



## What is Wildlife?

In Alberta, we are fortunate to have an abundance and diversity of wildlife – the wild plants, invertebrates, fish, amphibians, reptiles, birds and mammals that live or grow on their own without taming or cultivation by people. Alberta’s wildlife includes **species** that are hunted (game animals) or trapped (fur-bearing animals), as well as animals that people like to watch (non-game animals) or that play important roles in our ecosystem. Most species of wildlife in Alberta are “healthy”. That is, they have enough **habitat** to live, reproduce, and maintain their population size. As long as their habitat is secure, these species will continue to exist for present and future generations of Albertans to enjoy.

## Why are some Wildlife Species “At Risk”?

Unfortunately, some species of wildlife in Alberta are “at risk”. That is, they do not have all the requirements necessary to maintain a healthy population. In the early 1900’s, several big game animals including elk, bison and pronghorn antelope were nearly lost through unregulated hunting. However, the largest threat to species at risk today is the reduction, degradation or outright loss of habitat. Activities like harvesting forests for pulp and paper or draining wetlands for agricultural production reduces the habitat available to species like caribou and northern leopard frogs. Pesticides used to eradicate mice and grasshoppers degrade the habitat of burrowing owls and ferruginous hawks. Losses of large tracts of habitat, such as when native prairie is converted to cropland, can reduce a species’ living space as well as increase pressure from predation, overharvest or other human disturbance on their remaining space. Whatever the cause, if it affects their health - individuals may die or fail to reproduce, causing the population’s abundance and geographic distribution to decline. If the decline continues, the species may be at risk of **extinction** or **extirpation**.

Why should we worry about wildlife at risk in Alberta? Most Albertans and the tourists that visit our province view wildlife as aesthetically pleasing and many of

**Species** – a classification of individuals that share common attributes, have a common name and interbreed with one another.

**Habitat** – the food, water, shelter and space an animal or plant needs to live.

**Extinct** – a species that no longer exists anywhere in the world.

**Extirpated** – a species that no longer exists in the wild in Alberta but is found elsewhere.

**Ecosystem** – an association of living things and their interactions with each other and the environment.

Alberta

us enjoy wildlife and wild places in a variety of activities. Hunting, fishing, birdwatching, or gardening for backyard nature are all activities that are enhanced when there are healthy populations of wildlife around us. These activities also add value to Alberta's economy.

Perhaps more importantly, wildlife is an indicator of the health of the **ecosystems** we share – an ecological warning system. If something goes wrong with a species, it might indicate something is affecting humans also. Peregrine falcons rapidly declined after DDT usage became widespread after World War II. This species was successfully reintroduced after DDT and similar pesticides were banned from North America in the 1970's. If wildlife populations are healthy and **biodiversity** is maintained, chances are the air, water and earth are also healthy. Protecting other species is a step towards protecting ourselves.

Because everything we do has an impact on wildlife, species at risk are often associated with human activities. They are not, however, limited to any one area and can be found in the mountains, foothills, forests, parklands and prairies of Alberta. As well, species at risk are not limited to large mammals but can occur across a broad range of species including insects, plants and birds.

### **How are Species At Risk Identified in Alberta?**

Because wildlife is of value to Albertans, it is important that we identify wildlife species at risk and reverse the factors that have contributed to their decline. Land use changes can be modified such that they leave a place for wildlife. Local volunteer programs such as the Landowner Habitat Retention Program encourage the protection of prairie wetlands and help protect species like northern leopard frog and western blue flag. Similarly, cooperating with international programs like the North American Waterfowl Management Plan helps to conserve and enhance breeding and wintering habitat of many wetland species.

Cooperative efforts and processes to identify species at risk have been in place in Alberta and other jurisdictions for many years. Nationally, species at risk are assessed annually by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and listed as extinct, extirpated, **endangered**, **threatened** or of **special concern**. COSEWIC, a body of scientific experts from all jurisdictions including Alberta, was created in 1977 to identify species at risk of extinction in Canada. In 1988, the Recovery of Nationally Endangered Wildlife (RENEW) committee was formed to prepare and implement Recovery Plans for threatened and endangered species. These two programs work cooperatively to identify and recover species at risk in Canada. To further increase coordination among federal, provincial and territorial jurisdictions, in 1996 the Wildlife Ministers Council committed to the Accord for the Protection of Species at Risk in Canada. This accord makes a commitment to a co-operative, national approach to identifying and conserving species at risk.

In Alberta, species at risk have been recognized since 1977 when two species, the American white pelican and double-crested cormorant were first listed as endangered under the *Alberta Wildlife Act*. This Act also provides for the

**Biodiversity** – the diversity or variety of life on earth.

**Endangered** – a species at imminent risk of becoming extinct or extirpated.

**Threatened** – a species at risk of becoming endangered.

**Special Concern** – a vulnerable species because of characteristics that make it particularly sensitive to human activities or natural events.



Swift Fox

protection of a species' nest or den from disturbance and fines for anyone disturbing, killing or trafficking in endangered or threatened animals. In the past two decades, eleven more animals have been added to this list including four further recognized as endangered (swift fox, bison, whooping crane, and peregrine falcon), and seven recognized as threatened (woodland caribou, barren ground caribou, northern leopard frog, trumpeter swan, ferruginous hawk, burrowing owl and piping plover).

In addition to the protective legislation for species at risk, the Minister responsible for fish and wildlife in 1982 committed to publishing a periodic account of the status of all Alberta's fish and wildlife. Today, the status document provides the first step in a more formal process of identifying species at risk in Alberta.

## Identifying Species at Risk

### Step 1: The Status of Alberta Wildlife Document

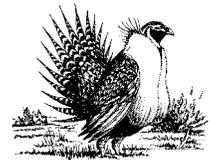
The first *Status of Alberta Wildlife* report was published in 1984 and updated in 1991 and 1996. Each subsequent report has refined the species review process, consulting a wider variety of scientists, land managers and other interested Albertans. As well, the reports have increased their scope and the most recent (to be completed in late 2000) includes not only mammals and birds, but also amphibians, reptiles, odonates (dragonflies and damselflies), lepidopterans (butterflies and skippers), fish, bivalves (e.g. clam), gastropods (e.g. snail), **vascular** plants and selected **non-vascular** plants and fungi.

Today, the *Status of Alberta Wildlife* is produced by Alberta Environment every five years. The review process draws on current knowledge within the department and from amateur and professional experts around the province. Species evaluation forms are circulated and tabulated according to seven criteria including:

- *population size* – the total number of individuals capable of reproduction.
- *number of occurrences* – the number of sites where the species is found.
- *distribution* – the geographic area within an imaginary boundary drawn around all known and inferred occurrences.
- *population trend* – a change in the total number of mature individuals over time.
- *distribution trend* – a change in the geographic distribution of a species over time.
- *threats to population* – any exploitation, harassment, or interaction which may result in a population decline.
- *threats to habitat* – any habitat loss, conversion, degradation or fragmentation that may result in a population decline.

The status reports provide up to date information useful for wildlife and land managers in the development of wildlife conservation and management programs.

**Vascular** plants have a specialized water transport system that is absent in **non-vascular** plants.



Sage Grouse

They also raise awareness of the current status of wildlife in Alberta and stimulate broad public input into the evaluation process. The end result is a general assessment of the status of wild species in Alberta. The six categories included in the *Status of Alberta Wildlife* documents are: at risk, may be at risk, sensitive, not at risk, status undetermined (due to a lack of information) and not assessed.

Next, detailed status reports are produced for *at risk* and *may be at risk* species, as well as some *status undetermined* species. The reports are produced jointly by Alberta Environment and the Alberta Conservation Association, and are written by biologists who are knowledgeable about the particular species. You can find these reports on the Alberta Environment website found at <http://www.gov.ab.ca/env/fw/status/reports/index.html>

### Step 2: The Endangered Species Conservation Committee

In response to its commitment to the 1996 Accord for the Protection of Species at Risk in Canada, Alberta expanded the Wildlife Act to include any animal, fish, plant or invertebrate. As well, in 1998 the Minister created the Alberta Endangered Species Conservation Committee (ESCC). The ESCC is a broad stakeholder group including scientists, government and corporate land managers, resource based land users, and conservation organizations. The ESCC advises the Minister on matters relating to the identification, conservation, and recovery of species at risk such that all wild species are maintained and protected from decline.

### How does the ESCC Identify, Conserve and Recover Species at Risk in Alberta?

- First, the independent scientific subcommittee (SSC) of the ESCC establishes which species are to be assessed further. The SSC, made up of biologists with expertise in fish, mammals, birds, amphibians, reptiles, invertebrates, and plants, uses the Status of Alberta Wildlife document prepared by Alberta Environment to assign priority. Priority is given to species listed as *at risk* or *may be at risk* in the status document; species that are *status undetermined* due to a lack of information; or species that occur in Alberta and are considered at national risk by COSEWIC. Using the detailed status reports produced by Alberta Environment and the Alberta Conservation Association, along with other current information collected by researchers and publications, the SSC makes a detailed assessment of the biological status of each species suspected of being at risk of extinction. The criteria used for these assessments include population trend, population size and distribution, and are based on criteria developed by the **World Conservation Union** for the evaluation of species at risk. The subcommittee may consult outside experts and may commission more detailed studies. When finished, the SSC will provide the results of the species status assessments to the ESCC, including relevant advice and recommendations concerning the conservation of the species.



Sprague's Pipit



Western Blue Flag

**World Conservation Union**  
– the world's largest conservation-related organization that brings together scientists from 181 countries.

- Second, based on SSC recommendations, the ESCC makes a formal status assessment report outlining the species biological status within Alberta. The ESCC also recommends:
  - what legal designation (endangered or threatened) a species should receive,
  - whether a formal Recovery Team should be formed, and who should be invited to join, and
  - what conservation actions are immediately required to prevent further risk or loss until the Recovery Plan is implemented.

This combination of review by both scientists and land use managers ensures that the process is scientifically sound, realistic and workable. It also ensures that the appropriate stakeholders (land managers and owners who own, manage and use the land which all species rely on) participate by giving their advice, knowledge and commitment throughout the planning and implementation process - sound science and practical land use management!

- Third, the SSC assessment and ESCC recommendations are forwarded to the Minister of the Environment.

### **Formally Designating Species at Risk**

Once the ESCC recommendations are received, it is the Minister's responsibility to designate a species as Endangered or Threatened in legislation. Species listed under the Wildlife Act receive automatic protection from killing and trafficking and become candidates for recovery programs. The Minister is also responsible for immediate actions to protect the species and to gain national and international cooperation where necessary. If a Recovery Plan is appropriate, the Minister will strike a Recovery Team whose task will be to prepare and submit the plan for review to the ESCC and the Minister. Recovery Plans are prepared within one year of a species being designated as Endangered and within two years of a species being listed as Threatened unless there is a compelling reason for delay, such as the need for new data to be incorporated.

### **Managing Species at Risk - What is a Recovery Plan?**

The Natural Resources Service (NRS) of Alberta Environment coordinates the implementation of endangered species programs. Inventories, management and recovery programs are ongoing for a variety of species. Interestingly, work on Alberta's first two endangered species, the pelican and cormorant, has resulted in these species' recovery and removal from the endangered species list. Other recovery programs such as the peregrine falcon re-introduction have met with great success.

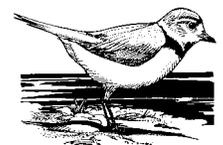
Recovery programs are possible when the factors limiting the species are identified. Actions can then be taken to reverse or mitigate these factors. Where habitat is a limiting factor for piping plovers, graveled shorelines can be created and protected from grazing animals until the plovers have finished nesting. When



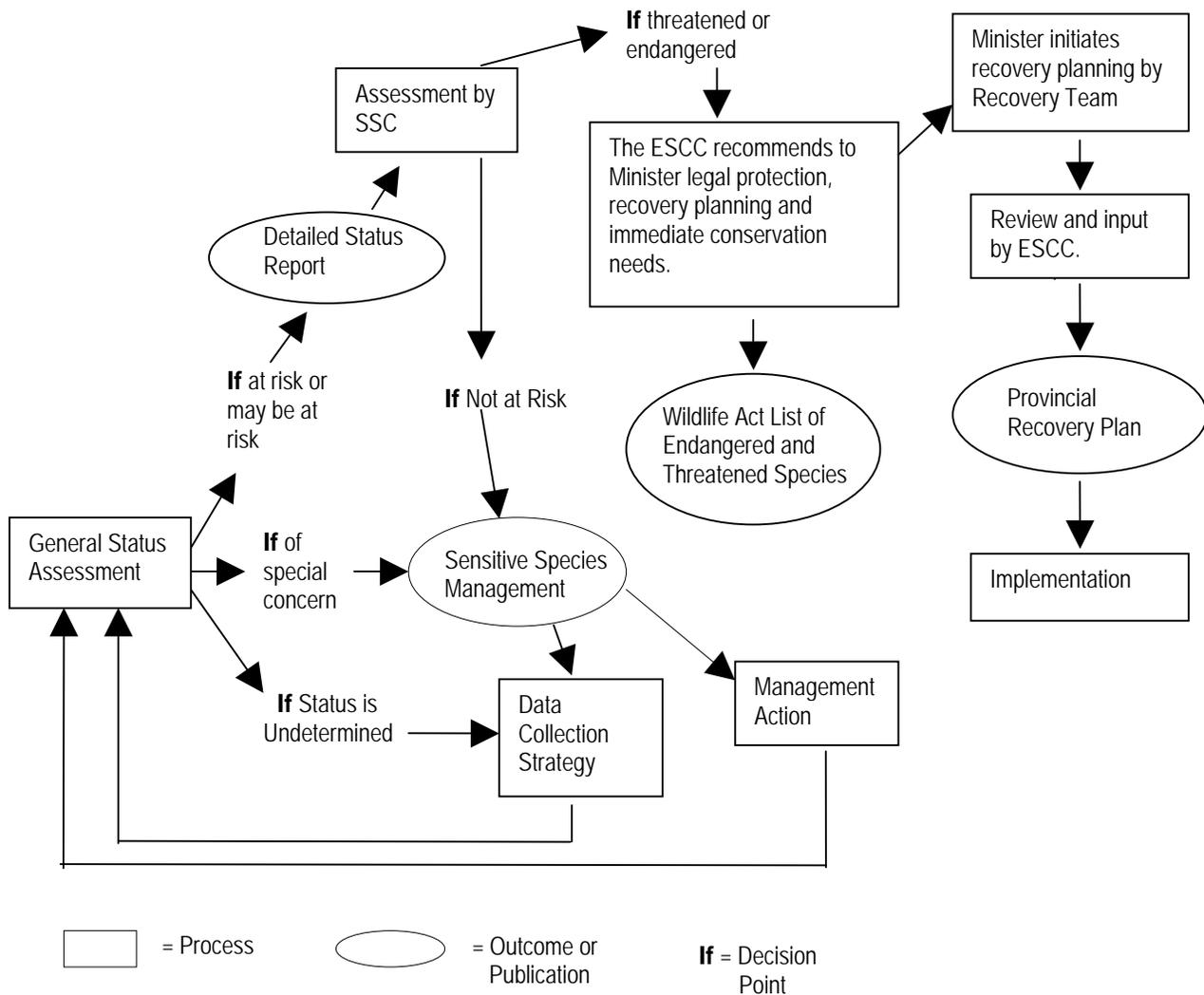
Long-toed Salamander



Peregrine Falcon



Piping Plover



**Flowchart: Alberta's Strategy to Identify and Recover Species at Risk**

limiting factors are not known, a Recovery Plan may call for more study of the species. This is the case for the burrowing owl, a species that may be limited by a lack of food on the breeding ground, as well as a shortage of habitat in its wintering grounds. Studies to determine population locations and numbers, breeding biology and other factors affecting the species are almost always included in Recovery Plans. Recovery Plans usually follow a standard format but are also flexible enough to take into account the biology and life history of the species, current and potential land uses and the social and political implication of specific recovery actions. Recovery Plans are dynamic, rather than static. A Recovery Plan is an ongoing, detailed work plan that is reviewed and updated on a regular basis.



Burrowing Owl

Today, the ESCC and NRS work cooperatively to guide Recovery Teams and stakeholder groups in implementing Recovery Plans for endangered wildlife. However, if this new process of on-going review and identification is successful, species at risk will be identified earlier or perhaps even prevented from becoming at risk in the first place, eventually making Recovery Plans unnecessary. An

ounce of prevention is more manageable and cost-effective than last minute, intensive, reintroduction programs. Managing for biodiversity is more effective than single species management.

### Updates on Species At Risk

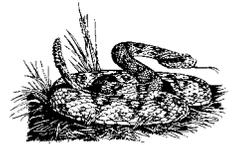
Based on recommendations made by the ESCC, the Minister in May of 2000 made the following changes to regulations under the Wildlife Act:

- After several years of successful management, *peregrine falcon* populations have grown to more than 40 pairs in the province and this species is **downlisted** from endangered to **threatened**. Unfortunately, efforts to restore *piping plover* have not been as successful and this species is upgraded from threatened to **endangered**.
- Dependent on sagebrush for food and protection, the *sage grouse* has declined with the loss of native prairie and is now fully protected and classified as **endangered**.
- Because some species are identified as sensitive to future conditions but not currently at risk, a new category is currently being developed for species of **special concern**. A small songbird of the prairies, *Sprague's pipit* is sensitive to the loss of its breeding habitat. Similarly, the *long-toed salamander* may be sensitive to changes in its foothills habitat. Both of these species are of **special concern**.
- The *prairie rattlesnake* is not listed in a specific at risk category but has had its seasonal protection (of individuals and their dens) extended to year-round protection. For this and other newly listed species, information must still be gathered and protocols established before land stewards can successfully implement management and recovery actions.
- In some cases, a species' listed status may remain the same, but actions to protect the species may change. Although *burrowing owls* have declined in Canada, some populations remain stable in Alberta. This species remains in the **threatened** category but actions, such as protecting nests, will be strengthened and monitoring carried out to collect more information before a change in status is made. Similarly, *swift fox* remain **endangered** but new monitoring and conservation agreements will be carried out to assist this species' recovery.

Individuals are vital to the protection of species. Alberta Environment will work with landowners to determine appropriate action to ensure that the **western blue flag** is protected. The western blue flag is a wet meadow plant that inhabits a very small range in Alberta.

As well as working within the province, Alberta continues to cooperate with its national and provincial counterparts. A variety of plans are being developed to implement the Accord as well as to review new terms of reference for COSEWIC, RENEW and the newly formed Canadian Endangered Species Conservation

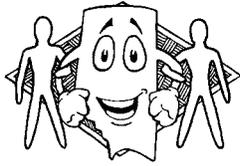
**Downlisted** – the species is moved to a more favourable category.



Prairie Rattlesnake

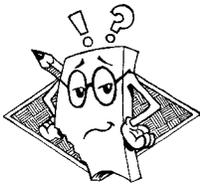
Council. The goal is to work towards developing a national process for determining the general status of all wildlife species in Canada.

### What Can You Do To Help Keep Wildlife Off The “At Risk” List?



Because it belongs to all of us, keeping our wildlife off the “at risk” list is the responsibility of all Albertans. The decisions and actions we make everyday have an impact on other species and it is our responsibility to ensure those decisions are wise ones. Actions as simple as not littering in someone else’s habitat are important to uphold as well as to teach to others. Deciding not to cultivate a wetland or to use native plants to turn a backyard lawn into a butterfly garden are also simple ways of sharing our space. Practising the 3 R’s of Reduce, Reuse and Recycle helps lessen the demand for natural resources. Joining a local natural history club or a regional land-use planning committee are ways of actively learning about and protecting the natural resources around us. Respecting wildlife and giving it adequate space to live and reproduce, will ensure this resource is maintained in the future.

### Further information:



For more information on Alberta’s Species at Risk, here are some suggestions for further reading.

- Alberta Environment & Sustainable Resource Development  
[www.ESRD.Alberta.ca](http://www.ESRD.Alberta.ca)

- COSEWIC – <http://www.cosewic.gc.ca>

### Books and Pamphlets

A list of materials available is on Alberta Environment’s Information Centre web site [www.ESRD.Alberta.ca](http://www.ESRD.Alberta.ca) and search "Education Resources"

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