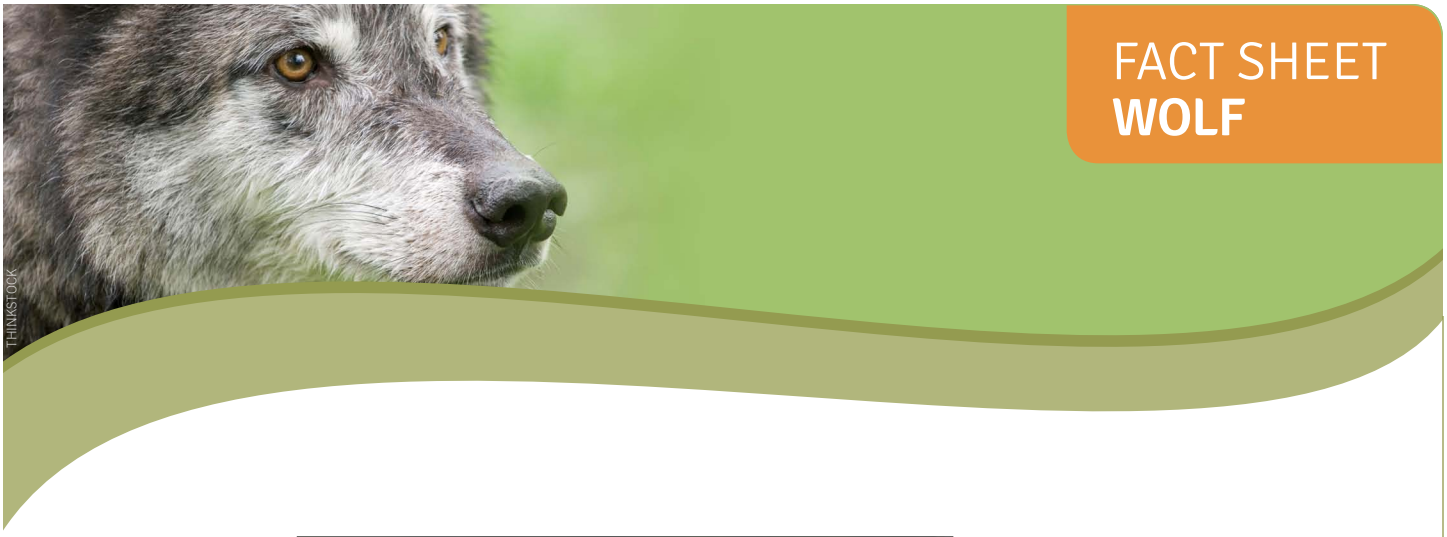
Wolves often howl spontaneously at a rendezvous site, or place where the pack meets seasonally. This howling may be a form of "song-fest," for the wolves apparently enjoy it. In one instance, a pack of Arctic wolves separated from some pups by a fast-flowing river howled frequently for several hours. As they did so, the pups moved anxiously along the river bank. This howling seemed to be a form of calling or coaxing. Howling by a pack may also be a way of warning other packs to keep away from occupied territory and may serve to separate packs.

Howling Wolf

FACT SHEET
WOLF

HABITAT AND HABITS

The wolf's habit of hunting in packs has resulted in the development of complex patterns of social behaviour. Wolves are social animals; they not only hunt in packs but also live most of their lives with other wolves. Studies in Alaska, Minnesota, Michigan (Isle Royale) and parts of Canada (Algonquin Provincial Park and Jasper, Banff, Riding Mountain and Wood Buffalo National Parks) show that most packs are composed of an unrelated breeding pair (a male and a female) and their pups, sometimes from several previous litters. Adolescent wolves learn to hunt for at least a year, training to hunt big game animals (wolves' usual prey) with the rest of the pack. Subordinate wolves in the hierarchy (generally but not always the youngest) are the last to feed when the pack makes a kill. If or when they feel they are not getting enough food within the pack, they leave and disperse from their natal territory. Also, because there is only one breeding pair per pack (generally the parents) most pups will have to leave the pack they were born into in order to mate and reproduce. Wolves that have dispersed from their natal packs may first find mates, then search for unoccupied areas where they can establish a new pack. Rarely, they join an existing pack and vie for a breeding role in it by displacing or dominating an already-established breeder.



FACT SHEET
WOLF

Wolves are gregarious animals

Wolf packs are territorial. Each pack occupies an area that it defends against intruders. Sizes of territories vary greatly and are dependent on the kind and abundance of prey available. When neighbouring packs trespass on each other's territories, fights often ensue. It is rare, though not unheard of, for these fights to result in the death of pack members.

Studies of wolf packs in captivity and in the wild show a highly organized social structure centring on a dominant male and a dominant female. In turn, one of these dominant animals, female or male, is the leader of the pack. A dominant wolf holds its tail high, stands stiff-legged and bristles its mane. In its presence, a subservient animal cowers on the ground with its ears back or stands with its tail between its legs, maintaining a slinking posture.

The pack cohesion, or the tendency to hunt and travel together, is strongest during winter. Also, since the wolf's winter diet is mainly composed of larger prey, cooperation is needed for effective hunting. In summer, they may hunt together occasionally, but since prey are generally smaller at this time, they can hunt alone. Still, the pack is united by the common goal of providing food and care to the current litter. So during the warmer months, while the pups are young, the adults seldom go on long forays until the young are able to join them on their daily activities.

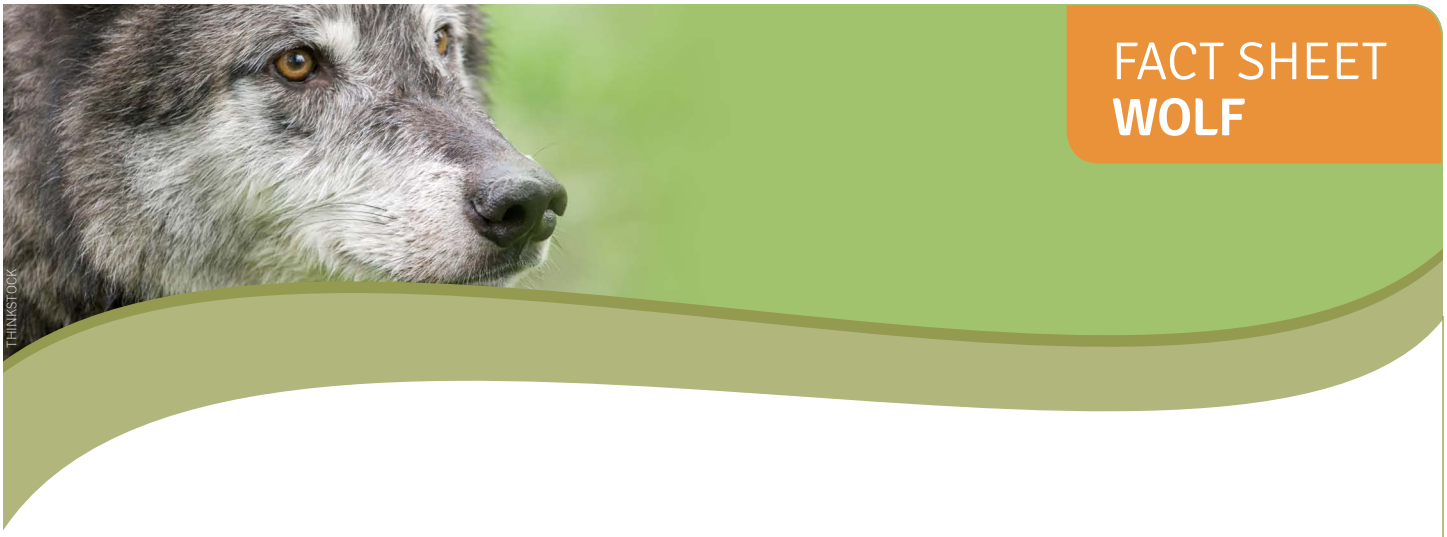
FACT SHEET
WOLF

UNIQUE CHARACTERISTICS

The wolf was once a much-maligned animal. In the Western world, people feared and hated wolves, and this legacy is reflected in stories such as “Little Red Riding Hood” and “The Boy Who Cried Wolf.” In these popular children’s tales the wolf is made out to be a marauder and a killer of livestock and people.

There is some basis for “The Boy Who Cried Wolf,” for wolves have killed cattle and sheep. But what of “Little Red Riding Hood”? There are only two confirmed reports of wild wolves killing humans in Canada or the United States in recent history. Yet, in the past, a wolf spotted near a rural community was enough to terrify local residents. Over time this fear of wolves has become less prevalent. Today, many people know that scientists studying wolves have walked away unscathed, even when they lived very close to dens where there were pups. They have even taken pups from a den without being attacked. The parents usually run away, returning later to take their young to a more private den or rendezvous site.

In areas where wolves are hunted or trapped they fear people and are very wary. However, in remote places, such as in the Canadian Arctic, they show little fear and will often allow people to live near them.



FACT SHEET
WOLF

RANGE MAP

Two hundred years ago wolves were more widely distributed than any other mammal. They lived in large areas of North America, Europe and Asia; the only places they could not occupy were deserts, tropical rain forests and peaks of the highest mountain ranges.

Wolves still live in large areas of the Northern Hemisphere; however, their historic range has been greatly reduced due to changes in the landscape and people's efforts to exterminate them.

THINKSTOCK

In North America, wolves have been exterminated in the Atlantic provinces, Mexico, the United States (except Minnesota, Alaska and some of the western states) and the heavily populated areas of southern Canada. They are still common in lightly settled portions of Canada from Labrador to British Columbia and in the Yukon Territory and the Northwest Territories.

The red wolf (*C. rufus*) was once common in the southeastern United States. It has been eliminated in the wild. However, through a captive breeding program, the species is being reintroduced into its former range.

FEEDING

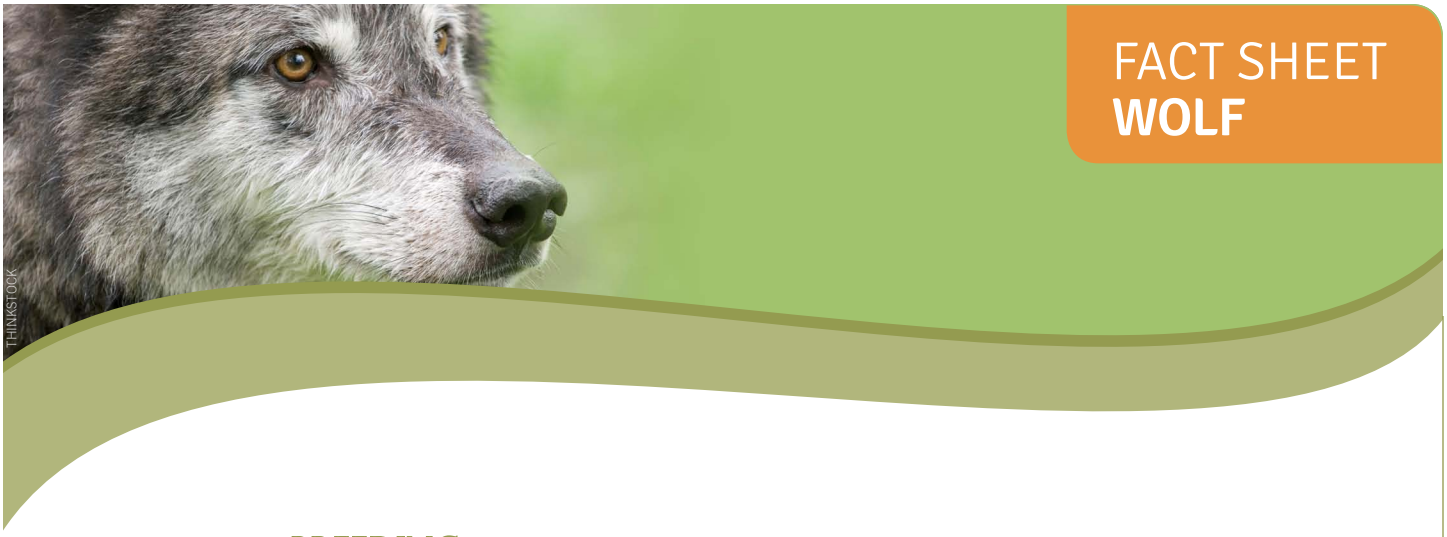
Wolves prey chiefly on large mammals such as deer, moose, caribou, elk, bison and muskox. They also eat a variety of smaller mammals and birds, but these rarely make up more than a small part of their diet.

SHUTTERSTOCK

Wolves work hard for their food. They have to. Studies show that they kill only about one large mammal for every 10 chased. In winter, they usually kill old or young animals when these are available, but when prey numbers decline wolves prey on all age groups, and it may take the entire pack to bring an animal down. In summer, much of the wolves' diet consists of young animals born that year, because they are easiest to catch.

In winter, scientists can study the hunting behaviour of wolves from aircraft, using radio transmitters, or by following their tracks in the snow. More recently, scientists have used collars that monitor wolves' movements by satellite technology.

Opportunities for watching summer hunts are rare, so much less is known about hunting habits in this season. Because wolves usually travel alone or in pairs and hunt smaller prey in the summer, much of the hunting is probably of a different nature.


THINKSTOCK

FACT SHEET
WOLF

BREEDING

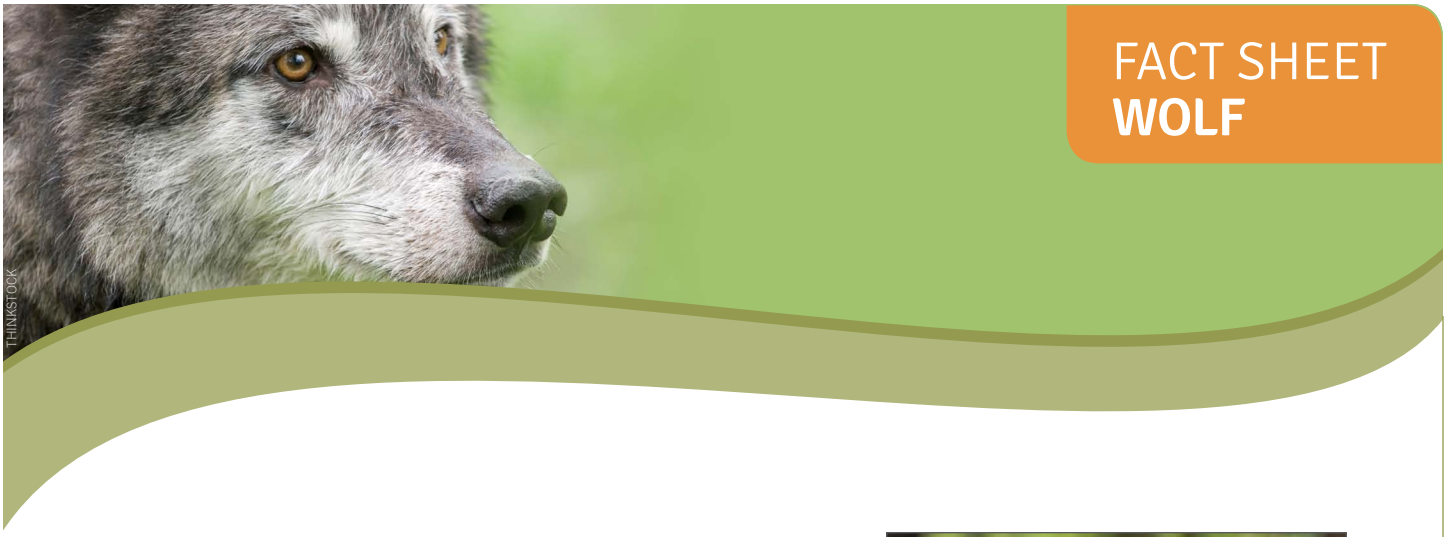
Wolves differ from domestic dogs in their reproductive cycles. Male dogs can breed at any time of year and females every six months, whereas both male and female wolves in the wild can breed only once a year. In captivity, and occasionally in the wild, male wolves can successfully breed with more than one female. Breeding time varies with the latitude but begins as early late January and is usually done by late February. After a nine-week gestation, or pregnancy, period, litters of five or six pups (and sometimes eight or more) are born.

Wolves usually reach sexual maturity in their second year. It is possible for younger animals to have pups, but this is not normally the case. A pack may include several mature females that can produce pups, but it is extremely rare for multiple litters to be born in the same pack.

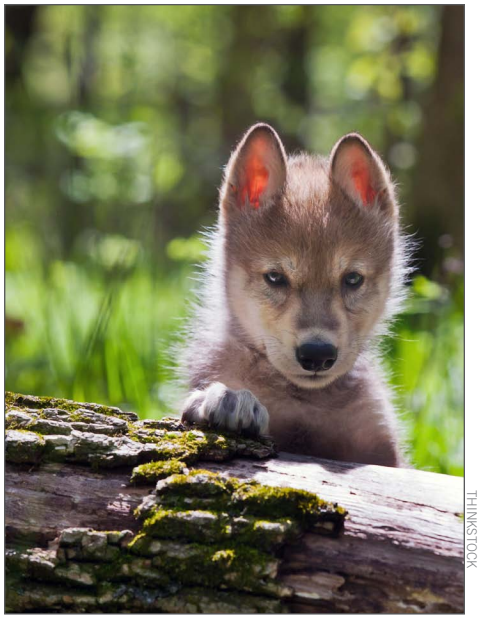

JAMIE NICHOLLS

Wolf and pup

Wolf pups are usually born in a den. In coniferous forests and on tundra this den is commonly dug in a type of soil that lends itself to digging, such as in an esker (gravel ridge caused by glacial meltwater) or similar area. In mixed-forest areas the den may be located in an old pine stump or rock crevice. The pack usually remains at the birthing, or natal, den for a month or more unless it is disturbed.



The pups remain inside natal dens for approximately four weeks. When they begin to move around outside, another member of the pack may sometimes babysit while the parents go hunting. Occasionally, the pups are left alone for a day at a time or longer. By mid-autumn they are travelling with the pack and participating in hunting and other pack activities.

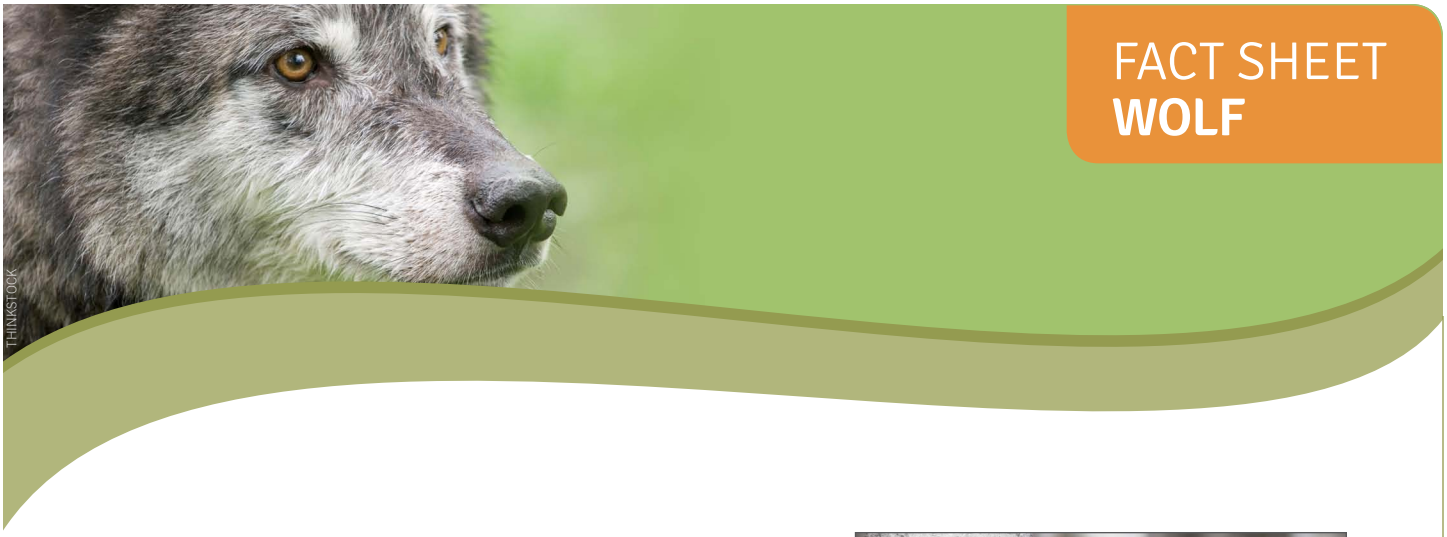


Wolf pup

Frequent play helps young wolves develop hunting skills. Mature wolves are believed to set up ambushes or drive prey toward other wolves. These learned, or non-instinctive, skills originated in their clumsy attempts as pups to hide behind obstacles and then jump out at each other. Even in winter, after they are almost fully grown, pups continue to play in a variety of ways, such as chasing around a tree in a forest opening or having a fast-moving game on a lake with a piece of wood or bone as the prize.

CONSERVATION

People have long practised population control and extermination of wolves. At times, governments have paid a sum of money, called a bounty, for each animal killed. In Canada, the first bounty payment was made in Ontario (then Upper Canada) in 1792. Eventually bounties were paid in every province and territory inhabited by wolves, but by 1973 they had been discontinued at the provincial and territorial level, except in the Northwest Territories. When Ontario repealed the wolf bounty in November 1972, it was replaced by the Wolf Damage to Livestock Compensation Act, which makes cash payments to farmers whose livestock is damaged by wolves or coyotes. In


THINKSTOCK

FACT SHEET
WOLF


THINKSTOCK

Quebec, bounties are occasionally offered by certain municipalities; however, since 1984 trapping and hunting of wolves is only allowed during part of the year. British Columbia and the Prairie provinces now use traps and poisons to kill wolves inhabiting areas where they may threaten livestock or game populations.

Wolves prey on big game and can help to control their populations. Where wolves are absent (for example, Anticosti Island and Pennsylvania), white-tailed deer have overpopulated their ranges and damaged forests. Food shortages and mass starvation of deer during the winter sometimes follow. Where wolves remain, hunting by humans and easier access to big game in wilderness areas has led to increasing competition between people and wolves for the declining numbers of elk, moose, deer and caribou.


THINKSTOCK

Wolves have already been exterminated in many places. However, there may be less danger of such excesses in the future, as decisions around wolf control are increasingly based on science rather than emotion. There is now a greater awareness among hunters and others that wolves killing deer and other prey that we may want for ourselves is not a sufficient reason to exterminate them. Even if game populations are critically low, wolf control has not been shown to effectively increase the number of prey unless wolves are eradicated or controlled for more than a decade. However, control programs are always opposed by ever-increasing urban human populations. Proposed wolf culls have become major political issues in many areas in North America. In wilderness ecology, wolves play an important role. And from a human point of view, the great value of having this intelligent animal as part of our wilderness heritage should be sufficient justification for allowing them to survive in a wide variety of wilderness and semi-wilderness areas of Canada.

FACT SHEET
WOLF

RESOURCES

Online resources

Animal Diversity Web, Gray Wolf
http://animaldiversity.ummz.umich.edu/accounts/Canis_lupus/

Canadian Geographic, Grey Wolf
http://www.canadiangeographic.ca/wildlife-nature/?path=english/species/grey-wolf

Algonquin Park Wolves
http://www.wolvesontario.org/wolves/wolves/algonquin.shtml

International Wolf Centre
http://www.wolf.org/wolves/

Wolf and Coyote DNA Bank
http://wolf.nrdpfc.ca/

Print resources

Carbyn, L.N., editor. 1983. Wolves in Canada and Alaska: Their status, biology, and management. Proceedings of a wolf symposium held in Edmonton, May 1981. Report Series No. 45. Canadian Wildlife Service, Ottawa.

Carbyn, L.N. 1987. Gray wolf and red wolf. In M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, editors. Wild furbearer management and conservation in North America. Ontario Ministry of Natural Resources, Toronto.

Harrington, F., and P. Paquet, editors. 1982. Wolves of the world: Perspectives of behavior, ecology and conservation. Proceedings of a wolf symposium held in Portland, Oregon, August 1979. Noyes Publications, Park Ridge, New Jersey.

Mech, L.D. 1970. The wolf: The ecology and behavior of an endangered species. The Natural History Press, New York.

Murie, A. 1944. The wolves of Mount McKinley. Fauna Series No. 5. U.S. National Parks Service, Washington, D.C.

Peterson, R.O. 1977. Wolf ecology and prey relationships on Isle Royale. Fauna Series No. 11. U.S. National Parks Service, Washington, D.C.

Rutter, R.J., and D.H. Pimlott. 1968. The world of the wolf. Lippincott, New York.

Text: D.H. Pimlott

Revision: L. Carbyn, 1993; B. Patterson and P.C. Paquet, 2013