Manitoba's Species At Risk

A Western Canada Wilderness Committee Report

June 2003

Table Of Contents

SPECIAL CONCERN

Amphibians
Frog, Northern Leopard
Toad, Great Plains

Birds
Hawk, Ferruginous
Owl, Short Eared
Rail, Yellow
Woodpecker, Red-headed

Fish
Buffalo, Bigmouth
Chub, Silver
Lamprey, Chestnut
Lamprey, Northern Brook
Shiner, Bigmouth

Lepidopterans
Monarch

Mammals
Bear, Polar
Wolverine

Plants
Goldenrod, Riddell's
Goosefoot, Smooth

Reptiles
Skink, Northern Prairie

REFERENCES

Forward

After almost ten years in the making, the Canada's Species at Risk Act (SARA) passed through Senate and received Royal assent on December 12, 2002.

SARA will not protect the majority of Canada's species at risk. Two of the main reasons are that SARA only applies to species on federal lands (about 5% of Canada' total area, outside the territories) and there is no prescribed timeline for the completion of action plans – conceivably protection for habitats of endangered and threatened species can be put off forever. Amendments necessary to fully protect Canada's species at risk are listed in the section below.

In this report you will discover the 37 Manitoba species at risk listed by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). "COSEWIC determines the national status of wild Canadian species, subspecies and separate populations suspected of being at risk. COSEWIC bases its decisions on the best up-to-d
ate scientific information and Aboriginal Traditional Knowledge available."

The information used in this report was compiled from federal and provincial government websites (references listed at end of report). The Wilderness Committee has provided supplemental information in red font throughout the report to elaborate on government information.

The Wilderness Committee sincerely hopes the federal and provincial governments take the required actions and provide the tools necessary to save Canada's species at risk for future generations.

Western Canada Wilderness Committee

Listing of Amendments Required for the Species at Risk Act (SARA) to Protect Canada's Species at Risk.

The listed amendments are by no means exhaustive – nor have they been listed in order of importance.

a. **Make Habitat Protection Mandatory**. Amend ss.58(1) and (2) to make habitat protection *mandatory* for listed, threatened and extirpated species. In particular habitat protection must apply to species that are legally considered to be within federal jurisdiction (*such as cross-border species and migratory birds*), both on and off federal lands. The Act should also adopt an equivalency approach, similar to the one in CEPA.

b. **Ensure Protection of All Listed Species**. The prohibition against harming an endangered species or its residence should apply to all endangered species irrespective of historical or political boundaries. This prohibition could be waived in provinces whose laws provide equivalent protection the species. *(Revise s. 34*)

c. **Add Specific Interim Habitat Conservation Powers** (before completion of recovery plan)**.** The Act should include specific interim powers to conserve habitat between the time of listing and the completion of a recovery plan. (*New section needed).*

d. **Add Protection of "Cross-Border" Species.** At a minimum, the Act should automatically protect all 'cross-border' species as was done in C-65, in addition to protection of their habitat. This would require amendments to s.2 (*definitions*), ss.32, 33 (*basic prohibitions*), 34, 35 (*safety net provisions*) and protection of critical habitat in s.58 as well as the critical habitat safety net in s.61,

e. **Strengthen Habitat Safety Net Provisions for Areas Outside of Federal Jurisdiction.** The application of the federal safety net (including both the basic prohibition against harming a listed species and the safety net for critical habitat) should be *mandatory* for provinces failing to provide for effective protection for species at risk – as specified in the *National Accord*. In determining, according to prescribed criteria, if a provincial law "protects" a species habitat, the Minister must consider not just the prohibitions in the provincial law, but also consider how the law is applied and enforced, and if these laws are biologically sound. *Amend s. 61(2).* Additionally, citizens should be allowed to request that the minister invoke the safety net, and the minister should have to give reasons for her decision (*add to s.61*.)

f. **Include Time Limits for Completing Action Plans.** There must be time limits for completion of action plans. The failure to include a time period for completing action plans is a major deficiency, potentially allowing for lengthy delays or even non-completion of action plans. We recommend 6 months for endangered species and 12 months for threatened species*. (Revise ss.47 and 49 or insert a new section*). Limited extension may be granted where biologically valid.

g. **Obligate Federal Officials to Implement Recovery Plans.** There must be an obligation on all federal officials to implement any obligation imposed upon them in a strategy or action plan. (*New section needed.)*

h. **Provide for Citizen Suits.** The Act should include a citizen suit provision similar to the one in CEPA and in Bill C-65 in order to ensure accountability for enforcement. (*New section needed*.)

i. **Increase Funding.** The Wilderness Committee requests that annual funding be adjusted to approximately $100 million

annually, after the initial three years and excluding government administrative costs, to better reflect the costs of stewardship, species recovery and compensation. Funding needs to be targeted to research and inventory – in particular, funding must be earmarked to ensure provincial and NGO involvement in species recovery.

j. **Provide for Meaningful and Effective Review Process.** The bill should be amended to provide for an ongoing review by a committee of the House of Commons, of the Senate, or of both Houses of Parliament, consistent with review process contained in the Canadian Environmental Protection Act. As it stands, there will only be a one-time parliamentary review five years after the act comes into force.

k. **Compensation.** The Wilderness Committee supports the premise that the costs for protection of species at risk and their habitat should be shared – that individual Canadians should not have to bear the costs of species protection alone. We are opposed to automatic legal entitlement to compensation for anything other than actual expropriation. Compensation should not be paid for merely complying with environmental legislation as that would set a dangerous precedent. We support fair and reasonable compensation for landowners who suffer "extraordinary impact" or who experience actual expropriation of property.

ENDANGERED SPECIES OF MANITOBA
June 2003

Endangered species are defined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as a species facing imminent extirpation or extinction. As of May 2003, COSEWIC had identified 7 species in Manitoba that fall into this category:

Birds

Plover, Piping
Shrike, Eastern Loggerhead
Curlew, Eskimo
Owl, Burrowing

Mollusca

Snail, Lake Winnipeg

Plants

Lady's Slipper, Small White
Orchid, Western Prairie Fringed

BIRDS

PLOVER CIRCUMCINCTUS SUBSPECIES, PIPING
(Charadrius melodus circumcinctus)

Description:
The Piping Plover is a sand-colored, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the neck. It runs in short starts and stops. When still, the Piping Plover blends extremely well with open, sandy beach habitats. The bird's name is derived from its call notes, plaintive bell-like whistles that are often heard before the birds are seen.


Photo: Natural Resources Canada

Date of Listing:
The entire Canadian population was designated Threatened in April 1978. Status re-examined and uplisted to Endangered in April 1985. In May 2001, the species was re-examined and split into two groups according to subspecies. The circumcinctus subspecies was designated Endangered in May 2001.

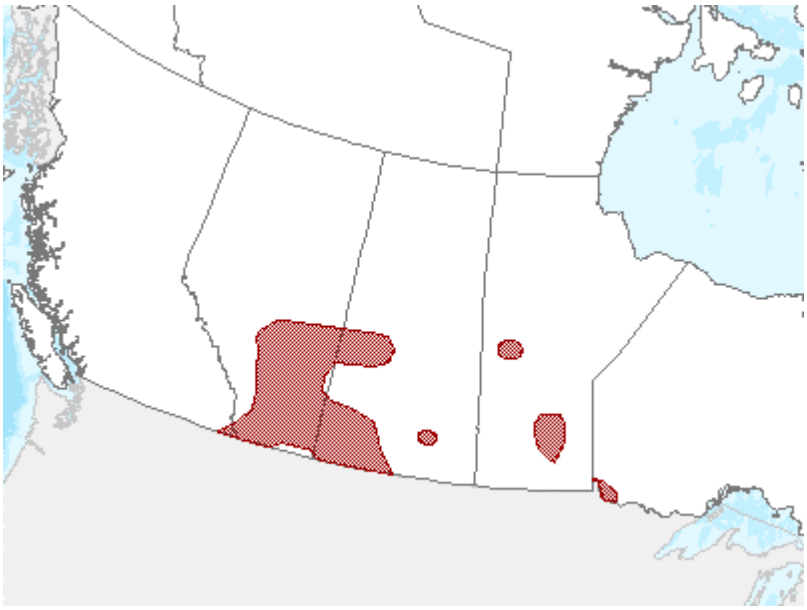
Causes of Decline:
The most important limiting factor for Piping Plovers is loss of habitat, mostly caused by human use of beaches, and the consequent human disturbance around nesting sites. Dogs and cats prey on the eggs and young, as do gulls and raccoons which are initially attracted to the nesting areas by garbage left by picnickers. On the prairies, cattle and horses are known to trample nests and their deep hoof prints can trap chicks. Changes in water levels caused by such events as recreational or building activities, dams and seasonal storms are also detrimental to the nesting efforts of this bird. In addition, global warming may reduce the plover's habitat by causing drought in the prairies.

Diet:
Small insects, spiders, crustaceans, grasshoppers on the surface of the sand along the shoreline.

Habitat:
Piping Plovers nest just above the normal high-water mark on exposed sandy or gravelly beaches. On the prairies, nesting occurs on gravel shores of shallow, saline lakes and on sandy shores of larger prairie lakes. Seeps also provide important foraging habitat on the Prairies.

Reproduction:
Piping Plovers arrive on their breeding grounds in Canada in late April or May. Males establish a territory and attract a mate with dramatic aerial and ground displays. They scrape a shallow nest-site in sand or gravel, which the female then inspects. Clutches usually contain 4 eggs. Both parents participate in the incubation of eggs and care of nestlings, though the young are able to find their own food within hours of hatching. Females can begin to breed at one year of age and will re-nest once or twice in a season if the eggs are destroyed, but raise only one brood per year.

Population and Distribution:
The circumcinctus subspecies of the Piping Plover is a North American bird that breeds on the American shores of the Great Lakes (Michigan) and throughout the Great Plains from the southern Canadian prairies to Nebraska. It winters along the Atlantic coast, from South Carolina to Florida, and along the coast of the Gulf of Mexico. In Manitoba, the Piping Plover is most consistently found nesting on broad, sparsely vegetated beaches along Lake Manitoba, Lake Winnipeg, and West Shoal Lake, and occasionally along Lake Winnipegosis, Katimik Lake, Oak Hammock, Whitewater Lake, and Oak Lake. Piping Plovers have been surveyed annually by the Province since 1986. Numbers vary greatly from year to year due mainly to fluctuations in water levels and availability of nesting beaches, but have been declining considerably from more than 100 pairs in 1986 to fewer than 20 pairs in recent years.



Protection:
The Piping Plover is protected in Canada under the federal Migratory Birds Convention Act of 1917*, and the circumcinctus subspecies is also protected under the provincial Endangered Species Acts of Manitoba* and Ontario. In Saskatchewan, it was listed as endangered in the 1999 regulations of the provincial Wildlife Act. Alberta placed the Piping Plover on its red list. The Quill Lakes area of Saskatchewan received international recognition as a globally significant Important Bird Area (IBA) in May 1998. Conservation plans for IBAs in Canada are developed in partnership with

landowners, naturalists, hunters, government agencies and municipalities, aboriginal groups, scientists, and others.

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

* The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

SHRIKE, EASTERN LOGGERHEAD
(Lanius ludovicianus migran

Description:
Shrikes are medium-sized black, white, and grey birds with hawk-like habits. The upper parts of the adult Loggerhead Shrike are dark grey, its wings and tail are mostly black, and its under parts are whitish. It has a characteristic black face bar, which extends across the lower forehead. Young Loggerhead Shrikes do not have any black on the forehead, and their breast and sides are lightly barred. Loggerheads are slightly smaller than northern shrikes, which are otherwise so similar that identification is usually based on geographic location.

Date of Listing:
The entire Canadian range was designated as Threatened in April 1986. Split according to subspecies in April 1991. The migrans subspecies was uplisted to Endangered in April 1991. Status re-examined and confirmed in November 2000.

Causes of Decline:
A combination of limiting factors is ultimately blamed for the species' decline. These include decreased habitat quality due to outright loss, fragmentation and degradation of hunting, nesting and wintering habitat and increased losses of young and adults to predators, collisions with vehicles, pesticides,

and other limiting factors on nesting areas, the winter range and on migration.

Diet:
The bird eats large insects and small vertebrates, the latter of which is quite unique among passerine birds. The species uses its sharply hooked beak to dispatch prey, which is often impaled on thorns, and other sharp objects. This behaviour also demonstrates the bird's ability to provide food and thus it serves to attract mates.

Habitat:
The species inhabits open areas with some trees and shrubs, which provide nesting sites and perching sites used for hunting. Shrikes use pasture areas because the process of pasturing keeps the grass short. Areas with short grass are good foraging areas for the loggerhead shrike. Habitat area size is also important because larger areas allow the birds to nest at a distance from fence lines. This increases reproductive success, probably because predators use these fence lines. In the 1990's, the area of pasturelands decreased dramatically in both Ontario and Quebec, and the areas that are left are highly fragmented.

Reproduction:
Loggerhead Shrikes begin breeding in their first spring. They tend to use the same territory year after year. In Canada, second broods are rare, probably because of the short breeding season. Clutches contain 4 to 6 eggs. Loggerhead Shrikes have a high reproductive success rate, but this has fallen below their rate of mortality.

Population and Distribution:
At one time the range of the eastern subspecies of Loggerhead Shrike extended from Manitoba and New Brunswick south to northeastern Texas, western North Carolina and Maryland. During the 1990s there has been a steady decline in shrike numbers in the northeastern United States and Canada. The southern distribution of the species remains the same but the species no longer occurs in most of the northern and central areas of the former range. In Canada, the eastern subspecies of Loggerhead Shrike occurs mainly in

Ontario and southeastern Manitoba, and is essentially isolated from the larger populations in the central southern United States.

The species was last recorded as nesting in the Maritimes in 1972 and the last recorded nest in Quebec was found in 1993. Data suggest that there are at most 10 pairs of Loggerhead Shrikes in Quebec, about 40 pairs in Ontario, and about 50 in Manitoba. There is some evidence that the populations are sustaining themselves, and that the numbers may be augmented through releases of captive-bred birds. However, the present Canadian population is very low; at most 100 pairs in three main widely separated areas.

Protection:
The Loggerhead Shrike in protected in Canada under the federal Migratory Birds Convention Act of 1916. *

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

CURLEW, ESKIMO
(Numenius borealis)

Description:
Eskimo Curlews are medium-sized shorebirds that closely resemble their slightly larger relative, the Whimbrel. Eskimo Curlews are about 12 inches long and have a slightly downcurved bill. They are dark, rich cinnamon in colour and have solid (rather than barred) primary feathers.

Date of Listing:
Designated Endangered in April 1978. Status re-examined and confirmed Endangered in May 2000.

Causes of Decline:
The evidence is overwhelming that unrestricted market hunting drastically and rapidly reduced the Eskimo Curlew's numbers. Considered very good to eat, the birds were killed by thousands of market hunters, just as passenger pigeons had been years earlier. The curlew's lack of fear and habit of traveling in large flocks made it an easy target. Another factor that may have contributed to the curlew's decline, and has prevented its recovery, is habitat loss, primarily to cultivation and grazing. No population counts were ever made for this species, and a current population estimate is not possible.

Diet:
Primary foods included berries (especially blueberries and crowberries), insects (including beetles, and grasshopper eggs and young), snails, coastal shrimp-like invertebrates (isopods, amphipods), and earthworms.

Habitat:
Eskimo Curlews formerly bred in the tundra and woodland transition zones of the Mackenzie District in the Northwest Territories, and possibly occurred as far west as Alaska or even Siberia. The breeding habitat consisted of treeless upland tundra with dwarf shrubs and grassy tundra meadows. During fall migration, the birds used a variety of coastal and terrestrial habitats. They fed in areas of crowberry, salt marsh, meadows, pastures, old fields, intertidal flats and sand dunes. During the winter in the pampas of Argentina, they used treeless grasslands with wetlands and may have used wetter grasslands and intertidal areas. In spring, the curlews were found in tall grass and eastern mixed-grass prairies, often in areas disturbed by recent fires, areas near water disturbed by grazing bison, and in cultivated fields. Present day habitat use is unknown.

Reproduction:
Eskimo Curlews arrived in their breeding grounds in late May and quickly established nesting territories. From mid to late June, clutches of four eggs were laid in nests in shallow depressions scraped in the ground. The birds were presumably monogamous (each male mated with one female), as in related species, with incubation shared by both parents. The young hatched from early to mid July and the chicks left the nest with the parents within a day or two of hatching and fed themselves from the first day. They were ready to migrate by the end of the month. Only one brood was raised per season.

Population and Distribution:
Prior to 1860, the Eskimo curlew may have been one of the most abundant shorebirds in North America. Historical population estimates range between several hundred thousand and tens of millions. Between the 1870s and the 1890s, the Eskimo curlew population declined dramatically. By 1900, sighting an Eskimo curlew was rare. There have been occasional Eskimo curlew sightings during the past 100 years, including an unconfirmed report of 23 birds in Texas in 1981. The last unconfirmed sighting in the NWT was on July 7, 1992 in the southern Keewatin region. The current population size is unknown but, if the Eskimo curlew is not extinct, there are likely less than 100 birds worldwide.

Protection:
The Eskimo curlew has been protected under the Migratory Birds Convention Acts* of both Canada and the United States since 1917. All shorebirds have been protected in the Buenos Aries province of Argentina since 1927. The birds were covered under the Migratory Birds Convention between the United States and Mexico in 1936 and included in the U.S. Endangered Species Act of 1973. They are protected by the Ontario Endangered Species Act of 1971. They are also covered under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention for the Conservation of Migratory Species of Wild Animals (Bonn Convention),

with further protection in non-breeding areas through the 1940 Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere. Part of the historic breeding range in Canada is protected in the Anderson River Migratory Bird Sanctuary established by the federal government in 1961. Probable breeding habitat is also protected in the Kendall Island Bird Sanctuary in the Northwest Territories. In all provinces and in the Yukon, the birds are further protected through provincial Wildlife Acts. *

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

OWL, BURROWING
(Athene cunicularia)

Description:
The Burrowing Owl, sometimes called the "ground owl" is a greyish brown, round-headed owl lacking ear tufts. It has long slim legs and a short tail, and is smallish, about the size of a pigeon. The adults have a white abdomen with brown bars that are lacking on the young, which have a rusty throat instead. The Burrowing Owl is active both day and night, and may be seen standing erect on the ground, though its small size and earth-coloured plumage makes it difficult to spot.

Date of Listing:
Designated Threatened in April 1979. Status re-examined and confirmed in April 1991. Status re-examined and up-listed to Endangered in April 1995. Status re-examined and confirmed Endangered in May 2000.

Causes of Decline:
It is difficult to pin down one main reason for the decline in Burrowing Owl numbers and it is more likely due to a combination of many factors. However, habitat loss stands out as the predominant factor. The prairie landscape has been modified extensively over the past century leaving many areas unsuitable for Burrowing Owl breeding. Examples of detrimental activities include the extirpation of wolves from the prairies, which has increased many Burrowing Owl predator populations and pesticide use that has directly and indirectly affected habitat quality. Vehicular collisions are another source of mortality for the owls.

Diet:

Burrowing Owls feed on a wide variety of preys, changing food habits as location and time of year determine availability. Large arthropods, mainly beetles and grasshoppers, comprise a large portion of their diet. Small mammals, especially mice, rat, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds, such as sparrows and horned larks.

Habitat:
Burrowing Owls are found in open, dry grasslands, agricultural and range lands, and desert habitats. They can also inhabit grass and shrub stages of pinyin and ponderosa pine habitats. They commonly perch on fence posts or on top of mounds outside the burrow.

Reproduction:
The nesting season begins in late March or April. Burrowing Owls nest underground in abandoned burrows dug by mammals or if soil conditions allow, they will dig their own burrows. Six to nine (sometimes up to 12) white eggs are laid a day apart, which are incubated for 28-30 days by the female only. The male brings food to the female during incubation, and stands guard near the burrow by day. The male performs the care of the young while still in the nest. At 14 days, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. They leave the nest at about 44 days and begin chasing living insects when 49-56 days.

Population and Distribution:
Once common throughout southwestern Manitoba and occurring as far east as Winnipeg and north to Swan River, Manitoba's Burrowing Owl populations have undergone a rather steep and continuous decline since the 1930's. In most years from 1997 through 2002, there has been 0-3 known nesting pairs in the province. Current estimates hold that only 1,000 pairs are left in Canada and the number is declining by about 16 percent every year.

Protection:
The Burrowing Owl is protected from activities such as capture, harassment, trade, and killing in all four western provinces. It has been designated endangered in British Columbia, Alberta and Manitoba. In Alberta, their nest burrows are protected from disturbance even in winter.

MOLLUSCA

SNAIL, LAKE WINNIPEG
(Physa sp.)

Date of Listing:
This species was designated Endangered in November 2002.

Causes of Decline:
Populations of this Canadian endemic are confined to Lake Winnipeg where there are continuing declines in extent occurrence, areas of occupancy and extent of habitat due to habitat alteration, human disturbance and quality of habitat. Evidence suggests that nutrients and contaminants from sewage lagoons, industries, waste storage facilities and/or landfills are contributing to the declines.

PLANTS

ORCHID, WESTERN PRAIRIE FRINGED
(Platanthera praeclara)

Description:
The Western Prairie-Fringed Orchid is a large, showy plant, reaching one meter in height and with up to 20 fragrant white flowers. It is one of several rare and endangered plants found in the transitional Parklands/Mixed Woods region. The Manitoba orchids are the only ones in Canada and are at the northern end of the plant's range. The Western Prairie Fringed Orchid arises from a fleshy tuber. Each plant can have up to two dozen or more flowers arranged in a stalk.

Date of Listing:
Designated Endangered in April 1993. Status re-examined and confirmed in May 2000.

Causes of Decline:

The major factor contributing to the decline of the Western Prairie Fringed Orchid has been the conversion of native prairie to croplands. Fire suppression, overgrazing, and habitat fragmentation also has contributed to the decline of the species. Although land conversion causes by far the greatest harm to these orchid populations, it is also threatened by other human activities, many of which are also damaging to the natural prairie ecosystem. Extensive water uses can lower the water table near the orchid's roots, making it more difficult for them to thrive, particularly during times of drought. Competition with introduced species and collection for commercial and personal uses all deplete individual populations. Lastly, insecticides, pesticides, and herbicides threaten both the orchid and the insects that pollinate it. These chemicals also pollute rivers, streams, and lakes, rendering surface water, groundwater, and many aquatic species toxic.

Habitat:
The Western Prairie Fringed Orchid grows in highly calcareous (alkaline), stony soils in tall-grass prairie environments. The soil is wet to moderately wet with the water table at a depth of 0-2 m. The plant can be found in open uncultivated areas and along roadsides.

Reproduction:
The Western Prairie White Fringed Orchid overwinters as a tuber with roots and a shoot bud. In spring, the bud begins developing and the young shoot emerges in late May. The tuber elongates and increases in size throughout the growing season. A new shoot bud and tuber will form before winter. The old shoot and tuber usually die.

The flower spike appears in the third week of June, and the plants bloom in July. The flowering period lasts for up to three weeks, with each flower lasting as long as 10 days. Not all plants flower every year. Non-flowering plants are shorter, have only 1-3 leaves, and fewer, shorter roots. They do not necessarily survive to mature into flowering plants. A large percentage (40-95%) of any population of this orchid may consist of vegetative plants. The number of flowering individuals seems to increase in the year following a growing season with higher than average rainfall.

Flowering plants may be either cross- or self-pollinated and about 30% set seeds. Nocturnal sphinx moths with long proboscises are potential pollinators. A large proportion of these moth species are rare in Manitoba.

Seed capsules mature by late August-early September, and the seeds are released through slits in the capsule. Seed release continues even after the plant has dried. Capsule production is erratic, resulting from 0 to more than 80% of the flowers. The seeds are minute and are probably dispersed by wind and water.

As with other north temperate orchids, seed germination and early development take place underground. There must be a specific fungus

present in order for the seedlings to become established.

The Western Prairie Fringed Orchid usually reproduces from seeds, but sometimes the parent plant and tuber form two or even three new tubers, each with its own shoot bud. Plants are usually found alone or in small groups. They may not be as long-lived (up to 30 years) as previously believed, and they can exist in a dormant state in the soil for several years.

Population and Distribution:
The Western Prairie Fringed Orchid occurs from southeastern Manitoba south to Kansas. The species has declined significantly throughout its range. More than 90% of the world's known population of the Western Prairie Fringed Orchid occurs in the Red River Valley of North Dakota, Minnesota, and south-central Manitoba. It is likely the orchid was once more widely distributed in southern Manitoba, but that the number of sites where it occurs declined drastically with the loss of tall-grass prairie habitat. Presently, the Canadian population of Western Prairie Fringed Orchids is restricted to a 48 km2 area around the Manitoba townships of Vita and Stuartburn. During a recent survey, there were at least 8,000-9,000 flowering plants in the Canadian population.

Protection:
Three sites in Manitoba have been purchased to ensure the protection of the Western Prairie Fringed Orchid. The species is being monitored and managed on these lands. It was declared endangered under Manitoba's Endangered Species Act of 1994. *

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

LADY'S SLIPPER, SMALL WHITE

(Cypripedium candidum)

Description:
The Small White Lady's-slipper is a terrestrial perennial orchid which measures 20 to 36 cm in height. It grows from a rhizome and forms a bunch of 3 to 60 stems. About 3 or 4 long straight leaves grow from the center of the stem. The flower of this plant resembles a small slipper, hence its name. This small white flower is sometimes coloured by a small delicate purple line; the opening and the interior of the flower are speckled with darker purple; the petals are twisted.

Date of Listing:
Designated Endangered in April 1981. Status re-examined and confirmed in April 1999 and in May 2000.

Causes of Decline:
The decline of this species can be attributed in part to agricultural activities, including habitat conversion, draining, and intensive grazing. Illegal picking or transplanting, invasion of weedy species and hybridization with yellow lady's-slippers also threaten this species. Small White Lady's-slippers require an abundance of light to bloom and flourish. Management practices including burning, light rotational grazing and mowing, with the purpose of clearing away dead vegetation and woody growth blocks sunlight. Small White Lady's-slippers bloom in late May to early June, and can be damaged by late spring frost.

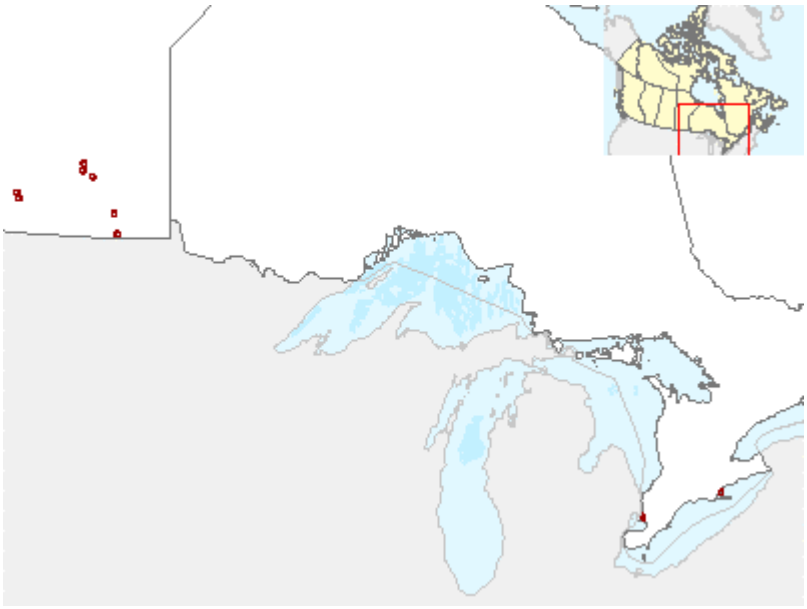
Habitat:
In the past, the Small White Lady's-slipper occurred in open tall grass prairies, dry-mesic hillsides, low calcareous prairies, and calcareous fens. Today, due to agricultural development and urbanization in the western provinces, it is found in prairie openings in wooded grasslands, or on more open sites with a southerly aspect and calcareous sandy loam soil. The few plants which survive in the eastern part of the country are found in marshes, in marshy limestone meadows, in prairie areas, and on the edges of brush.

Reproduction:
Several stems can grow from one rhizome, but each stem has only one flower. The Small White Lady's-slipper depends on insects, mainly bees, for pollination. It takes approximately 13 years for the Small White Lady's-slipper to flower. Flowering in Manitoba usually begins in late May or early June. Frost damage occurs during the flowering season at least once every five years, reducing the plants' ability to produce food and reproduce.

Population and Distribution:
The Small White Lady's-slipper is found in 15 states in the U.S.A. and in Manitoba and Ontario in Canada. In Manitoba, it is found in three widely separated areas: southeastern Manitoba, the southern Interlake district (between the southern ends of lakes Winnipeg and Manitoba), and the Brandon area in south-central Manitoba. While additional populations have been found in the province since the species was first designated by COSEWIC, four sites in south-central Manitoba appear to be extirpated. The Small White Lady's-slipper has disappeared from Saskatchewan and from the Bruce, Kent, Norfolk and Welland counties of Ontario; a few plants are still found in Lambton County and Hastings counties in Ontario.

In Manitoba, aggregate populations occur in the Tolstoi-Gardenton (Tall Grass Prairie Preserve), Brandon, and St. Laurent areas. Single populations

occur in the Lake Francis, Woodlands, Brandon Hills and Kleefeld areas. In the largest of these sites, parts of the Tall-grass Prairie Preserve in southeastern Manitoba, up to 13,979 plants have been counted in a given year. In 1997, a total of 34,491 stems were counted in the Preserve, of which 16,899 were flowering stems. The Kleefeld population consisted of about 552 stems (68% flowering) in 1998. The Lake Francis and Woodlands populations each had about 80 stems in 1998. Of the six populations in the Brandon area, four are within fields and range from 100 to 984 stems, while the other two are along road allowances and range from 10 to 293 stems.



Protection: In 1975, Canada ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora which protects this species against international exports and imports; then, in 1978, Canada modified the Export and Import Permits Act to control all commerce of the Small White Lady's-slipper. Also in 1978, the species was designated endangered under the Endangered Species Act of Ontario. In 1992, the plant was listed under the Manitoba Endangered Species Act.*The establishment of the Tall Grass Prairie Preserve has greatly enhanced public awareness.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

THREATENED SPECIES OF MANITOBA
June 2003

Threatened species are defined by the Committee on the Status of Threatened Wildlife in Canada (COSEWIC) as a species likely to become endangered if limiting factors are not reversed. As of May 2003, COSEWIC had identified 13 species in Manitoba that fall into this category:

Birds

Bittern, Least
Falcon, Peregrine
Gull, Ross's
Pipit, Sprague's
Shrike, Prairie Loggerhead

Fish

Cisco, Shortjaw
Shiner, Rosyface

Mammals

Caribou, Woodland
Fox, Grey

Plants

Aster, Western Silvery
Buffalograss
Prairie Clover, Hairy
Spiderwort, Western

BIRDS

BITTERN, LEAST
(Lxobrychus exilis)

Description:
The Least Bittern is a very small, shy and solitary wading bird. The smallest member of the heron family, the Least Bittern stands about 12 inches tall with a wing span of about 17 inches. Its color allows it to blend in well with its usual surroundings of waterside vegetation. This black and tan bird with a blackish-green cap and back has a brown neck and brown under parts and a white throat. Bitterns also have a sideways compact trunk, short legs, short outer toes, and long, curved toenails. The long curved toe nails provide the means for them to travel through the dense, emergent growth and grasp the reeds. Bitterns are loners and depend more on hearing than eye contact. When agitated, the least bittern is more likely to run than fly, and has the habit of freezing in position with its bill pointed straight up when alarmed.

Date of Listing:
Designated Special Concern in April 1988. Status re-examined and confirmed in April 1999. Status re-examined and uplisted to Threatened in November 2001.

Causes of Decline:
The main factor for the decline in the numbers of Least Bitterns is loss of habitat due to the drainage of wetlands. Natural succession, the natural filling in of wetlands by woody vegetation, has also been a cause of habitat loss. Human disturbance during the nesting period is a second important limiting factor. For example, recreational water boats that create high waves can adversely affect the reproductive success of Least Bitterns. Since Least Bitterns are partially nocturnal and tend to fly very low, they are sometimes killed by cars or by collisions with hydro lines or buildings.

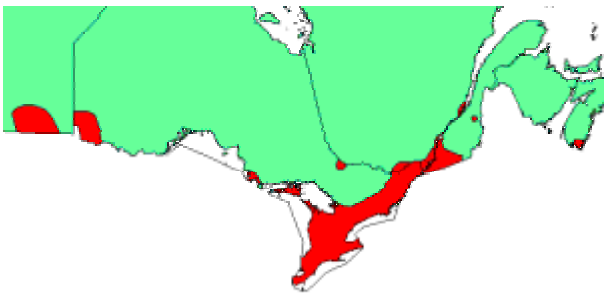
Diet:
Fish, insects, small mammals, frogs.

Habitat:
The Least Bittern thrives in primarily freshwater tall marsh vegetation like cattails. They nest in freshwater marshes, where dense tall aquatic

vegetation is interspersed with clumps of woody vegetation and open water. They less commonly live in coastal brackish marshes and mangrove swamps.

Reproduction:
There is no information on the age at which the Least Bittern attains sexual maturity. It builds its nest on a clump of marsh vegetation barely above water level. Copulation occurs on the nest before and during incubation. Females lay one pale blue or green egg daily for four or five days in a 6-inch nest to complete clutches four to five eggs. The young hatch in slightly under three weeks. Incubation by both sexes begins upon the laying of the first or second egg, and lasts about 18 days. The young hatch over a three-day period. Young birds brood for several days then leave the nest in about 10 days. The young birds return occasionally for regurgitated food by their parents, mostly by the male. It has been suggested that Least Bitterns can have two broods in one season.

Population and Distribution:
Least Bitterns breed from southern Canada south to South America and winter from California, Texas and Florida to Panama and Colombia. In Canada, the Least Bittern has been reported in all the provinces except Prince Edward Island. In Manitoba, nesting occurs in the extreme south. The Canadian population of Least Bitterns is estimated at less than 1000 pairs. The majority of Least Bitterns that breed in Canada are found in Ontario. The Canadian population is likely continuing to slowly decline, but reliable survey methods to estimate the population size and trend over time have not been developed.



Protection:
The Least Bittern is protected in Canada and in the United States by legislation implementing the Migratory Birds Convention.* It is also protected under various provincial wildlife acts. Many of the large marshes where it occurs are publicly owned lands. The Least Bittern is protected in Mexico under the Migratory Bird Treaty* between the United States and Mexico, but it is not protected south of Mexico.

*The Migratory Birds Convention resulted in the Migratory Birds Convention Act. In Canada, the Act limits mandated protection to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

*Although the Migratory Bird Treaty prohibits hunting, capturing, killing, and sale of listed birds, it does not include any form of habitat protection.

FALCON ANATUM SUBSPECIES, PEREGRINE
(Falco peregrinus anatum)

Description:
The Peregrine Falcon is one of nature's swiftest and most beautiful birds of prey. Its name comes from the Latin word peregrinus, meaning "foreigner" or "traveler." This impressive bird has long been noted for its speed, grace, and aerial skills. Three subspecies of the Peregrine Falcon inhabit North America: the American (Falco peregrinus anatum) is one of them. Peregrine Falcons are roughly crow-sized, about 15 to 21 inches long, with a wingspan of about 40 inches. As with many raptors, or birds of prey, females are larger than males. Adults have slate blue-gray wings and backs barred with black; pale undersides; white faces with a black stripe on each cheek; and large, dark eyes. Younger birds are darker below and browner.

Date of Listing:
Designated Endangered in April 1978. Status re-examined and down listed to Threatened in April 1999. Status re-assessed and confirmed Threatened in May 2000.

Causes of Decline:
The major cause of decline of Peregrine Falcon populations was the presence of agricultural pesticides, especially organochlorine compounds, such as DDT in the environment. These compounds cause egg-shell thinning, egg breakage, reduced hatching success, reduced brood-size and reduced breeding success. Since Peregrine Falcons are at the top of the food chain, their tissues accumulate a great deal of these substances. Organochlorine contamination is no longer a major limiting factor for peregrines. Current threats include the small population size and the diminishing quality of habitat. Locally, peregrines may be affected by destruction of breeding sites and breeding areas, or by human intrusion near nest sites.

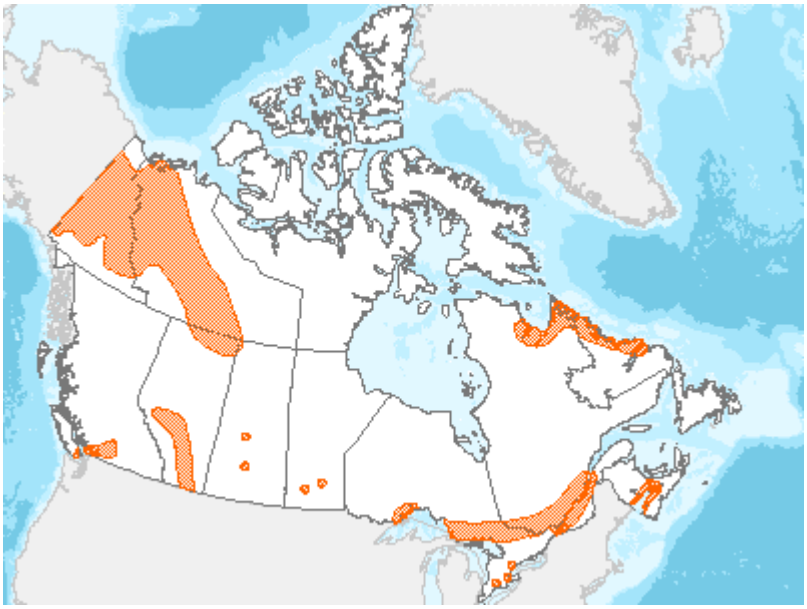
Diet:
In southern Canada, peregrines eat a wide variety of birds that live in wetlands including Franklin’s Gulls, Black Terns, Lesser Yellowlegs, Eared Grebs, Common Flickers, Green winged Teal and Sora. Flying high above their intended prey, peregrines will “stoop” or dive and strike in mid air, killing their prey with a sharp blow. Scientists estimate the speed of a diving peregrine to be more than 200 miles per hour.

Habitat:
In the wild, peregrines prefer high cliffs overlooking rivers and lakes where they build their nests. The nest is called a "scrape" which is often nothing more that a small depression in dirt or gravel. They also have been known to set up house on tall bridges, on tall building ledges, and other high places.

Reproduction:
Peregrine Falcons begin breeding in their second year. Usually, the male arrives at a nesting site and begins a series of aerial acrobatic displays to attract a mate. An average clutch of four eggs is laid in the spring, hatching about a month later. Peregrines vigorously defend their nests, although they may abandon them if severely or continuously harassed. The eggs are smaller than chicken eggs and can range in color from a light pink to a reddish-brown. The pair shares incubation duties which last about 33 days. At about 12 weeks of age, juveniles begin to hunt and care for themselves. A breeding pair may use the same nest site for many years. Peregrines have been known to live as long as 15 years.

Population and Distribution:
The three subspecies have distinct geographic distributions. The Peregrine Falcon anatum subspecies, also known as the American peregrine, breeds south of the tree line in Alaska and Canada, throughout most of the U.S.A., and from central to south Mexico. The northern birds winter from Mexico south to southern South America. This subspecies was extirpated from most of eastern Canada, southern Alberta, Manitoba, and the interior of British Columbia. Precipitous declines in peregrine populations in North America were associated with the widespread, intensive use of persistent organochlorine compounds, particularly the pesticide DDT. Levels of organochlorine contamination have declined substantially since restrictions were put in place in 1970.

In 2000, an estimated 500 pairs of Peregrine Falcon anatum subspecies nested in Canada. Releases of captive-bred peregrines from 1974 to 1996 were important in population recovery of the subspecies.



Protection:
Because the Peregrine Falcon is protected through provincial jurisdiction, its level of protection varies from province to province. In Manitoba, Ontario, and New Brunswick, it is protected under Endangered Species

Acts*, which protect it from shooting, collecting, harassment, and destruction of habitat. In the other provinces, it is protected from collecting and harassment under Wildlife Acts, and in Nova Scotia, it is also protected under the Environment Act. The province of Alberta has the authority to protect peregrine habitat on a case-by-case and area-by-area basis when needed. The species is protected from hunting in Nunavut, except by native people, who hunt the peregrine only rarely for ceremonial purposes. Nunavut also legally protects the falcon from live possession and trade. The Peregrine Falcon is included under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which restricts the import and export of individual peregrines and their eggs.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

ROSS'S GULL
(Rhodostethia rosea)

Description:
Ross's Gull is named after Sir James Clark Ross, the man who first described the bird in the early 19th century while he was on Parry's expedition to find the Northwest Passage. For many years thereafter it was a bird of mystery. The appearance of a Ross's Gull in settled areas attracts hundreds of observers and often makes headlines in newspapers. It is a small gull, pigeon-sized (about 12-14 inches). Adults appear all white, but their breasts are suffused with the delicate pink that makes them so attractive. In breeding plumage a fine black necklace circles the throat and rises over the back of the head; this is replaced at this time of year by a dark smudge behind the eye. It also has a narrow black line along the leading edge of the wing that is obscured when the bird is at rest. The white color and an undertone of light pink, gives it a striking colouration compared to the pale greys and browns of most other species in the gull family. Their flight is graceful and tern-like.

Date of Listing:
Designated Special Concern in April 1981. Status re-examined and confirmed in April 1996. Status re-examined and uplisted to Threatened in November 2001.

Causes of Decline:
The species has probably always been rare in Canada, largely due to the harshness of the Arctic environment. Ice cover is a major limiting factor, since the gull needs open water to feed and breed. Contributing factors include predation by polar bears and collection of eggs by humans. The eggs are worth $10,000 to $20,000 on the black market. Manitoba Hydro flooded

a breeding site in 1984, causing four birds to disappear, two to nest elsewhere. One nest was abandoned in 1992 because a photographer was nearby.

Diet:
Fish and crustaceans in the open waters of the Arctic Ocean.

Habitat:
The species breeds in widely varying Arctic habitats ranging from marshy tundra to gravel reefs. The principal habitat in the bird's Russian breeding range is shrub and tussock tundra with low trees, sedge meadows and numerous ponds. All sites are located near water. Many are close to Arctic Tern colonies. The site used in Churchill is very similar to the lowland habitat in Kolyma, Russia. It consists of hummocks supporting grasses, lichens and dwarf willows, lower areas with grasses and sedges, small pools and some shallow lakes. On the Cheyne Islands, gulls have nested on three reefs, each about 400 m long and 1 m high. A nearby polynya (stretch of open water surrounded by ice) attracts the birds when it opens up in late spring.

Reproduction:
Most arctic birds migrate north to the Arctic in the summer to breed on the tundra, but Ross's Gull does just the opposite. It breeds in the southern parts of its range, in wooded areas of the Alaskan coast and the marshy and wooded areas associated with Siberian rivers, as well as at Churchill, Manitoba. Ross's Gulls nest in small colonies, often among willow scrub, making nests from grasses and leaves. Each pair lays three or four eggs, which are incubated for 23 days. They are present on breeding grounds until late May to late July. Little is known about where Ross's Gulls spend the remainder of their year. They don't migrate south like most birds but instead apparently move around the Pole probably to the edge of the ice pack. They are seen regularly during these migrations along the north coast of Alaska.

Population and Distribution:
Ross' Gull is an Arctic species with a circumpolar distribution. It is rare in Canada. The only two known breeding locations in Canada are: 1) in the Northwest Territories on Cheyne Islands in Penny Strait; and 2) in the Hudson Bay Lowland, near Churchill, Manitoba. It probably winters in the open waters of the Arctic.

The worldwide population is estimated at up to 50,000 birds. The Russian population is about 10,000 adults, while the Canadian population is much smaller. The Churchill population has ranged from one to five pairs since 1980. The maximum number of known nests in any year is five. Up to seven adult pairs have been found on Cheyne Islands. Their young are preyed upon by Arctic fox and weasels. Given the Arctic's vastness and severe weather, some breeding sites have possibly gone undetected.

Protection:
The species is protected under legislation implementing the Canada-US Migratory Birds Convention.* The Manitoba Department of Natural Resources has designated a large area around Churchill a special conservation area. The designation allows for a ministerial order that would restrict public access to particular parts of the area, but it does not entirely protect the gull from human disturbances. The remoteness of the Cheyne site offers natural protection.

*The Migratory Birds Convention resulted in the Migratory Birds Convention Act. In Canada, the Act limits mandated protection to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

SPRAGUE'S PIPIT
(Anthus spragueii)

Description:
The Sprague's Pipit is a small (15-17 cm, 23-25 g), ground-nesting songbird that is endemic to the Canadian Prairies and northern Great Plains of the United States. The bird resembles a sparrow with rather nondescript brown plumage and a thin bill. The sexes are similar in appearance. Sprague's Pipits are secretive birds that are rarely seen out in the open. Individuals are most often detected by their song, which is a series of seven or eight tinkling, descending notes that is delivered from high in the air.

Date of Listing:
Designated Threatened in April 1999. Status re-examined and confirmed in May 2000.

Causes of Decline:
This species avoids areas with introduced grassed and cultivated lands, as well as any area with heavy vegetation cover. A significant proportion of native grassland is now used for agriculture purposes, and both modification and loss of this species' native habitat have likely been major factors in the population decline. Sprague's Pipit tolerates light to moderate grazing in parkland areas, but likely not in arid grasslands. Reduced fire frequency, and haying, of native grasslands also negatively affect this species.

Diet:
The Sprague's Pipit is almost entirely insectivorous, with seeds constituting less than three percent of the adult diet during the breeding season. Insect foods vary seasonally, with beetles comprising over 40% of the adult diet in May, and grasshoppers in September. Grasshoppers also constitute most of the nestling diet, with most of the remainder being lepidopteran larvae, leaf hoppers, spiders and hymenopterans.

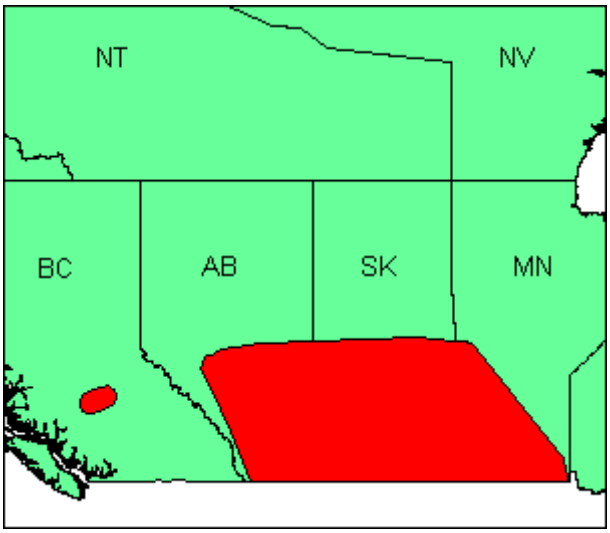
Habitat:
Native grassland is an important habitat for Sprague's Pipits. The species is rarely found in cultivated lands, or in areas where native grasses have been replaced with introduced forages. In general, the Pipits prefer native vegetation of intermediate height and density, with moderate amounts of litter. Such areas tend to occur where habitats are lightly to moderately grazed, or where fires periodically remove vegetation. Areas of suitable habitat must be >150 ha to be attractive as breeding sites for this species. Habitats become unsuitable for breeding where livestock activity is intense, when native habitat is harvested as hay, when fires are suppressed, or when native grasslands become fragmented by human activities. Current information suggests that at least 75% of native grasslands on the Canadian prairies have been lost to cultivation. This has greatly reduced the availability of suitable habitat for Sprague's Pipit.

Reproduction:
The elusive nature of the Sprague's Pipit makes close observations of behaviour difficult to collect, and the breeding biology of this species is poorly understood. Observations of nesting are also scant, because the nest is often placed in a depression below ground level, is well-concealed with a grass roof, and is difficult to locate. Sprague's Pipits prefer to nest in dense, grassy, and relatively tall vegetation with low density of forbs and little bare ground. Nest building has been observed during the second week of May in Manitoba. Four- or five-egg clutches are typical. Some females raise two broods in a season, starting the second nest as much as 21 days after successful fledging of the first. Incubation, conducted exclusively by the female, lasts from 10 to 11 days. The female is also primarily, if not exclusively, responsible for tending to the chicks.

Population and Distribution:
The species breeds from the foothills of the Rocky Mountains in southern and central Alberta, to west-central and southern Manitoba, and south to southern Montana, northern South Dakota and northwestern Minnesota. A single confirmed breeding record also occurred recently in south-central British Columbia. The breeding range appears to have contracted during this century, particularly in the northwestern (Alberta), northeastern (Manitoba), and southeastern (Minnesota) parts of the range. Sprague's Pipits winter in the southern United States and the northern two-thirds of Mexico.

There are no historical estimates of population size for this species but

anecdotal accounts suggest that it was one of the most common grassland songbirds throughout much of its breeding range around the turn of the century. The species remains common in suitable habitat, particularly on the Canadian prairies. However, Breeding Bird Survey data collected over the past 30 years show that populations are declining rapidly in many parts of the range, particularly during the last 15 years. Populations in Alberta and Saskatchewan, where the highest densities of pipits currently occur, have declined by 9.4% and 5.4% per year, respectively, since 1996. Overall in Canada during this period, populations have been declining by 7.1% a year, with the sharpest decreases occurring in aspen parkland regions.



Protection:
The Sprague's Pipit, and its nests and eggs, have been protected from hunting and collecting in Canada since the Migratory Birds Convention Act* was passed in 1917. The species is also protected from disturbance under provincial Wildlife Acts in British Columbia, Alberta, Saskatchewan and Manitoba.* In general, the majority of the species' habitat occurs on private land, and therefore is afforded little protection from alteration and disturbance from human activities. However, large tracts of habitat occur on military reserves (e.g., CFB Suffield in Alberta, CFB Shilo in Manitoba), in national parks (e.g., Grasslands NP), and Prairie Farm Rehabilitation Administration lands, which offer reasonable levels of habitat security.

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

SHRIKE, PRAIRIE LOGGERHEAD
(Lanius ludovicianus excubitorides)

Description:
Shrikes are medium-sized black, white, and grey birds with hawk-

like habits. The upper parts of the adult Loggerhead Shrike are dark grey, its wings and tail are mostly black, and its under parts are whitish. It has a characteristic black face bar which extends across the lower forehead. Young Loggerhead Shrikes do not have any black on the forehead, and their breast and sides are lightly barred. Loggerheads are slightly smaller than Northern Shrikes, which are otherwise so similar that identification is usually based on geographic location.

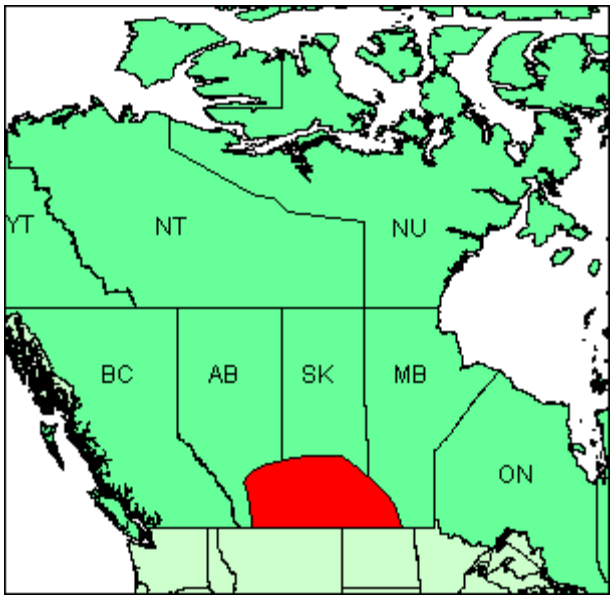
Date of Listing:
The entire Canadian range designated as Threatened in April 1986. Split according to subspecies in April 1991. The excubitorides subspecies retained the original Threatened designation from April 1986.

Causes of Decline:
Loggerhead Shrike populations continue to decline throughout North America and in Manitoba. Over 300 nesting pairs were recorded in Manitoba as recently as 1993, but surveys from 1999 to 2001 revealed only about 100 known nesting pairs per year. While cool, wet stretches since 1993 have severely hampered nesting success and contributed to recent declines, a combination of limiting factors are ultimately blamed for the species' decline. These include decreased habitat quality due to outright loss, fragmentation and degradation of hunting, nesting and wintering habitat and increased losses of young and adults to predators, collisions with vehicles, pesticides, and other limiting factors on nesting areas, the winter range and on migration.

Diet:
Loggerhead Shrikes at all seasons eat mainly large insects with grasshoppers and beetles as prominent items. In the breeding season their diet is principally composed of insects. However, in cold weather or when insects are less available, mice, small birds, small snakes, lizards, or frogs are taken.

Habitat:
Loggerhead Shrikes inhabit open areas with scattered shrubby growth. They are found in open country, savanna, desert scrub, and open woodland. The birds seem to prefer pastures and open areas with telephone poles and fence posts. Loggerhead Shrikes do not adapt well to changes in their habitat.

Reproduction:
Loggerhead Shrikes begin breeding in their first spring. They tend to use the same territory year after year. In Canada, second broods are rare, probably because of the short breeding season. Clutches contain 4 to 6 eggs. Loggerhead Shrikes have a high rate of reproductive success, but this is currently exceeded by their rate of mortality.



Population and Distribution:
In Canada, the prairies population of the Loggerhead Shrike breeds in north-central, central and southern Alberta, central and southern Saskatchewan, and southern Manitoba. The Loggerhead Shrike is also a visitor to southern British Columbia. It winters in the southern United States. This species seems to have been declining since the turn of the century; the greatest declines have occurred in the last 25 or more years.

In 1996, several thousand pairs were estimated to be in Saskatchewan, and 2500 pairs in Alberta. In 1997, there were an estimated 300 - 500 pairs of Loggerhead Shrikes in Manitoba. The most recent estimate available in 2001 counted 7000 pairs of shrikes in Saskatchewan, 2500 pairs in Alberta, and 500 pairs in Manitoba. The Eastern Prairie population, in Manitoba and eastern Saskatchewan, is declining. The Western Prairie population in central Saskatchewan and Alberta is stable.

Protection:
The Loggerhead Shrike is protected in Canada under the Migratory Birds Convention Act of 1917.*

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

FISH

CISCO, SHORTJAW
(Coregonus zenithicus)

Description:
The Shortjaw Cisco is a member of the same family as salmon and trout. Like all salmonids, it has a small second back fin near its tail called an adipose fin. Shortjaw Ciscoes have green backs, silvery sides with purple specks, and white bellies. They are a medium-sized fish with an average length of 28 cm.

Date of Listing:
Designated Threatened in April 1987. Status re-examined and confirmed Threatened in May 2003. Last assessment based on an update status report.

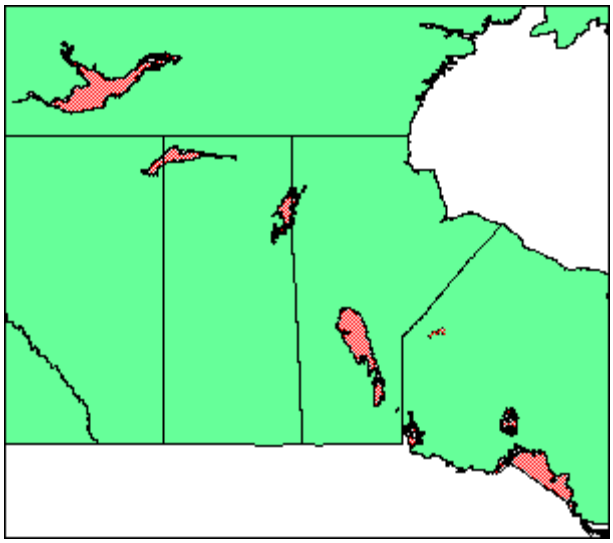
Causes of Decline:
This species has been extirpated from Lakes Huron and Erie and is in decline in Lake Superior and Great Slave Lake. It is still present in Lake Nipigon and numerous smaller lakes where its status is not well known. Threats include fishing, introduction of exotics and climate change.

Diet:
Shortjaw Ciscoes eat freshwater shrimp and insect larva.

Habitat:
Shortjaw Ciscoes are deepwater fish. Some have been caught as deep as 183 metres. They are usually found in waters between 55 m and 144 m deep, depending on the season. They are found in water between 110-144 m in spring, 55-71m in summer and 73-91m in winter.

Reproduction:
Shortjaw Ciscoes usually reach sexual maturity at age five or six. They were originally thought to spawn in the fall but recent observations of spring spawning in Lake Superior make this uncertain. They spawn in half the depth of water they are normally found in. They usually deposit their eggs on a clay bottom and abandon them. Little is known about development of the young. Males and females grow at the same rate but females live longer and can grow larger than males. The number of eggs laid depends on the size of the female. A 30 cm female may lay more than 20,000 eggs.

Population and Distribution:
Shortjaw Ciscoes are found only in North America. Historically, they were found in all of the Great Lakes except Lake Erie. The last confirmed catch of a Shortjaw Cisco in either Lake Michigan or Lake Huron was in 1975 and 1982 respectively. Shortjaw Ciscoes are no longer considered to be present in either of these lakes. They are found in Lake Winnipeg in Manitoba; Reindeer and Barrow Lakes in Saskatchewan; Lake Athabasca in Alberta; and, Great Slave Lake in the NWT.



Shortjaw Ciscoes were common in the Great Lakes until the 1930s. Over-fishing and competition from imported species have caused their numbers to decline. They have vanished from Lakes Michigan and Huron, and are severely depleted in Lake Superior. In the 1920s, Shortjaw Ciscoes made up 90 per cent of the commercial fish catch in Lake Superior. Today, they make up less than five per cent of the catch. Only in Lake Nipigon are they still considered common. Very little is known about Shortjaw Cisco populations in other areas but they are not considered to be abundant in the NWT.

Protection:
The Shortjaw Cisco receives no special protection in Canada.

SHINER, ROSYFACE
(Notropis rubellus)

Description:
The Rosyface Shiner is a slender, silvery-coloured minnow with a large mouth and transparent fins; it averages 51 to 76 mm in length. Its name comes from the bright red colour that appears on the head and pectoral fins of the breeding male. On females, the red hue, if it develops, is paler. Breeding males also develop 100 or more small, rounded swellings that occur primarily on the snout, lower jaw and anterior pectoral; and sometimes on the upper surfaces of the pelvic, dorsal and anal fins. Similar swellings, or tubercles, may appear on the heads of females.

The species is closely related to both Emerald and Silver Shiners. The body of the Emerald Shiner is deeper and more compressed, and its snout is blunt and shorter. The Silver Shiner has a prominent stripe on its mid-back, nine

pelvic rays and dark crescents between its nostrils. The dorsal fin of the Silver Shiner is also set closer to the front compared with the Rosyface Shiner.

Date of Listing:
This species was designated Special Concern in April 1994. In November 2001, it's status was re-examined and uplisted to Threatened. The last assessment was based on an existing status report.

Causes of Decline:
This fish appears to have specific habitat requirements, and responds quickly to any changes in habitat and water quality. Since 1938, some Ohio populations have decreased to the point of extirpation due to increased silt muddying the water. In Illinois, Kentucky and Minnesota, the species is disappearing from streams modified by impoundments and excessive silt.

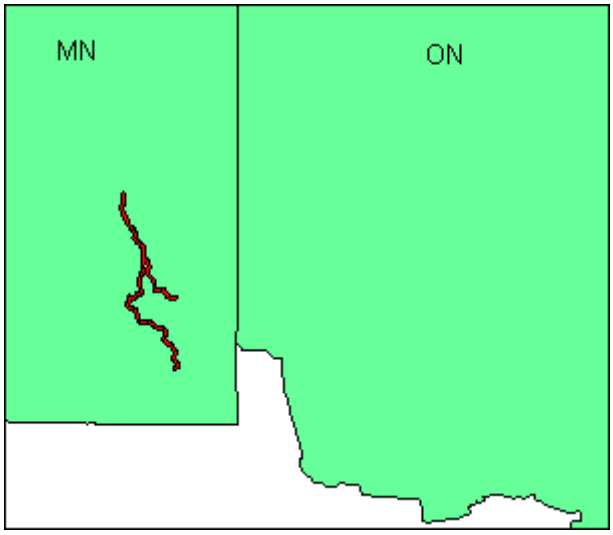
Diet:
Aquatic and terrestrial insects make up a vast majority of the diet of the species, which also eats algae and inorganic material.

Habitat:
The Rosyface Shiner prefers clear, fast-flowing larger streams and small rivers with clean gravel bottoms. It is often found in schools in riffles (shallow parts of streams where water flows brokenly). It also occurs in clear pools in the lower portions of streams near where they join with larger streams or rivers; an area in which aquatic insects are plentiful. The species cannot tolerate turbid or silty water. Silt-free pools and water temperatures of at least 21 °C seem to be critical for spawning activity in New York State.

Reproduction:
United States studies provide details about spawning. They have found that schools of 8 to 12 fish rush into a spawning area. The opposite sexes collide. Mating sessions are a brief five or six seconds in duration. The pair vibrates over a depression in the gravel, and the eggs are then released and fertilized. The fish are apparently mature at one year of age. One-year-old females have been found to carry an average of 600 eggs. Three-year-olds carry an average of 1,175 eggs.

Population and Distribution:
The Rosyface Shiner is found in central and eastern North America. The Canadian range extends from Upper St. Lawrence near Quebec City, west to south central western Manitoba. The species is numerous and most widely distributed in Ontario. It is limited in Quebec to the extreme southern region. It appears to be common in the Chateauguay system; it is abundant in the Ottawa River tributaries in Hull, Pontiac and Gatineau. It is rare in Manitoba but has occurred in the province over a long time. It has been recorded in

the Whitemouth-Birch river systems, and it may also occur in the Red River in southern Manitoba.



In Manitoba, this species is found only in the Whitemouth-Birch river system. It has been collected from the Whitemouth River a number of times, most recently in 1984. Suggestions that individuals occur in the Red River have been discounted. Other suggestions that it may be found in the Winnipeg/Rainy River system and the Interlake area of Manitoba have not been supported by collection efforts (Houston 1994). The Manitoba range represents the northern limit of its North American distribution.

Protection:
The species is not legally protected in Canada, but its habitat is generally protected by the Fisheries Act. In Manitoba, it is somewhat protected by Manitoba's Endangered Species Act.* It has received little attention in Quebec but could be protected under provincial legislation.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

MAMMALS

CARIBOU, WOODLAND (Boreal Population)
(Rangfier tarandus caribou)

Photograph courtesy Natural Resources

Description:
The Woodland Caribou is one of the more primitive members of the deer family. Both sexes generally have antlers. The species is well adapted to a northern environment, with a large, blunt muzzle well covered with fur; valvular nostrils; short and wide ears well covered with fur and tucked behind the antlers; a small heavily furred tail; a compact body covered with thick and long fur (thicker in the winter than in the summer); and large feet. The crescent-shaped, cloven hooves of the caribou are adapted to walking in snow-covered or swampy environments, and change with the season: in the summer, the foot pads are so enlarged that they rest on the ground; in the winter, the pads shrink and become covered by tufts of fur, so that only the horny rims of the hooves touch the frozen ground. The fur of the Woodland Caribou is mostly brown in summer, greyer in winter, but the neck, mane, shoulder stripe, underbelly, underside of the tail, and patch just above each hoof are a creamy white. The annual growth of antlers is so rapid that an adult buck may show velvety lumps on his head in March and have a rack

measuring more than a metre in length by August. By February, all the caribou have lost their antlers.

Date of Listing:
The Boreal population was designated Threatened in May 2000. This newly defined population is comprised of a portion of the de-activated "Western population" and all of the de-activated "Labrador-Ungava population." Status re-examined and confirmed in May 2002.

Causes of Decline:
The combination of habitat destruction, intense hunting, disturbance by humans and predation (by wolves, coyotes and bears) are all factors which have contributed to the decline of Woodland Caribou. Caribou habitats on the east side of Lake Winnipeg, and those near Wabowden and Kississing-Naosap lakes areas in the northwest are impacted by forest harvesting operations and the loss of habitat due to forest fires. Road and rights-of-way developments associated with development activities facilitate the movement of predators and increase human disturbances in parts of the Woodland Caribou range. Recreational development, primarily in southeastern Manitoba, has applied similar pressures through increased access, service line development and higher levels of human activity. A parasitic brain worm carried by white-tailed deer is potentially a limiting factor and is thought to be a threat to caribou in the southern portion of their current range in Ontario, Manitoba and Saskatchewan.

Diet:
Canada’s boreal forest hosts nearly the entire global population of the Woodland Caribou. This forest type provides ideal caribou habitat where the crowns or branches of conifer trees catch much of the snowfall allowing caribou easy access to lichen, their primary winter food source. They also eat other plant species, such as fungi, mosses, herbs, sedges, grasses, shrubs, and trees.

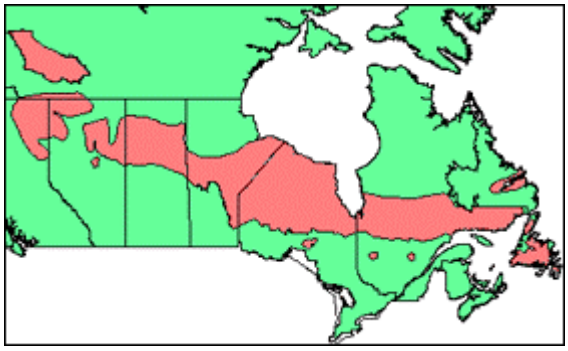
Habitat:
Woodland Caribou prefer mature forests which contain large quantities of lichen and are associated with marshes, bogs, lakes and rivers. In mountainous environments, they are found in alpine prairies and valleys.

Members of the Boreal population occur in a variety of habitats. In northern Alberta, they prefer bogs and fens with low to moderate tree cover and avoid marshes, uplands, heavily forested wetlands, water, and areas of human use. In central Manitoba, they prefer peat lands and generally avoid areas where timber has been harvested or where poplar trees dominate. In Ontario, caribou select habitats containing a high to moderate percentage of conifers and avoid disturbed or shrubby areas.

Reproduction:
Female Woodland Caribou reach sexual maturity at 16 months. Theoretically,

males reach sexual maturity at 18-20 months, but they usually do not breed before 3 or 4 years of age, due to the hierarchical structure of the herd and competition between males. Their reproductive rate is low. Breeding occurs at the end of September and the beginning of October; the young are born in mid June. Woodland Caribou migrate between summer and winter feeding areas, such as between drier open ridges and low fens. In northeastern British Columbia, Woodland Caribou live in small, relatively sedentary bands throughout the year. They are relatively sedentary in Manitoba as well, with the majority of animals wintering in or near their summer ranges. Short migrations to wintering locations can, however, occur. In Ontario, Woodland Caribou typically winter in coniferous forests where "reindeer moss" terrestrial lichen) is abundant. They feed on this lichen by digging through the snow. They are essentially solitary from just prior to calving in May to just prior to the rut in late September. Over most of the range, members of the Boreal population typically roam in small bands or larger herds, though there are periods of dispersal between migrations and during calving. The adult caribou's main predator (other than man) is the wolf, and wolves, bears, and coyotes, as well as occasionally eagles, prey on calves.

Population and Distribution:
In 1982, it was estimated that there were 193,260 Woodland Caribou in Canada, but more recent estimates indicate that the population has declined to about 188,850. Manitoba recognizes two varieties of Woodland Caribou in a total of 16 herds: 14 herds in the boreal forest region and two herds in the coastal region of Hudson Bay. The 14 distinct herds of the boreal forest are widely dispersed from the Bird River in the southeast to Lynn Lake in the northwest. Between 2,000 and 2,500 Woodland Caribou form these 14 smaller herds. Information available suggests that the Woodland Caribou population in Manitoba is holding its own. The 2 coastal herds of Woodland Caribou occur in Manitoba near Hudson Bay. Both populations have steadily increased over the past 20 years. The Pen Island herd numbers about 10,000 animals and ranges eastward from the Nelson River into Ontario. A second herd, found between the Churchill and Nelson rivers, has an estimated 5,000 animals.



Protection:
The hunting of Woodland Caribou is allowed in many parts of Canada, but regulations on the hunt afford a certain measure of protection. Aboriginal people are generally not limited in the number of animals they can take.

Sport hunting of Boreal Woodland Caribou has been banned in Alberta since 1981, and the caribou that occur in Wood Buffalo National Park (which straddles the border between Alberta and the Northwest Territories) are also protected. In Saskatchewan, licensed

hunting of caribou was banned in 1987. In Ontario, caribou are protected under the Ontario Fish and Game Act, and non-native hunting was banned in 1929, but native hunting continues under Treaty rights and an estimated 600 to 700 caribou are taken yearly.

SARA and the Manitoba Endangered Species Act do not mandate habitat protection for the Woodland Caribou. Manitoba Conservation documentation estimates that Manitoba's Woodland Caribou population has decreased by 50% since 1950. This reduction is largely due to human activity such as logging, mining, and hydro operations.

FOX, GREY
(*Urocyon cinereoargenteus*)

Description:
The Grey Fox is a salt-and-pepper grey color on the upper sides from nose to tail. There is a black line that extends from the outside corner of the eyes back to the neck. The tip of the tail is never white as in the red fox. Adult males weigh about three to six kg and measure 36 to 38 cm at the shoulders. The female is smaller. The Grey Fox can climb trees. This ability is used both as means of securing food and as a means of escape when hunted. They are nocturnal and den during the day.

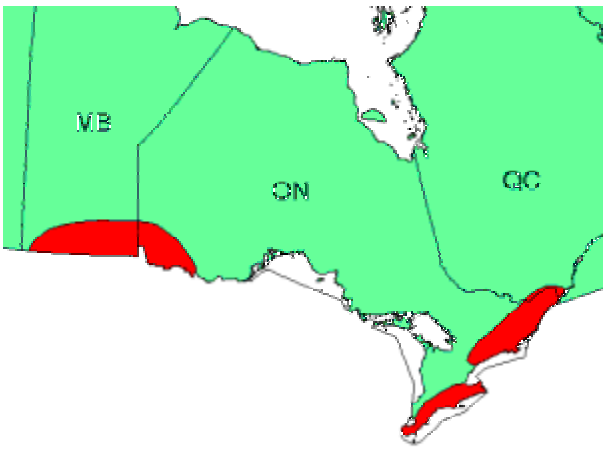
Date of Listing:
Designated Special Concern in April 1979. Status re-examined and uplisted to Threatened in May 2002.

Causes of Decline:
The Grey Fox is prey to cougars, eagles, wolves, coyotes, and humans killing them for their fur. Half a million grey foxes are trapped annually to meet the still high and ever growing demand for fur. Its habitat consists of woody and brushy areas. Destruction of these forests and increased agricultural development is placing this species' continued existence in great danger in Manitoba.

Diet:
The Grey Fox is a solitary hunter and eats a wide variety of food. It feeds on rabbits, hares, and rodents such as rats and mice. It will also eat all kinds of insects, reptiles, amphibians and a variety of fruit. The Grey Fox is the only member of the dog family that can climb trees so squirrels, birds and their eggs also form an important part of the foxes' diet.

Habitat:
Grey Foxes inhabit open forests and marshes. They are able to climb trees, using their sharp, hooked claws to scramble up tree trunks, and jumping between branches.

Reproduction:
The usual social unit is the mated pair. Dens are located in bushy or woodland areas. The Grey Fox can climb trees and uses hollows in standing trees, logs, buildings, and rock crevices as dens. They reach sexual maturity at 10 months and females breed in the first year. The time of mating is from January to April depending on latitude. The breeding season is later for fox located further north. After the gestation period of 51-63 days the female gives birth to the young. Litter size ranges from 4-10 pups. By 3 months, pups begin to hunt with their parents. The family group remains together until the young reach sexual maturity and disperse. The Grey Fox lives for approximately 15 years.



Population and Distribution:
In Canada, the populations of this primarily southern species are very small. Grey Foxes were once abundant in eastern Canada, but disappeared 300 years ago; they reappeared in the 1920s and 1930s. Grey Foxes have been seen in southern Quebec, southern Ontario and southern Manitoba.

Protection:
The Grey Fox is protected in Manitoba, but not in Ontario and Quebec. *

* SARA and the Manitoba Endangered Species Act do not mandate habitat protection for the Grey Fox.

PLANTS

ASTER, WESTERN SILVERY
(Symphyotrichum Sericeum)

Photo unavailable.

Description:
The Western Silvery Aster is a perennial with several stems which measure 30 to 70 cm in height. The leaves are densely covered with silvery hairs. The flowers are violet to pink and occur in composite heads at the ends of branches.

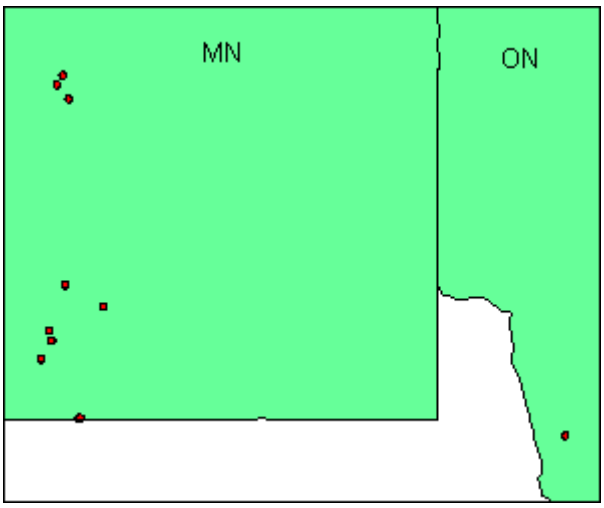
Date of Listing:

Designated Special Concern in 1988. Status re-examined and uplisted to Threatened in May 2000. Last assessment based on an update status report.

Causes of Decline:
The natural limiting factors for the Western Silvery Aster are not well known, but restricted distribution and low seed production are cause for concern. Loss of habitat as a result of human activities (residential development, recreational use, gravel extraction, fire suppression, pasture enhancement and haying) and invasion of grasslands by alien species and woody vegetation are considered to be limiting factors. Many small populations occurring along roadsides are at risk from road maintenance operations.

Habitat:
Western silvery asters are found in well-drained calcareous (alkaline) soils in dry prairies and fields, glacial sand and gravel deposits, dry banks and open oak savannas.

Reproduction:
The Western Silvery Aster flowers from early August to mid September. It is pollinated by a variety of insects, but bees are considered the main pollinators. The fruit develops about 3 to 4 weeks after pollination. This aster reproduces mainly through seeds, but can also spread through horizontal rhizomes just below the surface of the soil. Although seed production is naturally low, it decreases in dry years. In addition, about 30% of seed heads can be parasitized by a weevil (beetle), further reducing seed production.



Population and Distribution:
The Western Silvery Aster occurs in central North America from Manitoba to Texas. In Canada, it is at the northern limit of its distribution and a total of about 6,500 stems occur at two major sites and a number of smaller ones in Ontario and southeastern Manitoba.

Protection:
The Western Silvery Aster is listed as Threatened under the Manitoba Endangered Species Act.*

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

BUFFALOGRASS

(Buchloë dactyloides)

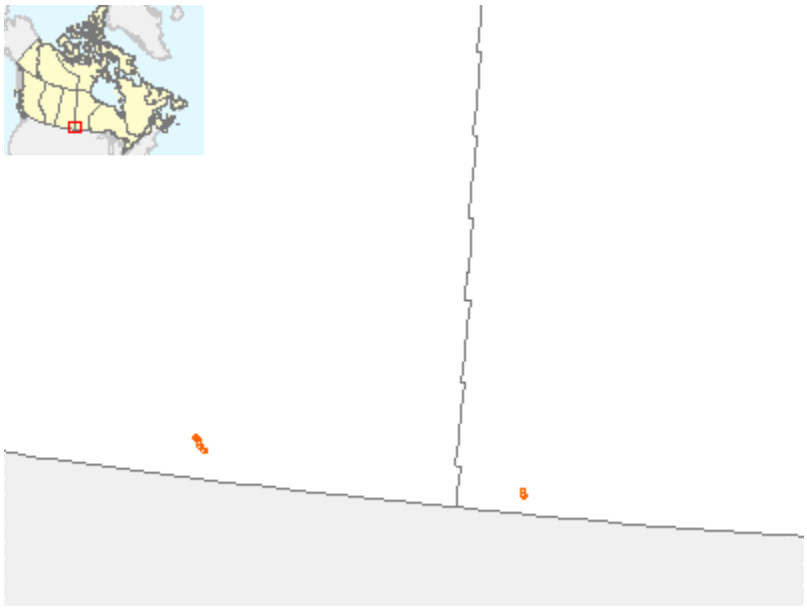
Description:
Buffalograss is a grayish-green, stoloniferous, curly-leaved grass that forms dense matted sods. Male and female plants are strongly dimorphic (physically different). Male plants have slender erect stems 6-12 cm high, bearing 1-3 short spikes about 1 cm long, consisting of two-flowered spikelets. The female plants have very short, often prostrate stems beneath the leaves, bearing tight clusters of one-flowered spikelets that form hard globular burs of 1-5 seeds; these become the dispersal units.

Date of Listing:
Designated Special Concern in April 1998. Status re-examined and uplisted to Threatened in November 2001.

Causes of Decline:
Major threats to Buffalograss in Canada are the destruction of its habitat for agricultural use, road or dam building, and clay pit-mining or coal strip-mining. Fire-suppression might also be limiting the species.

Habitat:
South of the border, Buffalograss is an abundant and often co-dominant grass of the dry short-grass steppes of the western Great Plains. Its optimal precipitation range is between 300 and 600 mm annually. It is not very tolerant to shade. In Canada, Buffalograss is seemingly dependant on clay or clay-loam substrate; early season moisture with subsequent drying; moderate erosion, or cattle-trampling and grazing; and no competition from other mixed-grass prairie species.

Reproduction:
This dioecious and perennial species reproduces sexually by seeds and vegetatively by means of superficial stolons. It begins growth in mid-spring and flowers in summer, setting seed soon thereafter. The heavy toothed burs are more effectively dispersed by ungulates and water than by wind. Only half the seeds germinate the first year, the others requiring one or more years of dormancy. Populations form circular clonal patches of 0.5-3.0 m in diameter.



Population and Distribution:
Buffalograss reaches the northernmost

limit of its range in southeastern Saskatchewan (near Estevan) and southwestern Manitoba (near Coulter), along the Souris River Valley. South of the border the species extends south to south-central Mexico. In Saskatchewan, the largest population contains about 300 clones covering nearly 200 m2. In Manitoba, where 90% of the Canadian Buffalograss occurs, the single population represents about 4800 clones and covers one hectare.

Protection:
Buffalograss is not officially protected by provincial or federal endangered species acts in Canada, although it is one of the species "flagged" by the Saskatchewan Department of Environmental Resource Management when reviewing environmental impact assessments and in evaluating potential protected areas. In Saskatchewan, the Buffalograss Ecological Preserve protects only a minor local population of 19 clones.

PRAIRIE-CLOVER, HAIRY

(Dalea villosa var. villosa)

Description:
The Hairy Prairie-Clover is a member of the Pea Family (Fabaceae) with a woody taproot and caudex. Stems are ascending or decumbent, 30-60 cm tall and densely villose. Leaves are numerous, crowded and 3-5 cm long. Leaflets, numbering 9-17, are densely villose. Dense subsessile spikes, 2-10 cm long, terminate the branches. Flowers have light purple or pinkish purple (rarely white) corollas. The pod is obovate, 3 mm long and villose.

Date of Listing:
Designated Threatened in April 1998. Status re-examined and confirmed in May 2000. Last assessment based on an existing status report with an addendum.

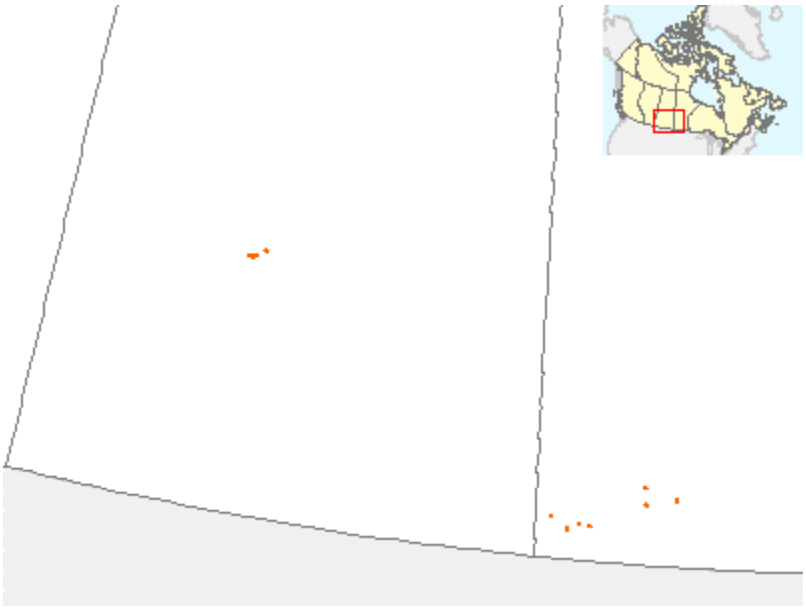
Causes of Decline:
Because the species requires at least partly active sand dunes to survive, it is threatened where dunes tend to stabilize. Grazing and fires play an important role in the dynamics of dune systems and affect populations of the plant. More than two-thirds of the mixed grasslands have been destroyed by cultivation, and further conversion of Hairy Prairie-Clover habitat is a threat. In Spruce Woods Provincial Park, Hairy Prairie-Clover habitat is interlaced with hiking trails and hiking is not restricted to the trails. This type of pressure, which includes the use of all-terrain vehicles in the Dundurn Sand Hills, for example, is also detrimental.

Habitat:
Canadian populations of this plant occur in the Mixed Grassland region, where they are restricted to the sand hill complex. The species appears to be best adapted to active sand or sand hill blowouts, although it is also found on

partially stabilized sand in dune slack areas. The region's climatic zone is characterized by low annual precipitation (30-40 cm), high evaporation rates and fast runoff. Two-thirds of the precipitation falls as rain in the spring.

Reproduction:
The Hairy Prairie-Clover is a perennial species which reproduces sexually by seeds. In Canada, the plants flower from late July to late August, setting seed in September.

Population and Distribution:
The Hairy Prairie-Clover is found in the Great Plains from the Upper Peninsula of Michigan west to south-central Saskatchewan and south to central Texas. In Canada, it seems to be confined to one site in Saskatchewan and two sites in southwestern Manitoba. The Dundurn population in Saskatchewan is estimated at the low to mid-hundreds. In Manitoba, the most successful population, in the Lauder Hills, is in the low thousands, while the other one, in Spruce Woods Provincial Park, has between 1000-1500 plants.



Protection:
At present, no specific legal status is accorded to this species in any part of Canada. Plants found within the borders of Spruce Woods Provincial Park are protected from resource extraction. Also in Manitoba, Hairy Prairie-Clover habitat is technically protected from off-road vehicles within the Lauder Sand Hills Wildlife Management Area. In Saskatchewan, the Dundurn Sand Hills population is partially protected through partial occurrence in the Dundurn Military Reserve.

SPIDERWORT, WESTERN
(Tradescantia occidentalis)

Description:

The Western Spiderwort is a perennial flowering plant with a straight stem measuring 10 to 50 cm in height. The leaves are 10 to 30 cm in length, are folded length-wise, and are marked by prominent purplish veins. The flowers have three rose to blue petals (sometimes white) which measure 7 to 15 mm long. They occur in clusters, but just one flower opens every day and each flower only last a few hours. The fruit is an oblong capsule containing 1 or 2 grey seeds that measure 2 to 4 mm in length. The species' common English name comes from the stringy, mucilaginous substance which can be removed from the ends of broken stems of the plant; when this material hardens, it forms a cobweb-like thread.

Date of Listing: Designated Threatened in April 1992. Status re-examined and confirmed in November 2002. Last assessment based on an update status report.

Causes of Decline:
The main limiting factor for the Western Spiderwort is loss of habitat, which is exacerbated by ongoing agricultural development of the prairie environment, and the specialized habitat requirements of the species. The effects of grazing and of management practices, such as fire control, on the Western Spiderwort are unknown. The largest Canadian population of the Western Spiderwort is threatened by petroleum exploration and extraction in the area.

Habitat:
In Canada, the Western Spiderwort is a component of the sand dune community of mixed grass prairie. A family purchased some land in southwestern Manitoba about 50 years ago to help preserve the sand dune / mixed grass prairie habitat where the species is found. This land has been classified as an Ecologically Significant Area under the province's Ecological Reserve program. Surveys in the early 1990s revealed that their property contains approximately 800 Western spiderworts - almost the entire Manitoba population.

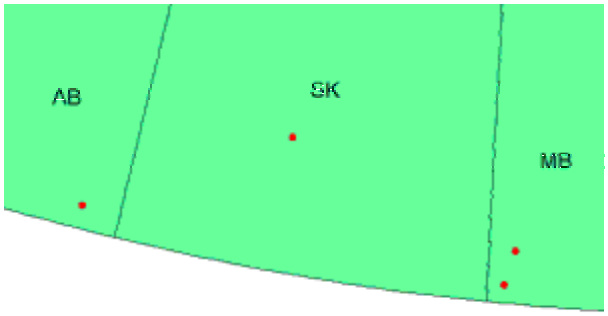
Reproduction:
The Western Spiderwort usually flowers in early July; it reproduces through seeds or through the development of roots on the stem.

Population and Distribution:
The species is native to the Western Hemisphere and is found on the Great Plains of the United States from Montana to Utah, eastward to western Wisconsin, and southward as far as Mexico. In Canada, the Western Spiderwort is at the northern limit of its range, and occurs only in four sites in the southern part of the Prairies: one site in southeastern Alberta (Pakowki Lake Sand Hills), two sites in southwestern Manitoba (Lauder and Routledge Sand Hills); and a possible fourth site in Saskatchewan.

The largest site where the species is found in Canada is in southwestern

Manitoba, where more than 1,700 plants were found in 1992. The Alberta site contained over 200 plants in 1992, and the remaining sites in southern Manitoba and Saskatchewan had population levels of less than 100 individuals in 1992. A 1996 census estimated the Manitoba population of the Western Spiderwort at 46,783 plants, according to a provincial report.

Protection:
The Western Spiderwort was declared threatened under the Manitoba Endangered Species Act of 1994.*



*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

SPECIES OF SPECIAL CONCERN IN MANITOBA
June 2003

The Committee on the Status of Threatened Wildlife in Canada (COSEWIC) defines as a species of Special Concern because of characteristics that make it particularly sensitive to human activities or natural events. As of May 2003, COSEWIC had identified 17 species in Manitoba that fall into this category:

Amphibians
- Frog, Northern Leopard
- Toad, Great Plains

Birds
- Hawk, Ferruginous
- Owl, Short Eared
- Rail, Yellow
- Woodpecker, Red-headed

Fish
- Buffalo, Bigmouth
- Chub, Silver
- Lamprey, Chestnut
- Lamprey, Northern Brook
- Shiner, Bigmouth

Lepidopterans
- Monarch

Mammals
- Bear, Polar
- Wolverine

Plants
- Goldenrod, Riddell's
- Goosefoot, Smooth

Reptiles
- Skink, Northern Prairie

AMPHIBIANS

FROG, NORTHERN LEOPARD
(Rana pipiens)

Description:
The Northern Leopard Frog is a medium-sized frog characterized by conspicuous dark dorsal spots bordered by light-coloured rings. It has a whitish belly and prominent light-coloured, dorsolateral folds. Its dorsal background colour is commonly green, but may be brown. Adults range from 50 to 100 mm in length from snout to vent. Females are larger than males, but males have larger forelimbs.

Date of Listing:
Designated Special Concern in April 1998. Status re-examined and confirmed in November 2002. Last assessment based on an existing status report.

Causes of Decline:
The destruction or modification of the species' breeding, summer or overwintering habitat, or a change which prevents the frogs from moving from one habitat type to another, can eliminate a population. Habitat can also be modified negatively by the introduction of alien animals or plants, such as Common Carp and Purple Loosestrife. In Manitoba, the impact of commercial harvests, especially in the early 1970s, may have contributed to the decline. In Saskatchewan, long droughts as well as wetland modifications were highlighted as factors negatively influencing the species. In Alberta, "red leg", a condition associated with a bacterial infection and renal failure, was believed to be the cause of high mortality in 1976. However, "red leg" appears to become more prevalent when stress levels due to other causes have become higher.

Habitat:
A typical breeding site for this species is a temporary pond about 30-60 m in diameter, 1.5-2.0 m deep, located in an open area, and lacking fish. The presence of significant vegetation seems to be important. In the summer frogs are found in a variety of habitats, but usually not in heavily treed areas, in grass that is more than a meter tall, or in open sandy areas. Preferred habitat seems to be in vegetation 15-30 cm tall. Well-oxygenated water bodies that do not freeze solid are preferred for overwintering.

Reproduction:
Northern Leopard Frogs emerge from overwintering ponds when the water temperature rises to 7-10°C; they then migrate to breeding ponds. A female mates only once and lays a single egg mass, which is attached to submerged vegetation or laid at the surface. Individual females commonly lay around 3500 eggs. Hatching success is generally high. Tadpoles (larvae) can hatch in 9 days or less; after 2 or 3 days the tadpoles become free-swimming.

Tadpoles are aquatic, primarily herbivorous, and few survive the summer. At 20°C, it takes them around 90 days to grow to sexual maturity (become semi-aquatic frogs). The frogs typically spend more than 95% of the day sitting in a small clearing of damp soil in leaf litter. In overcast, rainy conditions they hunt for moving prey of accessible size, mostly arthropods. In the fall they move to overwintering sites. They hibernate in small circular excavations in the surface of the mud. The mortality rate of the adults is about 60%.

Population and Distribution:
In Manitoba, the species was formerly abundant along the southern shores of Lake Winnipeg and Lake Manitoba, and less common up to Southern Indian Lake and east of Lake Winnipeg. By 1976 Leopard Frogs had been virtually extirpated from the province. The species has reoccupied much of its historic range, although densities are far below previous levels.

In Saskatchewan, the species once ranged across the province south of about 55°N. Populations in this province have greatly declined since the late 1970s. The species is still widespread but populations tend to be isolated. The population status of the frog has been tentatively labeled "secure" in Saskatchewan.

In Alberta, the Northern Leopard Frog ranged widely south of 55°N, except in the mountains of the west. Records are also known from north of 55°N. By 1979, the species had vanished from most of its range in Alberta. Only 26 of 74 known breeding populations remain, with breeding confirmed in only 12 of these; the majority at these 12 is in the southeastern corner of the province.

The species has a limited distribution in the Northwest Territories, ranging between the Alberta border and Great Slave Lake. The frog has been reported recently in three of the nine known sites.

Protection:
In Manitoba, the frog occurs in Riding Mountain National Park, as well as provincial parks, wildlife management areas and other refuges. The Manitoba Wildlife Act* stipulates that a permit is required to collect the species, specifies the collecting season, and sets the maximum harvest at 50 tons of adults per year.
In Saskatchewan, the species occurs within Grasslands National Park. However it is not legally protected in the province and no permit is required

to collect it. In Alberta, the government designated the Northern Leopard Frog as endangered in 1987. The habitats of a few populations are also protected by their occurrence in parks and protected areas. In the Northwest Territories, the species can be captured or killed for management or research with a permit.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

TOAD, GREAT PLAINS
(Bufo cognatus)

Description:
The adult frog is large and broad, with a body length (snout to vent) of 45-103 mm for males, and 49-114 mm for females. The upper parts (dorsum) are covered by numerous tubercles or "warts", most of which are <1 mm in diameter. The ground colour varies from greenish to brown, brown-yellow or gray. There are conspicuous blotches which are rounded or irregular in shape, usually paired, and dark brown to olive in colour, with well-defined narrow borders. The lower parts (venter) are granular, almost always uniform white or cream in colour, and rarely spotted. Breeding males have a black vocal sac which, when extended, is sausage-shaped and extends above and beyond the snout.

Date of Listing:
Designated Special Concern in April 1999. Status re-examined and confirmed Special Concern in May 2002. Last assessment based on an existing status report.

Causes of Decline:
Grassland habitat may be widely available for this species within its range, but many areas of grassland may not include depressions (such as sloughs) suitable for breeding when high spring runoff or heavy rains stimulate breeding. Progressive conversion of grasslands to cropland, application of herbicides and pesticides, and local impacts by grazing, may be slowly reducing the quantity and quality of habitat available.

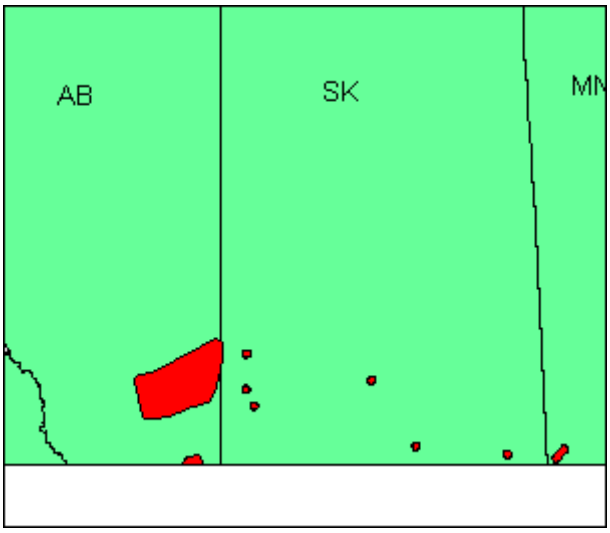
Habitat:
The Great Plains Toad mainly breeds in temporary wetlands which fill with water following heavy rains in late spring and early summer. At Suffield National Wildlife Area, breeding sites were associated with large, shallow seasonal wetlands with limited residual growth and some new emergent grass along the margins. During periods of extended drought in Alberta, the toads appear to rely upon irrigated areas for breeding habitat.

Reproduction:
The Great Plains Toad is primarily nocturnal. Research in Oklahoma suggests that there is a high correlation between precipitation and breeding in this species. Breeding does not occur in the absence of rain, even in irrigated areas. The amount of rain which stimulates breeding activity can vary considerably, and the actual breeding can be delayed until the air temperature has reached 12°C or more. Males arrive at breeding ponds in Suffield National Wildlife Area in early May and commence a chorus of breeding calls, beginning nightly about 45 minutes after sunset and continuing until dawn. Calling males concentrate along the fringes of shallow wetlands where emergent grasses and sedges project from the water. A female usually approaches a calling male by swimming underwater although she may also hop along the shoreline. The male climbs on the female's back, clasping her in axillary and pectoral amplexus until egg-laying has been completed some 24 hours later. The pair moves together to an appropriate egg-laying site. The male uses his legs or feet to gather the eggs as they are being laid by the female, so that they may be fertilized before being released. Larger females lay more eggs than smaller females, but an average-sized female can lay about 20,000 eggs. The larval development period is about 45 days, though shorter larval periods occur late in the breeding season when the water temperature is warmer. Tadpoles are about 11-13 mm long at the time of metamorphosis. Metamorphosis is highly synchronous. The successful metamorphosis of larvae is infrequent, due to drying of breeding pools. Toads avoid dry conditions, including high air temperature with low air humidity, by burrowing into the soil beneath the water surface. The heart rate decreases (brachycardia) and there is a shift to anaerobic metabolism, adaptations to reduce oxygen stress during burrowing.

Population and Distribution:
The Great Plains Toad occurs throughout an extensive range in western North America and the northern half of Mexico. It has been recorded from the southern prairie provinces of Canada southwards to central Mexico, eastward to Missouri, Iowa and Minnesota, and westward to southeastern California and Nevada. In Canada, it is likely widely distributed throughout the area bounded by the Saskatchewan border to the east, the Trans-Canada Highway and Alberta Provincial Highway No. 3 to the south, the Taber-Vauxhall-Lake Newall area to the west, and the Red Deer River to the north. In Alberta, the species is restricted to the southeastern grasslands; in Saskatchewan, most of the few records are near the Alberta border. In recent years (from 1983 on) there have been reports of the species in extreme southwestern Manitoba.

In Alberta, past concerns about declining populations may have been due to lack of investigation during years of higher water, when the species can be detected more readily. Recent surveys (1994, 1996) suggest large numbers of the toad occur at Suffield National Wildlife Area, Alberta. No information is

available to assess the size or trend of populations in Saskatchewan or Manitoba.



Protection:
In Alberta, the Great Plains Toad is afforded complete protection as a non-game animal. It cannot be killed for any reason, cannot be bought or sold, and a permit is required for holding one in captivity for educational or scientific purposes. In Saskatchewan, any person may collect, study, hunt and hold in captivity, without a license, any toad that is not in a protected area (game preserve, wildlife refuge, regional park, provincial park or recreation site). In Manitoba, it is covered under a ministerial amendment to the provincial Wildlife Act.* Large areas of grassland habitat are associated with federal and provincial pastures, parks and military reserves, and these are protected from conversion to cropland.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

BIRDS

Hawk, Ferruginous
(*Buteo regalis)*

Description:
The Ferruginous Hawk is the largest of North American soaring hawks with a wingspan of up to 135 cm (53 inches). In flight, the Ferruginous Hawk has a light underside with reddish-brown markings on the underside of the wings and on the legs, forming a characteristic dark V against the bird's white underparts. Reddish-brown shoulders and a white window patch on the upper surface of

the dark primaries are also distinctive.

The Ferruginous Hawk is found in two colour phases. Dark birds are chocolate brown throughout with a whitish tale and primaries. Although dark birds comprise up to 15% of the population in some areas, in Manitoba they probably make up less than 1% of the population.

Date of Listing:
Ferruginous Hawk was listed as Threatened in 1994 by regulation under Manitoba's *Endangered Species Act*. It has been assigned a status of Special Concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and is protected in Canada under the federal *Migratory Birds Convention Act*.

Causes of Decline:
The Manitoba Conservation Data Centre lists the Ferruginous Hawk as provincially rare (S2). Although it has declined in many provinces and states, it is considered apparently secure range wide by NatureServe. Since the early 1900s, populations in North America have declined to about a quarter of their original estimated size. Habitat loss has reduced its historic range by about 50 per cent. Populations have stabilized and even increased in many parts of the Canadian Prairies over the past 25 years, but the number of birds is still much lower than it once was. Declines are largely due to the loss and degradation of native prairie habitat due to human settlement, agricultural expansion and resource exploration. Ferruginous Hawks are susceptible to disturbance by human activities. Adult birds will often abandon a nest, and the eggs or young, if they are disturbed during the nesting season. Other threats include destruction of nests due to severe weather, and predation by raccoons, magpies, crows or owls. Birds have also been known to die from eating poisoned ground squirrels.

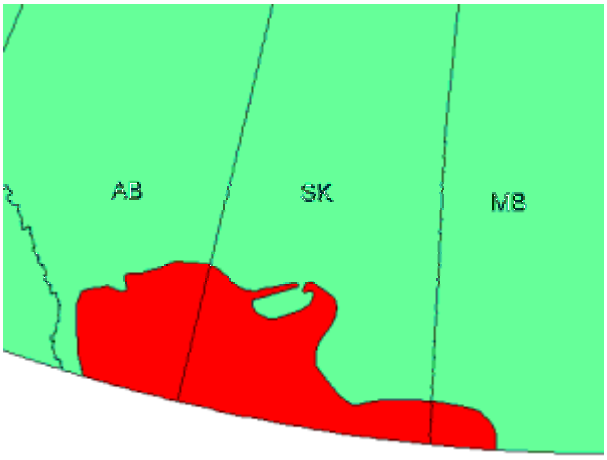
Diet:
Ferruginous Hawks hunt during the day, eating mostly ground squirrels and prairie dogs. Pocket gophers, voles, mice, rabbits and even birds will also be eaten. Adults frequently perch and hunt from the ground, using the sit-and-wait technique, crouching at the mouth of a burrow and snatching up a ground squirrel as it emerges. They also use trees, hydro poles and power lines as hunting perches.

Habitat:
These birds prefer open areas dominated by native grasses and scattered trees or shrubs, with abundant ground squirrels for food. Isolated trees or some other elevated structure are usually required for the nest site, but the species occasionally uses a highly built-up nest on the ground. Ferruginous Hawks typically avoid areas with more than 30% cultivation, sites that are prone to disturbance, or parkland areas where trees are abundant. However, a few pairs in Manitoba have been found to be nesting near busy roads, in areas with no surrounding grasslands, or in fairly large clumps of trees.

Reproduction:
Ferruginous Hawks arrive in summer nesting grounds by late March. Males usually return first, often coming back to the general area where they were raised. Pairs often maintain the same mate. Successful pairs traditionally use the same nest year after year, but unsuccessful pairs may select an alternative nest within their territory. The nest is built by both adults using large quantities of sticks and roots and lined with dead grass, sod and cow dung. These birds are also comfortable using artificial nesting structures, consisting of a wire basket filled with sticks and placed in large trees. In Manitoba, nearly three-quarters of the nesting pairs observed since 1990 have occupied artificial nests. Three to five eggs are laid in late April or early May and are incubated by the female for about 30 days. The male spells off the female on the nest during incubation. Young remain in the nest for six to eight weeks, and are dependent on adults for food for several weeks after they learn to fly. Birds leave their summer grounds in September or October. Young first breed when they are two or three years old. Adults can live for 20 years in the wild.

Population and Distribution:
Ferruginous Hawks nest in western North America, from the Canadian prairies south to New Mexico and Texas. In Canada, Ferruginous Hawks are common in southern Alberta and Saskatchewan. They are rarely found in southern British Columbia, and have recently re-established in southern Manitoba. In Manitoba, the species is concentrated in southwestern Manitoba, as far north and east as Lenore, Brandon and Glenboro. Non-breeding adults have been observed north to St. Lazare and east to Oak Hammock Marsh. Ferruginous Hawks winter in the southwestern United States and in Mexico.

Ferruginous Hawk populations have stabilized or increased over the past 25 years, but are significantly lower than they once were. The breeding population in Canada is currently estimated at between 2000 and 4000 pairs. Only 50-55 of these pairs nest in Manitoba.



Protection:
The Ferruginous Hawk has been protected in Canada through provincial Wildlife Acts*. In Manitoba, the species was declared threatened in 1994 under the province's Endangered Species Act.* Some hawks are still shot, but most landowners recognize the species' value in rodent control. The greatest concern is with the state of key habitats and nest sites.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

OWL, SHORT-EARED
(Asio flammeus)

Description:
The Short-eared Owl is a medium-sized, buffy-white owl with very short ear tufts. The upper parts are broadly but softly streaked. Brown streaks on the abdomen are narrow and more sharply defined. Flight feathers and tail are barred with brown. It has poorly defined blackish areas, which frame the owl's yellow eyes. The owl displays a black patch near the wrist under the wing in flight. It is buffier than the Long-eared Owl, with no cross-barring on its abdomen.

Date of Listing:
Designated Special Concern in April 1994.

Causes of Decline:
Large-scale destruction of native prairie grasslands has been particularly hard on this species. Natural succession, wetland drainage, urban expansion and increasingly intensive farming have contributed to its decline. The species is exposed to danger from predators and agricultural machinery since it nests on the ground. Effects of environmental contamination are not known. Shooting, collisions with aircraft, trains, cars, barbed wire and farm machinery are added factors. The species' attraction to open airport habitats is another problem.

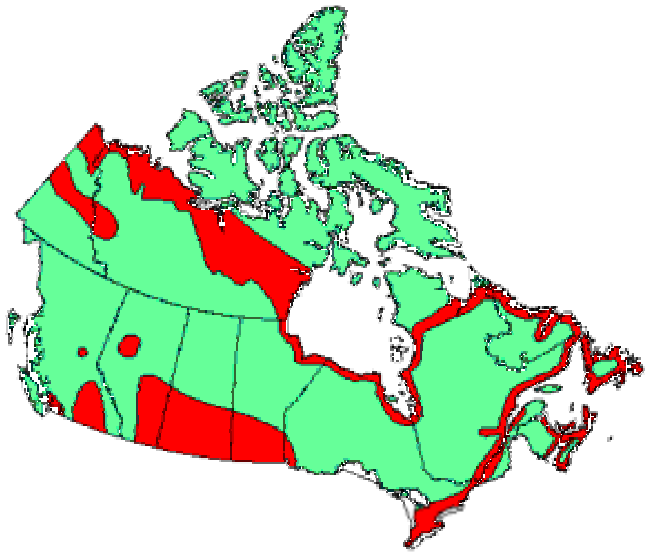
Habitat:
The owl prefers extensive stretches of relatively open habitat. It is primarily a bird of marshland and deep grass fields. It likes to hunt and roost in abandoned pastures, fields, hay meadows, grain stubble, airports, young conifer plantations and marshes in the winter. It frequents prairies, grassy plains or tundra in the summer.

Reproduction:
Atypically for an owl, the Short-eared Owl builds a new nest instead of claiming an abandoned one. Nests are usually slight depressions in the ground. In Ontario, some nests are cups of dried weeds or flattened grasses. Nests are often hidden under low shrubs, reeds and grasses, and are often

located near water. When prey is plentiful, the breeding season begins sooner, and the clutch size is larger. Canadian populations usually raise one brood per year. Females may renest if nests or eggs are destroyed. The average clutch size is 5 eggs, but clutches of 4-14 eggs have been recorded. The young leave the nest at 24 to 27 days. Breeding begins at one year or younger. The species roosts in grass fields where its plumage blends in. The owl is nomadic, and wanders extensively within its winter and breeding ranges hunting for prey. In areas with lots of prey, individuals congregate and roost in groups in the winter. In the winter of 1984-85, 300-400 birds were reported at Toronto's Pearson International Airport. Most congregations consist of fewer than 10 birds. Like other raptors, the owl tends to flush from the nest at the last minute when approached. It has been known to attack human intruders near the nest, but will usually rely on distraction tactics, such as circling overhead using deep wing-beats or playing out its broken-wing act.

Population and Distribution:
The Short-eared Owl breeds or winters in North, South and Middle America, Europe, Asia and Africa, for a nearly global range. In Canada, it breeds in every province and territory, from the southern border to the low Arctic. It is absent from the Boreal Forest and other heavily forested areas. In the winter it withdraws from the northern parts of its range, and remains only in the southern parts of most provinces.

The historical distribution of the Short-eared Owl is probably similar to today's. The owl was likely found in open habitats and marshlands of southern Ontario, Quebec, British Columbia, Newfoundland and the Maritimes. Larger populations probably occurred in the Prairies and across the north. Forest clearing in eastern Canada created new habitat, allowing populations to increase. Destruction of marshes and native grasslands, coupled with intensive agricultural practices, resulted in the species' decline. During the 20th century, population sizes were thought to have decreased in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario and Quebec. However, they remained stable in Newfoundland, Labrador and the Maritimes. The owl now occurs in small numbers throughout its Canadian range. Exact numbers are not known.



Protection:
The species is not protected by the federal Migratory Birds Convention Act, but provincial legislation in most provinces protects it from hunting, possession and selling. Considerable sums are spent keeping this species and others away from airport runways.

RAIL, YELLOW

(Coturnicops noveboracensis)

Description:
The minute size, buffy plumage with black and white markings, very short tail, light eyebrow, and small bill of the Yellow Rail are reminiscent of a quail. It is one of the smallest rails in the world, weighing only 60 g (females slightly less), and measuring 15-19 cm in length. A white wing patch is visible in flight. As in all rails, the body is laterally compressed, and the toes are long, adapted for maneuvering through aquatic vegetation.

Date of Listing:
Designated Special Concern in April 1999. Status re-examined and confirmed in November 2001.

Causes of Decline:
The loss and degradation of wetlands due to agricultural and human development is the greatest threat to this species throughout its breeding range. On the wintering grounds, habitat loss has been so extensive that the wintering range may no longer be contiguous, and the rails are becoming largely restricted to a narrow band of coastline. Coastal marshes are threatened throughout the Gulf states.

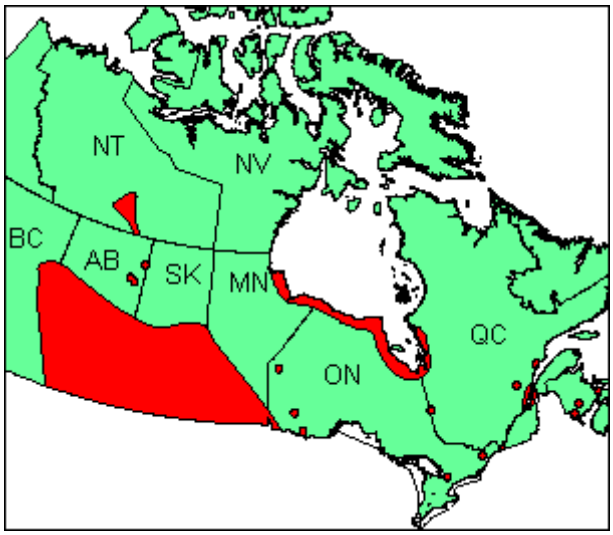
Diet:
Adults eat invertebrates and seeds; the diet of chicks is unknown.

Habitat:
Nesting Yellow Rails are typically found in marshes dominated by sedges, true grasses, and rushes, where there is little or no standing water (generally 0-12 cm water depth), and where the substrate remains saturated throughout the summer. They can be found in damp fields and meadows, on the floodplains of rivers and streams, in the herbaceous vegetation of bogs, and at the upper levels (drier margins) of estuarine and salt marshes. Nesting habitats usually have a dry mat of dead vegetation from previous growing seasons. A greater diversity of habitat types is used during migration and winter than during the breeding season. In winter, the rails are known to use coastal wetlands and rice fields.

Reproduction:

Yellow Rails probably start breeding when they are a year old. Pair formation likely occurs on the breeding grounds. Males in the wild may breed successively with two or more females, as observed in captivity. Females have only one brood per season, but they may renest if the first clutch of eggs is not successful. The nest is a crude scrape in the vegetation, on the ground or just a few centimetres above it, and is typically covered with a concealing canopy of dead vegetation. The 7-10 eggs are laid a day apart. Once the clutch is complete, the female incubates the eggs until they hatch some 17-18 days later. Hatching is synchronous (all eggs hatch at about the same time), and within a few hours the semiprecocial young can stand. Hatching success is likely very high. Two days after hatching, the entire brood follows the hen away from the nest, at five days of age the young can feed themselves, and at 35 days of age they are capable of flying.

Population and Distribution:
Except for a very small area in Mexico where a few birds may still breed, the Yellow Rail breeds exclusively in Canada and the northern U.S. Its breeding distribution appears to be quite local and disjunct. It winters in the U.S., near the east coast from North Carolina to eastern Texas. The Canadian breeding range includes the Mackenzie District of the Northwest Territories, eastern Alberta, central Saskatchewan, most of Manitoba and Ontario, the southern half of Quebec, all of New Brunswick, and northern Nova Scotia.



There are thought to be roughly a few thousand pairs of Yellow Rails breeding in the Hudson/James Bay region, and another roughly 2000 pairs in the rest of Canada (1998 estimates). Habitat availability has declined and is still declining throughout its southern breeding range and relatively small wintering range. In certain parts of the Hudson/James Bay region, habitat may be declining as a result of habitat degradation by Snow Geese (Chen caerulescens).

Protection:
The Yellow Rail is protected in Canada under the Migratory Birds Convention Act of 1917.*

*The Migratory Birds Convention Act limits mandated habitat protection in Canada to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

WOODPECKER, RED-HEADED
(Melanerpes erythrocephalus)

Description:
The head and neck of the Red-headed Woodpecker are crimson in adulthood, and grey when the bird is young. The back and wing coverts (feathers covering the base of its flight-feathers) are black. Secondary wing feathers are white. The adults display conspicuous white wing patches in flight. Black lines run through these patches on the young. The bird can be very aggressive at feeding stations, driving off jays with spectacular power dives.

Date of Listing:
Designated Special Concern in April 1996.

Causes of Decline:
The species is easily disturbed by human activities. Habitat loss is attributable to logging, firewood cutting, agriculture and dead-tree removal for esthetic purposes. As well, competition from European Starlings for nesting sites, and increased road traffic which leads to birds colliding with cars while stooping for insects along roads, are factors that affect the bird's population.

Diet:
This species catches insects in flight more than most other woodpecker species do, and supplements its diet with fruit, nuts, and even eggs of other birds.

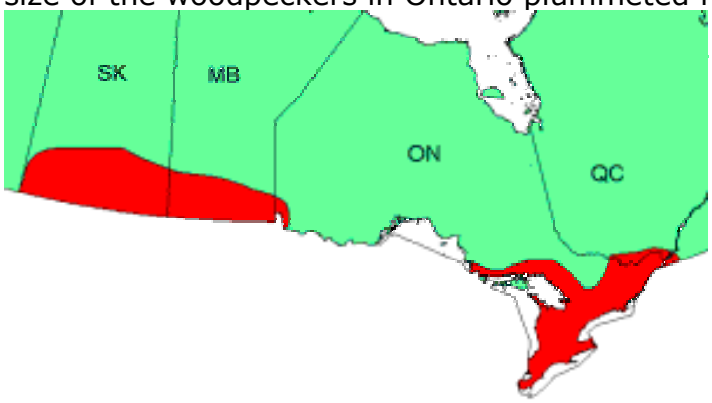
Habitat:
The species is found in thinly treed deciduous forests, woodland and field edges, but also inhabits areas with dead trees, urban parks, farmyards and marsh. It also occurs along rivers and roads with a few large trees. It prefers timber stands treated with herbicides or burned, savanna-like grasslands with forest edges and scattered trees. The species likes open areas with snags and lush herbaceous ground cover, and does not fancy woods with closed canopies. Historically, its habitat availability increased at the onset of European settlement. The habitat then declined steadily due to forest destruction and dead-tree removal for firewood and esthetics.

Reproduction:
Males choose nest sites. They prefer cavities in dead or partially dead deciduous tree, but will nest in living trees, hollow posts and utility poles. Adults often return to nest in the same cavity, the same tree or the immediate area in subsequent years. The species is monogamous. Females lay four to seven eggs between May and July in Canada. Both parents brood the eggs during the 12- to 13-day incubation period and later tend the hatchlings. The young fledge 27 to 30 days after birth. They follow the parents until chased away about 25 days later. Adults raise two broods per

year in the southern parts of the species' range, including Ontario. They raise one brood elsewhere, in spite of persistent re-nesting.

Population and Distribution:
The bird occurs exclusively in North America. It breeds from southern Canada south to Florida. Facing a food shortage, the species will migrate to the southern two-thirds of its breeding range or, on rare occasion, to the north. In Canada, it breeds in southern Saskatchewan, southern Manitoba, southern Ontario and, on rare occasion, in southwestern Quebec. It no longer breeds in southern New Brunswick. Occasionally it visits southern British Columbia, southern Alberta, central Saskatchewan, New Brunswick and Nova Scotia. Its winter distribution is largely determined by food availability.

The Red-headed Woodpecker is not common anywhere in Canada except, perhaps, in extreme parts of southern Ontario. It is a rare but widespread summer resident in Ontario, ranging north to Kenora, Wawa and Sudbury. Ontario populations still occupy most of their original range. The population size of the woodpeckers in Ontario plummeted from 2,000 to 10,000 pairs in the early- to mid-1980s, and from 3,400 to 679 pairs in 1994. The Saskatchewan population is estimated at 10 to 100 breeding pairs. In Manitoba the breeding population is 1,000 to 10,000 pairs; a decline since the 1980s. Only three of 12 known breeding sites in Quebec were used from 1990 to 1994, and only one of these was used in consecutive years, making the bird a rare, infrequent and slowly declining breeder with a very localized distribution in that province.

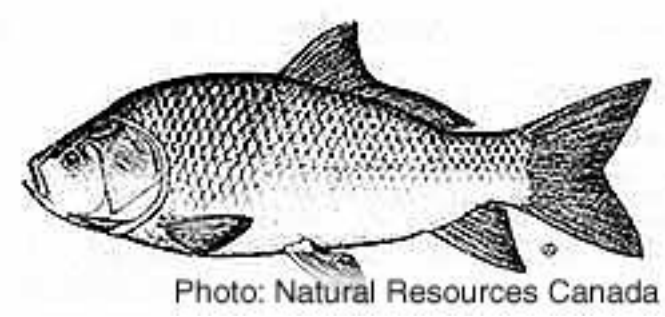


Protection:
The bird, its nests and eggs are protected in Canada and the United States under legislation implementing the 1916 Migratory Birds Convention.*

*The Migratory Birds Convention resulted in the Migratory Birds Convention Act. In Canada, the Act limits mandated protection to migratory bird sanctuaries and federal lands (less than 6% of Canada's total area, excluding the territories). Protection outside these areas is discretionary under SARA and likely going to be restricted to nests only.

FISH

BUFFALO, BIGMOUTH
(Ictiobus cyprinellus)



Description:
The Bigmouth Buffalo is a large sucker with a long dorsal fin, a very broad, lightly forked caudal fin, a rounded anal fin and long rounded pectoral fins. The moderately long head has a large, terminal, and oblique mouth. The scales are large; the back and head are dull brown to olive, while the sides are lighter, the under parts are white and the fins are dusky to grey. Bigmouth Buffalo measure 254 to 457 mm.

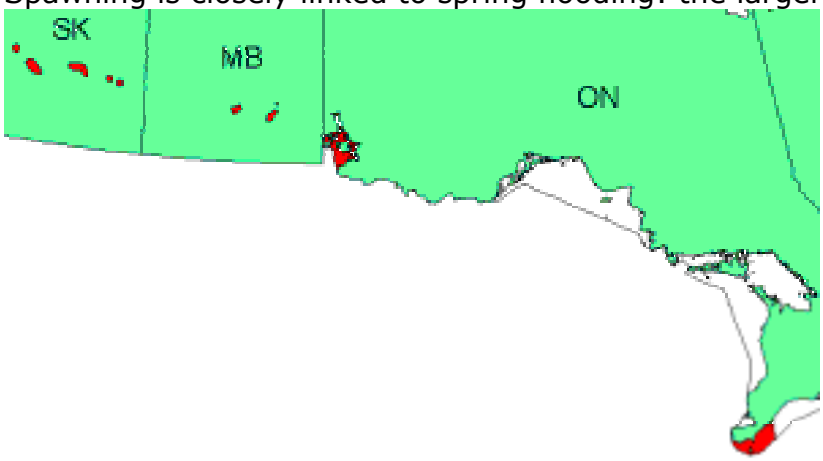
Date of Listing:
Designated Special Concern in April 1989.

Causes of Decline:
The fact that reproductive capacity is strongly linked to spring floods is the main limiting factor for Bigmouth Buffalo. Some parasitic infestations also limit the populations of this species.

Diet:
Bigmouth Buffalo fed on freshwater bottom fauna and plankton.

Habitat:
Bigmouth Buffalo are found near the bottom of shallow lakes, ponds, pools of large streams and man-made impoundments. They inhabit areas where the current is slow; this species will tolerate high turbidity. Bigmouth Buffalo prefer waters that are warm and highly eutrophic; they are found in areas where the bottom fauna and plankton are abundant.

Reproduction:
The areas used for spawning are shallow bays or small tributary streams. Spawning is closely linked to spring flooding: the larger the floods, the better the reproductive success. Spawning occurs in April, May or June, depending on the latitude: the farther north, the later the spawning. Bigmouth Buffalo



reach sexual maturity in their third year. The only migration of Bigmouth Buffalo is to the spawning areas.

Population and Distribution:
In Canada, the distribution of the Bigmouth Buffalo is disjunct. It occurs in some areas of western Ontario, southern Manitoba and central Saskatchewan. In most areas in Canada, the numbers of Bigmouth Buffalo are low. The exception is the Qu'Appelle system in Saskatchewan, where a commercial fishery exists.

Protection:
In Canada, there is no specific protection for Bigmouth Buffalo. The Federal Fisheries Act prohibits destruction of fish habitat.

CHUB, SILVER

(Macrhybopsis storeriana)

Description:
The Silver Chub has a short head, large eyes, and a long snout. This fish has one dorsal fin, a forked caudal fin, an anal fin, pelvic fins and small pectoral fins. The back of the Silver Chub is grey-green, while its sides are silvery and its under parts are silvery white. Silver Chub measure, on average, 102 to 152 mm.

Date of Listing:
Designated Special Concern in April 1985. Status re-examined and confirmed in May 2001. Last assessment based on an update status report.

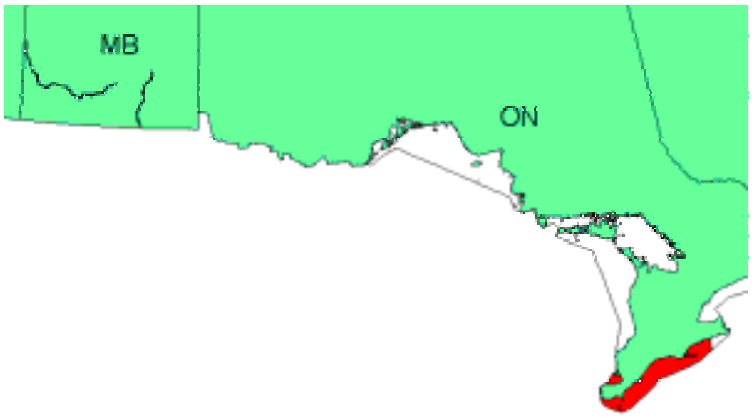
Causes of Decline:
Low dissolved oxygen levels and water temperature fluctuations are factors which can limit Silver Chub populations. The causes for the near extirpation of the species in Lake Erie in the 1960s are not clear, but eutrophication may have played a role; populations recovered shortly after the introduction of the zebra mussel in 1988.

Diet:
In Lake Erie, young feed on small crustaceans and insect larvae, and the adults feed primarily on the mayfly nymph.

Habitat:
In southern Ontario, the Silver Chub has been found in large lakes and connecting rivers, up to 20m in depth. In Manitoba, it generally occurs in large, moderate flow rivers with a substrate of silt or sand, but sometimes gravel, rubble, boulder or bedrock.

Reproduction:

Silver Chub can live no more than three or four years. Spawning occurs in spring or early summer, but their habits are not well known. Silver Chub were found to be sexually mature as early as age one.



Population and Distribution:
The species occurs from Lake Winnipeg and the southern Great Lakes basin south to the Gulf of Mexico. In Canada, Silver Chub have been found in southern Manitoba and in southwestern Ontario. In Ontario, the species is restricted to Lake Erie, Lake St.Clair and Lake Huron. In Manitoba, it is found in the Red and Assiniboine River systems and has expanded northward into lower Lake Winnipeg. The population appears to be secure in Manitoba and has recovered somewhat in Ontario, although its status in Lake St. Clair and Lake Erie are uncertain.

Protection:
There is no protection specific to the Silver Chub in Canada; however the Federal Fisheries Act prohibits destruction of fish habitat. The species occurs in Hecla and Portage La Prairie Provincial Parks in Manitoba.

LAMPREY, CHESTNUT
(Ichthyomyzon castaneus)

Description:
The Chestnut Lamprey is a small parasitic lamprey whose head ends in a buccal funnel. This lamprey has slender and sharp teeth, and a smooth leathery skin with no scales. Chestnut Lampreys are dark grey to olive, or yellow brown above with lighter under parts; at spawning time, the adults become blue-black. Chestnut Lampreys measure approximately 325 mm.

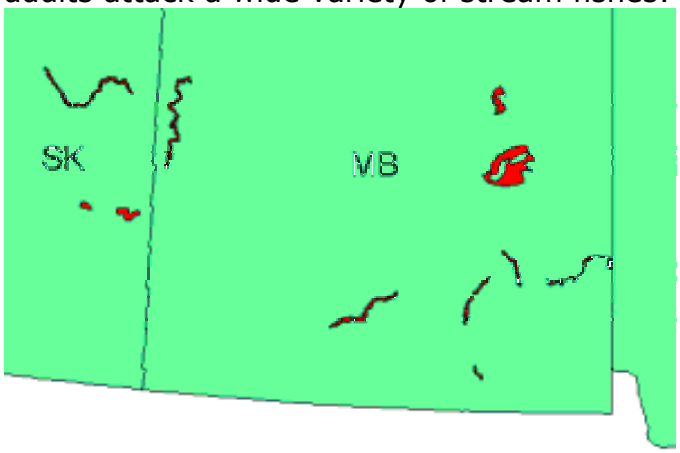
Date of Listing:
Designated Special Concern in April 1991.

Causes of Decline:
The areas suitable for spawning of the lamprey are disappearing due to siltation and pollution. The deterioration of river environments also threatens their food supply. Toxic chemical pollution can cause mortality at all ages; eutrophication can cause mortality in the young.

Habitat:

Chestnut Lampreys inhabit moderate-sized rivers and large creeks. Spawning occurs from mid-June to late July, in areas of coarse gravel.

Reproduction:
Chestnut Lampreys mate once between 7 and 9 years of age; they mate, spawn and then die shortly after the egg-laying has been completed. The young fish hide in burrows and feed on algae, plankton and protozoans. The adults attack a wide variety of stream fishes: they attach themselves to the body of the fish and consume its body fluids and muscles. These lampreys are only active at night; during the day, they hide from the light under rocks or under the cover of river banks.



Population and Distribution:
In Canada, the Chestnut Lamprey is found in some rivers of Saskatchewan and Manitoba. There are no estimates of the size of the Canadian population of this species.

Protection:
In Canada, there is no protection specific to the Chestnut Lamprey. The Federal Fisheries Act prohibits destruction of fish habitat.

LAMPREY, NORTHERN BROOK
(Ichthyomyzon fossor)

Description:
The Northern Brook Lamprey is a small, non-parasitic lamprey with a head that ends in a funnel; its teeth, located in the funnel, are small. The two dorsal fins are joined, and the caudal fin is oval. The skin is leathery and has no scales. The back of this fish is dark grey or brown, while the sides are grey or silver, the belly is orange or silver, the posterior part of the tail is dark grey or black, the base of the dorsal fin is tan, and the eye is bluish. Northern Brook Lampreys average 150 mm in length.

Date of Listing:
Designated Special Concern in April 1991.

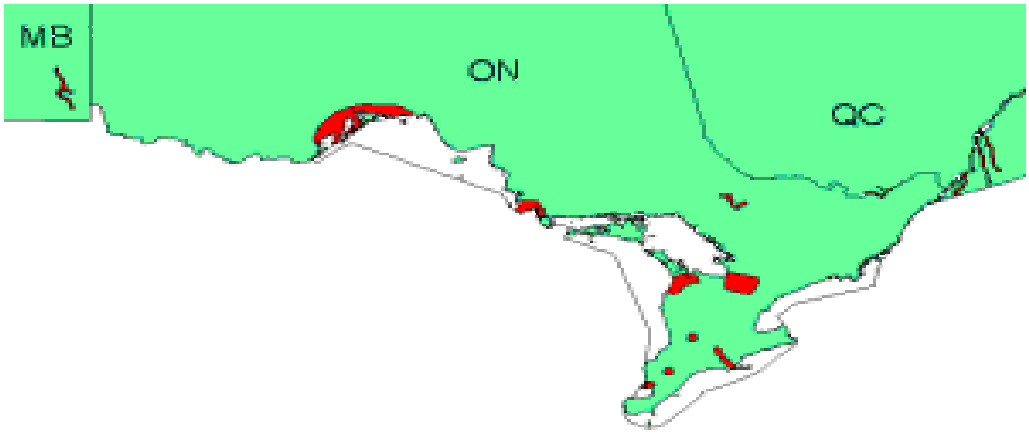
Causes of Decline:
Low water levels are a threat to immature Northern Brook Lampreys. Changes in average water temperature can adversely affect this species. Programs to destroy Sea Lampreys inadvertently reduced Northern Brook

Lamprey populations as well, where the two species coexisted in target habitats. The Northern Brook Lamprey has low fertility, which means that it has had difficulty recovering from the Sea Lamprey destruction programs.

Habitat:
Northern Brook Lampreys inhabit streams and small rivers.

Reproduction:
Northern Brook Lampreys reach sexual maturity at 6 years of age. These fish spawn once, then die a few days later. Spawning occurs in May or June in areas where the bottom is composed of gravel.

Population and Distribution:
In Canada, the Northern Brook Lamprey occurs in the Great Lakes Basin, in some areas of the St. Lawrence River system, and in the Nelson River drainage of Manitoba. No estimates exist for the Canadian populations of the Northern Brook Lamprey; it is known that this species has disappeared from, or is now very rare in, Lake Ontario.



Protection:
In Canada, there is no protection specific to the Northern Brook Lamprey. The Federal Fisheries Act prohibits destruction of fish habitat.

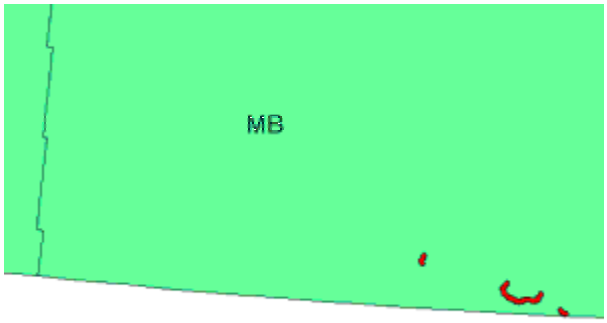
SHINER, BIGMOUTH
(Notropis dorsalis)

Description:
The Bigmouth Shiner has a large triangular head, large eyes and a large mouth. This fish is distinguished by a dark lateral stripe and a distinct mid-dorsal stripe. Bigmouth Shiners measure up to 75 mm.

Date of Listing:
Designated Special Concern in April 1985.

Causes of Decline:
Habitat loss and disturbance are important limiting factors for Bigmouth Shiners. High water levels during spawning may limit reproduction, and the siltation of rivers limits habitat availability for this species. Competition from other species may also be a limiting factor.

Habitat:
Bigmouth Shiner inhabit small creeks and prairie-like streams, where the bottom is composed mainly of sand and where the flow is constant. These fish prefer shallow water.



Reproduction:
Bigmouth Shiners have a maximum lifespan of three years. They grow very quickly, reaching sexual maturity in their second year. The spawning habits of this fish are not known. Bigmouth Shiners are bottom feeders, often found in schools.

Population and Distribution:
In Canada, Bigmouth Shiners are found only in a few locations in southern Manitoba. The Bigmouth Shiner was first discovered in Canada in 1968; there is not enough information to determine population trends in Canada.

Protection:
In Canada, there is no protection specific to the Bigmouth Shiner. The Federal Fisheries Act prohibits destruction of fish habitat.

LEPIDOPTERANS

MONARCH BUTTERFLY
(Danaus plexippus)

Description:
The adult Monarch is a bright orange butterfly with heavy black veins and a wide black border containing two rows of white spots. The wingspan is about 10 cm. Males can be distinguished from females by the presence of black coloured scent glands on each of their hind wings. Monarchs can be distinguished from the smaller but similar Viceroy by the absence of an inner margin of black on the hind wings. Monarch larvae or caterpillars are striped yellow, black and white; they grow to about 5 cm in length. The distinctive gold-green chrysalis suspends from a milkweed leaf or branch.

Date of Listing:
Designated Special Concern in April 1997. Status re-examined and confirmed in November 2001. Last assessment based on an existing status report.

Causes of Decline:
Environmental conditions and loss of breeding habitat pose threats to all Monarchs. However, there are population-specific threats as well. The eastern population of the Monarch is limited by loss of habitat to logging, human disturbance, and predation, especially while wintering in Mexico. Widespread and increasing use of herbicides in North America is another significant threat, which kills both the milkweed needed by the caterpillars and the nectar-producing wildflowers needed by the adults. Threats for the western population include real estate development along the Californian coast, which infringes on the wintering sites of the western population; programs to actively eliminate the Eucalyptus trees (an exotic species); and a protozoan disease.

Diet:
Milkweed and wildflowers (such as Goldenrod, asters, and Purple Loosestrife).

Habitat:
Monarchs in Canada exist primarily wherever milkweed (Asclepius) and wildflowers (such as Goldenrod, asters, and Purple Loosestrife) exist. This includes abandoned farmland, along roadsides, and other open spaces where these plants grow. Monarch wintering habitats include Eucalyptus trees along the Californian coast, and the Oyamel Fir forest in central Mexico.

The distribution of the Monarch has gradually shifted eastward over the past century, due to a combination of clearing of deciduous forests in the eastern USA and southeastern Canada, and loss of habitat to agricultural development in the Great Plains.

Reproduction:
The eastern and western populations of the Monarch annually migrate south, beginning in August and continuing until mid-October. The butterflies actively seek nectar from wildflowers to increase their strength and build up a fat reserve that will maintain them throughout the winter and the early spring (when no nectar is available). Large aggregations of Monarchs may be seen in the fall along the north shores of Lakes Ontario and Erie, as they prepare to cross the open water.

There are 2 or 3 generations of Monarchs from June to September each year. Development through the four stages of the life cycle (egg, larva, pupa, adult) may take between 20 and 45 days, depending on the weather conditions. A female may lay up to 400 eggs per fertilization. The pinhead-sized green eggs are laid one by one on leaves of various milkweed species, the primary food of the caterpillars that will hatch from the eggs after 3 to 12 days. When full-grown (which takes 9 to 18 days of serious chewing), the caterpillar attaches itself upside down to a milkweed leaf or branch, and forms a light green pupa. The adult butterfly emerges after a further 9 to 18 days. The adults have a 1:1 sex ratio. Monarch larvae store poison from the milkweed leaves they eat and pass it along to the adults, which makes the butterfly unpalatable and provides some protection against predation.

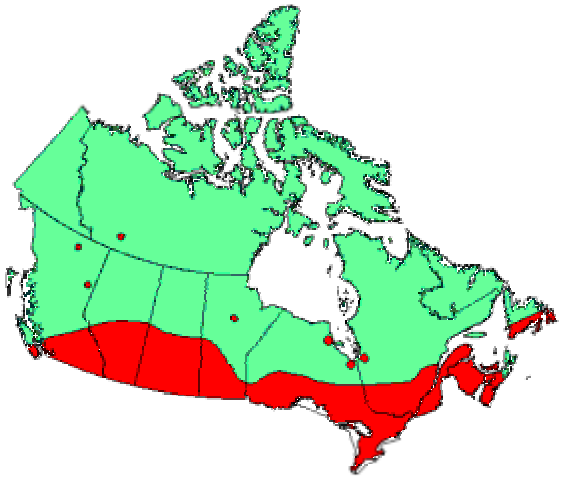
Population and Distribution:
The Monarch is widely distributed from Central America to southern Canada and from coast to coast. There are three populations of the Monarch: western, central, and eastern. The western population includes all Monarchs found west of the Rocky Mountains to the Pacific Coast, from southwestern USA to southern Canada. The entire western population overwinters along the coast of California in Eucalyptus trees (native to Australia, brought to California in the 1850s).

The central population occurs in Guatemala, El Salvador, Honduras, Belize, Nicaragua, Costa Rica, Panama, and southern Mexico. This population is relatively sedentary; the butterflies make short seasonal migrations and are reproductively active throughout the year (unlike the butterflies of the other two populations).

The eastern population of the Monarch is the largest of the three, and includes all Monarchs that occur east of the Rocky Mountains, from the Gulf coast to southern Canada, and from the Great Plain States and Prairie Provinces east to the Atlantic coast. The entire population overwinters annually at approximately 12 sites in the Transverse Neovolcanic Belt, a mountain range in central Mexico. These sites are located within 800 km of each other and occur in the high-altitude Oyamel Fir forest. The Monarchs arrive at these sites between early November and late December, and form large aggregations of millions of butterflies. Generally, they remain inactive throughout the winter. The mass of butterflies breaks up in March and early April and the Monarchs begin their migration north. They fly to the Gulf Coast

where the females lay eggs, and it is these offspring that continue the migration back to the northern breeding range. It takes several generations of butterflies to reach the northern part of the range, each generation responding to the availability of milkweed plants.

Presently the eastern population numbers in the tens of millions, while the western population numbers in the millions. However, each population varies dramatically from year to year, depending on the climatic conditions.



Protection:
The survival of the Monarch is dependent on protection of the overwintering sites in California and Mexico, and the availability of breeding areas rich in milkweed plants, in Canada. Milkweed is currently considered a noxious weed in most areas of Canada, because some species are poisonous to livestock. Common Milkweed is one of the least toxic milkweed species and it occurs in many areas not used by livestock.

Protection for the Monarch began in 1986, when an ecological reserve was created to protect the overwintering habitat in Mexico. In 1995, international cooperation gained momentum when the Canada-Mexico Declaration: Creation of an International Network of Monarch Butterfly Reserves was signed and three areas in Southern Ontario (Point Pelee, Long Point and Prince Edward Point) were designated as Monarch Butterfly Reserves. In 1996 the support of the Commission for Environmental Cooperation for development of a Monarch Butterfly Conservation Program was declared, and in 1997 the Mexican government announced an extensive program for butterfly conservation that includes a new International Model Forest in the oyamel area.

MAMMALS

BEAR, POLAR
(Ursus maritimus)

Description:
The Polar Bear is a large, creamy white bear with a long body, a long neck, a narrow head and very small ears. The

foot pads of this bear are covered with fur as a protection against the cold. The claws and the tongue are black, while the eyes are brown. There is one moult every year, between the end of May and August. Males are larger than females; males measure 2 to 3 m and weigh
420 to 500 kg.

Date of Listing:
Designated Not at Risk in April 1986. Status re-examined and uplisted to Special Concern in April 1991. Status re-examined and confirmed as Special Concern in April 1999 and in November 2002. Last assessment based on an existing status report with an addendum.

Causes of Decline:
Hunting, mainly for their hides, is a limiting factor for Polar Bear populations. Approximately 625 Polar Bears are killed every year in Canada, which is close to the maximum sustainable yield. Fluctuations in the ice, and food availability, especially of Ringed Seals, are other limiting factors. An oil spill could have detrimental effects on the Polar Bear population. Bioaccumulation of toxic contaminants in their prey species also threatens these bears, despite their apparent remoteness from industrialized sites. DDT, dieldrin, mercury and other chemicals from urban centres are borne by wind and water to all parts of the Arctic. An additional risk resulting from increased habitation of the north is that foreign compounds are often stored in areas accessible to wildlife. Polar Bears, because of their highly investigative behaviour, are attracted to and may consume foreign substances that can be harmful or even cause death. Finally, there is speculation that climatic warming could have significant negative effects on ice thickness and thus on polar bear hunting success and survival.

Diet:
Polar Bears are the most carnivorous of all bears. They hunt throughout the year, with seasonal changes in hunting techniques and rates of success. They are solitary hunters of seals, young walrus, fish, birds and a variety of other prey, and will also eat some grasses, berries and mushrooms.

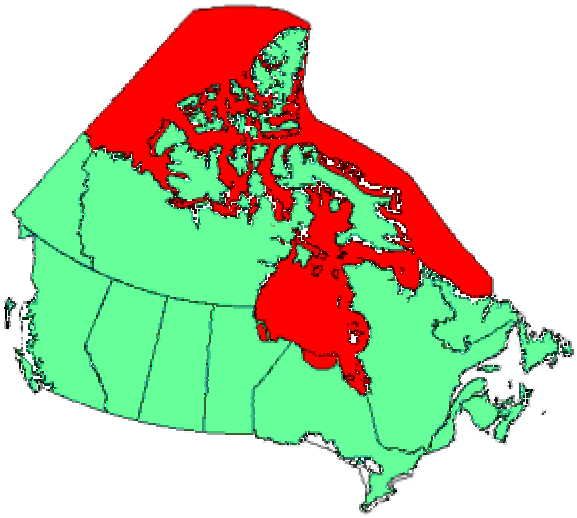
Habitat:
The main habitat used by Polar Bears consists of landfast ice and coastal pack ice. Appropriate denning areas and spring feeding areas are crucial components of the habitat. The animal's movements are influenced by climate and ice conditions, and by the presence of prey, specially Ringed Seals.

Reproduction:
Female Polar Bears reach sexual maturity at about five years of age, while males reach sexual maturity at five or six years of age, but may not begin mating until they are 8-10 years old. On average, a female bears young every 3.6 years. When pregnant, a female digs a den in a snowbank and spends the winter there, giving birth to the young between late October and

early January. Litters are composed of 1 to 4 cubs - usually two. At birth, cubs have closed eyes, weigh about 0.6 kg, and have a covering of extremely fine hair. They weigh 10-12 kg by the time they leave the den sometime between the end of February and the middle of April. They remain with their mothers for 2 1/2 years before being weaned. Non-pregnant females hibernate from 115 to 125 days, while adult males retreat for only about 60 days.

Polar Bears are agile both on land and in water. They spend the spring and summer months moving between drifting ice-floes, then come ashore in late summer and travel along the coasts.

Population and Distribution:
Approximately 1,200 - 1,600 polar bears live in the western Hudson Bay area, an area extending from the Manitoba-Ontario boundary through to Chesterfield Inlet in the Northwest Territories. The majority of the population spends most of the year, from mid-November to late July, on the ice of Hudson Bay. Pregnant females are an exception to this, spending from mid-November through to March in maternity dens on land, and then moving to the sea ice with their cubs. From late July through to mid-November the entire population is forced onto adjacent coastal lands as the ice disappears. The greatest concentrations during this time period occur between the Nelson River and the town of Churchill.



Protection:
Polar Bears are on Appendix II of CITES (the Convention on International Trade in Endangered Species), which means that any shipment of Polar Bears or parts thereof must be done under permit. Regulation of hunting of Polar Bears in Canada falls under provincial and territorial jurisdiction. A Federal/Provincial/Territorial Polar Bear Technical Committee (PBTC) conducts an annual review of the boundaries and status of each population in Canada, determines the sustainable harvest levels, and monitors the annual kill. Enforceable harvest quotas are in effect in the Yukon, Northwest Territories, Nunavut, and Labrador.

In Manitoba, Polar Bears are listed as a protected species under the Wildlife Act* and there is no hunting season. Bears in dens and females with cubs are automatically protected, and aboriginal treaty rights to kill Polar Bears are removed, but the provincial Wildlife Minister may authorize, by permit, the taking of individuals. In Ontario, treaty rights do not allow regulation of

hunting of Polar Bears, but there is an agreement with the Cree hunters on an allowable annual harvest quota. Females with cubs and bears in dens are not specifically protected in Ontario, but the dens are protected, and only persons with treaty rights can legally hunt Polar Bears. In Quebec, there are no quotas currently in effect, but the Quebec Inuit hunters have agreed to constrain harvesting to current levels, which appear to be sustainable. When sustainable harvest levels have been determined for the three individual populations, the Quebec Inuit are expected to enter into cooperative management agreements with other user groups that share the populations.

Internationally, Polar Bear management and research are coordinated under the Agreement of the Conservation of Polar Bears, which came into effect in 1976. Under the terms of the agreement, the taking of Polar Bears is restricted to "local people", which in Canada is interpreted to mean aboriginal people or sport hunters guided by aboriginal people.

In recent years, several National Wildlife Areas, National Parks and National Park Reserves have been established in the north, some of which provide protection to Polar Bears in summer sanctuaries and denning areas. There have been several similar initiatives by the provinces and territories, such as the Ontario Polar Bear Wilderness Park. Wapusk National Park was recently excised from Manitoba's Cape Churchill Wildlife Management Area.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

WOLVERINE
(*Gulo gulo)*

Description:
The wolverine is not long and lean, like a weasel, but short and thick, like a small bear. Its head is broad and round, with small eyes and short rounded ears. Its legs are short and sturdy, with five toes on each foot. Its long, curved claws are semi-retractile, which means the claws can be partly drawn back in, and they are used for climbing and digging. Its teeth are strong, and its head, neck, and shoulder muscles are well developed. These adaptations allow the wolverine to feed on frozen flesh and bone, and they provide a clue as to how wolverines make a living.

An adult wolverine is about the size of a medium-sized dog. Adult males weigh about 12–18 kg, and adult females, about 8–12 kg. Wolverines that live in the north of their range are usually larger than wolverines living farther south.

The wolverine has one of the most striking pelts of all fur-bearing animals. Its fur is typically a rich, glossy, dark brown. Two pale yellow stripes originate at the nape of its neck and sweep along each flank to merge at the base of its long, bushy tail. White or orange patches are common on the chest or throat. The wolverine's toes, forepaws, or legs may occasionally be marked with white.

Date of Listing:
Canadian range considered as one population in April 1982 and designated Special Concern. Split into two populations in April 1989 (Western and Eastern populations). Western population was designated Special Concern in April 1989. Status re-examined and confirmed in May 2003. Last assessment based on an update status report.

Causes of Decline:
There are two main reasons why wolverine populations disappeared from parts of North America. The first is that wolverines are scavengers, which means they feed on carrion, or dead animals, and are attracted to bait. Because the wolverines damaged traplines, early trappers used any means to kill them, including poison. The extensive wolf poisoning programs that occurred throughout Canada beginning in the late 1700s also killed many wolverines.

The second, and more important, reason for the decline of wolverine populations is that wolverines have a low resiliency because of their low densities and low reproduction (the number of young that are successfully produced and raised). This means that wolverine populations have a difficult time rebounding once their numbers have been lowered by either nature or human-influenced factors.

Diet:
Wolverines are omnivorous, consuming a wide variety of scavenged or fresh food items ranging from large ungulates (such as moose, caribou and mountain goats) to smaller animals (such as beavers, porcupines, ground squirrels and fish) to roots and berries.

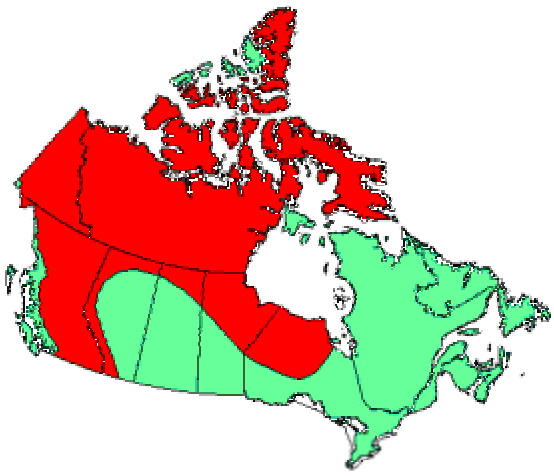
Habitat:
Within its range, the wolverine occupies many different kinds of habitats. Wolverines generally prefer remote areas, far away from humans and their developments. However, the specific characteristics of the wilderness that the wolverine depends upon are not yet known. This lack of knowledge about wolverine habitat makes it difficult for wildlife managers to manage the

species and protect their habitat.

One specific type of habitat required by wolverines is that used by denning females. Finding a wolverine den, where the female gives birth to and raises her kits, is difficult. Most dens that have been found are in tundra regions and consist of a complex of snow tunnels associated with boulders or rocks. The configuration of the rocks results in natural cavities under the snow, which form dens for the wolverines.

Reproduction:
The reproduction rate of wolverines is very low, being less than one offspring per female per season. The breeding season extends from the end of April to the beginning of September. Litters of 2 or 3 young are common. Females normally give birth between the end of March and mid-April, but do not necessarily bear young every year.

Population and Distribution:
The size of the western population of Wolverine is unknown because they are solitary animals that roam over large areas in search of food. Wolverines have virtually disappeared from the prairies, but they are still found in the Rocky Mountain region, in the boreal region, and in the Arctic. The Manitoba Ministry of Natural Resources reports that although Wolverine are rare in the province, the population appears to be re-invading historical ranges in the south and east.



Protection:
Hunting and trapping of wolverines is prohibited in Quebec and Newfoundland. In other provinces, there are regulations to control hunting and trapping, such as hunting permits, the establishment of hunting or trapping seasons, and quotas on the number of Wolverines which can be captured. Although the sale of Wolverine furs is not a major cause of the decreases in population size, it has been recommended that records be kept on the origin of the furs in order to assess the national export volume.

PLANTS

GOLDENROD, RIDDELL'S
(Solidago riddellii)

Description:
Riddell's Goldenrod is a member of the aster family. Its stems are erect, are about 4 to10 decimeters in height and grow from a branching caudex, which is a thickened base. It occasionally has a creeping rhizome (an underground stem that is usually horizontal) as well. Stems grow singly or in small bunches. The leaves of Riddell's Goldenrod tend to have three longitudinal veins, also referred to as triple-nerved. Its lower leaves are linear and tapered. The upper leaves are similar but they gradually become smaller towards the top of the plant. Riddell's Goldenrod has a flat-topped to rounded flowering head or capitulescence that is primarily yellow.

Date of Listing:
Designated Special Concern in November 2000. Assessment based on a new status report.

Causes of Decline:
Several populations of Riddell's Goldenrod that are situated along railways and roadsides are potentially threatened in Canada. Natural areas in southwestern Ontario and southeastern Manitoba continue to be lost to agriculture and other land uses that are not compatible with this plant species. Most populations are small, thus making the species more susceptible to habitat disturbance.

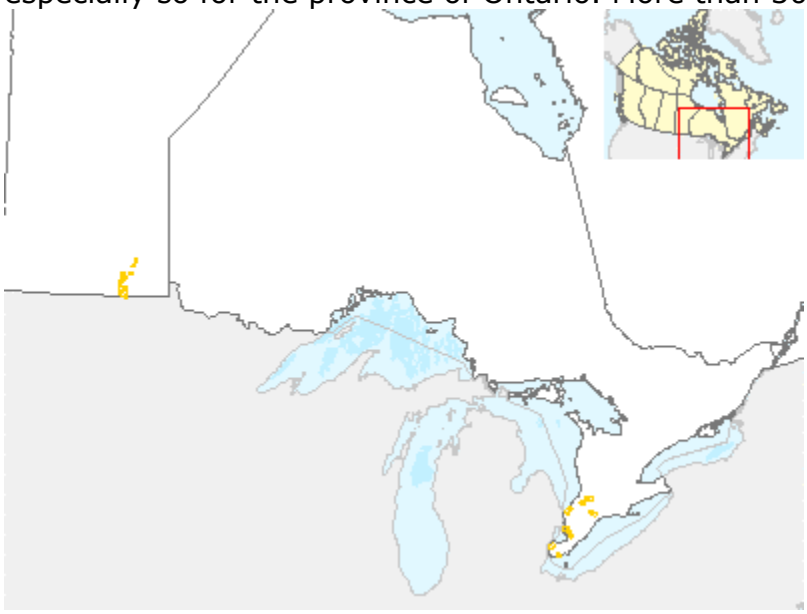
Habitat:
In southeastern Manitoba, Riddell's Goldenrod inhabits undisturbed roadside ditches and allowances, and wet prairie habitats. In Ontario, this plant occurs in wet prairie-like sites, prairie-like flood plains and also in roadside ditches.

Reproduction:
Riddell's Goldenrod is an herbaceous perennial that reproduces by wind-dispersed fruits or achenes. It has the potential to self-pollinate but it is primarily an out-breeder that is pollinated by a range of flies, bees, wasps, and moths. Riddell's Goldenrod only rarely hybridizes with other species; this hybridization probably has only a limited local impact. When the species is in flower in the late summer and early fall, it can be a major source of pollen.

Population and Distribution:
Riddell's Goldenrod occurs in southern Canada and the Great Lake states south to southern Indiana. It also occurs in large disjunct population areas in southeastern Missouri and adjacent Arkansas, in central Illinois, in southern

and western Minnesota, and in Manitoba. In Canada, Riddell's Goldenrod is restricted to southwestern Ontario and southeastern Manitoba.

Population data are available for the Riddell's Goldenrod in Canada and especially so for the province of Ontario. More than 30 extant occurrences,



meaning occurrences that are still in existence, are known in Ontario and Manitoba. In general, population trends are driven by the loss of habitat in southwestern Ontario and southeastern Manitoba. In fact, several sites in one area of Ontario have been lost in the past few decades due to development. Agricultural practices and other human activity have undoubtedly significantly reduced the total number of populations throughout the Riddell's goldenrod's entire range.

Protection:
In March 2001, Riddell's Goldenrod was listed as Threatened under Manitoba's Endangered Species Act.*As such, both the plant and its habitat are protected in Manitoba. Elsewhere in Canada, the species does not receive any legal protection.

*The Manitoba Endangered Species Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging, mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

Photo: Natural Resources Canada

GOOSEFOOT, SMOOTH
(Chenopodium subglabrum)

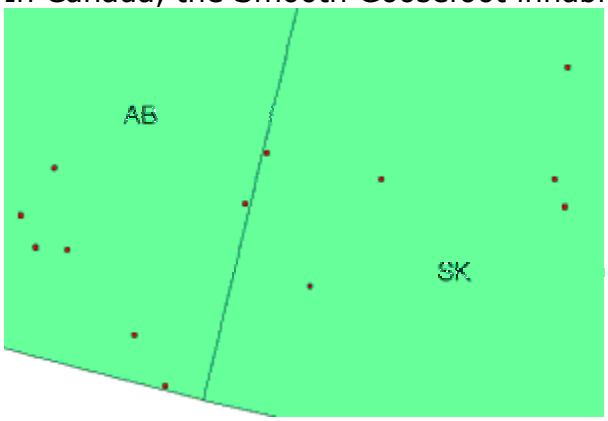
Description:
The Smooth Goosefoot is an erect or semi-erect annual measuring 20 to 80 cm in height, which has many ascending branches. The light green leaves are fleshy and have one vein; the leaves measure 1 to 5 cm in length and 1 to 4 mm

in width. The small flowers are reddish or greenish and occur in small spikes. The fruit contains only one seed, which is shining black and measures 1.3 to 1.6 mm in length and 1.2 to 1.4 mm in width.

Date of Listing:
Designated Special Concern in April 1992.

Causes of Decline:
Loss of habitat is the main limiting factor for the Smooth Goosefoot. It occurs in the grasslands of the prairies, an environment which is threatened by human activities such as agriculture, dune stabilization, grazing and fire control.

Habitat:
In Canada, the Smooth Goosefoot inhabits active sand dunes, sandhills and river banks; it is found in active, unstable sand areas.



Reproduction:
There is very little information on the general biology of the Smooth Goosefoot; it flowers from June to July.

Population and Distribution:
In Canada, the Smooth Goosefoot occurs from southern Alberta to southern Manitoba.

Protection:
In Canada, there is no protection specific to the Smooth Goosefoot.

REPTILES

SKINK, NORTHERN PRAIRIE
(Eumeces septentrionalis septentrionalis)

Description:
The Northern Prairie Skink is a small cigar-shaped lizard with small legs. The back of this skink is olive

to olive-brown, while its sides are dark; there are seven light stripes on its back and sides. The tail is bright blue in young Northern Prairie Skinks, but steel-grey in the adults, which measure 130 to 206 mm.

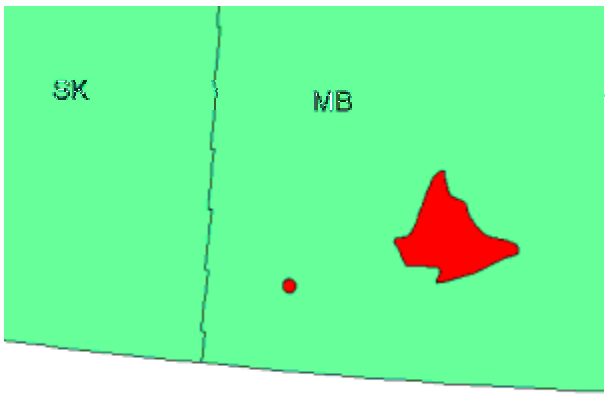
Date of Listing:
Designated Special Concern in April 1989.

Causes of Decline:
Severe weather conditions may affect breeding and thus limit the populations of Northern Prairie Skinks. Loss of habitat is an important limiting factor for the species.

Diet:
Skinks have a preferred diet, and it includes crickets, grasshoppers, and spiders. Other insects and insect larvae are second choice foods. Ants, a readily available food source, are for the most part abhorred. Cannibalism does occur, with adult skinks preying on their own young.

Habitat:
The Northern Prairie Skink inhabits sandy areas located close to a water source such as a river or a swamp.

Reproduction:
Northern Prairie Skinks reach sexual maturity in their third year. These skinks emerge from hibernation in April or early May. In Canada, breeding occurs during the last week of May and the first week of June. Females lay only one clutch a year.



Population and Distribution:
In Canada, the Northern Prairie Skink is found only in southwestern Manitoba. In the United States, its distribution extends from Minnesota and western Wisconsin to Kansas.

Protection:
In Manitoba, the Northern Prairie Skink is protected under the Manitoba Wildlife Act;* collection of this animal is only allowed for scientific study and with a permit.

*The Manitoba Wildlife Act does not mandate habitat protection for listed species – habitat protection is at the government's discretion. Human activity such as logging,

mining, and hydro operations continue to destroy the habitat of species at risk in Manitoba.

REFERENCES

The following sources were used in the preparation of this document:

Canada. *Committee on the Status of Endangered Wildlife in Canada*. September 25, 2002. Web site. Available from http://www.cosewic.gc.ca/eng/sct5/index_e.cfm

Environment Canada. Canadian Wildlife Service*. Hinterland Who's Who.* June 26, 2002. Web site. Available from http://www.cws-scf.ec.gc.ca/hww-fap/index_e.cfm

Environment Canada. *Species at Risk.* January 1, 2002. Web site. Available from http://www.speciesatrisk.gc.ca/search/Default_e.cfm

Manitoba Conservation. Wildlife and Ecosystem Protection Branch. *Conserving Manitoba's Wildlife Resources and Maintaining Biodiversity.* (n.d.) Web site. Available from http://www.gov.mb.ca/conservation/wildlife/index.html