

field guide to

Wetland & Riparian Species at Risk of the South Okanagan & Similkameen Valleys



Prepared by:

Bianka Sawicz, *Stewardship Officer*
South Okanagan Similkameen Stewardship Program
TLC The Land Conservancy of BC
<http://blog.conservancy.bc.ca/>

Reviewed by:

Alison Peatt, *Grasslands Conservation Council Species at Risk Coordinator*
Paula Rodriguez de la Vega, *TLC The Land Conservancy of BC Senior Stewardship Officer*
Sara Ashpole, *Researcher University of Waterloo*
Terry McIntosh, *Ph.D.*
Lisa Scott, *WITS Okanagan-Similkameen Regional Coordinator*
Margaret Holm, *Okanagan Similkameen Conservation Alliance*

The following agencies and individuals are gratefully acknowledged for providing photographs:

Terry McIntosh, Michael A. Bezener, Sara Ashpole, Curtis Bjork, Ole Westby, Laure Wilson Neish, Robert A. Cannings, Sue Pollard, Gordon Peachey, Jennifer Heron, Gavin Hanke, Floyd Bertrand, Danna Shock, Kevin Dunn, David Cunnington, Paula Rodriguez de la Vega, Dick Cannings, Steve Cannings, Bob McKay, En'owkin Centre, Christine Bishop, Jose Quiles, Brian Klinkenberg

The information contained in this guide has been obtained from a number of sources including:

Species at Risk Public Registry, online source:
http://www.sararegistry.gc.ca/default_e.cfm
Committee on the Status of Endangered Wildlife Canada, online source: http://www.cosewic.gc.ca/eng/sct5/index_e.cfm

Funded by:



Environment
Canada

Environnement
Canada

Habitat Stewardship Program



**HABITAT
CONSERVATION
TRUST FOUNDATION**

Table of Contents

Preface	4
Species at Risk Legislation - Everybody Can Help Them	4
What are Wetland and Riparian Ecosystems?	6
Why are They Important?	7
Wetland and Riparian Status in the Okanagan	7
Protecting These Ecosystems - TLC and the South Okanagan Similkameen Stewardship Program	
TLC	8
South Okanagan Similkameen Stewardship Program	8
Species At Risk Guide	
Insects (Coleoptera)	10
Insects (Lepidoptera)	12
Molluscs	14
Fish	16
Amphibians	22
Reptiles	30
Birds	34
Plants	42
Provincially Red Listed Species	56
Provincially Blue Listed Species	56
For More Information	57

preface

Species at Risk include animals, from snakes to mammals to invertebrates, and plants that have been identified by experts to be in trouble of disappearing.

This Species at Risk booklet has been designed to be a guide to the private landowner. It provides some basic information on individual species, identifies specific threats to the species and provides key actions that landowners can take to help. Finally, it links the landowner to more information on programs and funding that assist private landowners with the recovery of species at risk on their property.

If you own land, you likely have some habitat that is used by wildlife. Farming, ranching and other businesses are compatible with wildlife habitat when managed thoughtfully. We encourage you to learn more about your properties and the unique species that may live there.

*Species at Risk Legislation –
Everybody Can Help Them.*

The status of a species is determined federally (Canada wide) by the Species at Risk Act (SARA) and provincially through the British Columbia Conservation Data Centre (CDC).

Species at Risk Act

The Species at Risk Act was created by the Government of Canada to prevent wildlife species from becoming extinct. The Act protects Species at Risk and their critical habitats. Species can be assigned one of the following status rankings: extirpated, endangered, threatened, or special concern. In this booklet, the status of a species is listed federally as (F) and provincially as (P). For more information on SARA please visit the following website:

http://www.sararegistry.gc.ca/involved/you/default_e.cfm

British Columbia Conservation Data Centre (CDC)

The British Columbia Conservation Data Centre assigns species to a Red or Blue List at the provincial level. This helps the province set priorities for Species at Risk.

Red List: Includes ecological communities and indigenous species and subspecies that are Extirpated, Endangered, or Threatened in British Columbia.

Blue List: Includes ecological communities and indigenous species and subspecies considered to be of Special Concern in British Columbia.

What are Wetland and Riparian Ecosystems?

Wetland ecosystems can be found where the water table is at, near, or above the soil surface for a sufficient period of time to saturate the soils and influence the development of soil and vegetation characteristics. Riparian areas include ecosystems that are adjacent to, and significantly influenced by a water body.

Wetland Ecosystems

Wetlands can be marshes, bogs and ponds. Wetlands are a home to invertebrates such as dragonflies, damselflies, amphibians, reptiles, birds, plants, and mammals. Wetlands are used by these species to breed, develop young, feed and forage, and as shelter.

Riparian Ecosystems

Riparian areas are the transition zone between wet and dry areas. These sites tend to be moister and have a plant community that is distinct from the surrounding upland habitat. Riparian areas house plants that are adapted to growing on saturated soils with low oxygen levels for much of the year. Invertebrates such as many species of dragonflies and damselflies, amphibians and reptiles use riparian areas for breeding, developing young, feeding, and shelter. Birds use riparian areas for foraging and nesting habitat and mammals use these areas as travel corridors and foraging sites.

“Within British Columbia only about 6% of the total land area is covered by wetland and riparian ecosystems.”

Why Are They Important?

Wetlands and riparian ecosystems hold many ecological functions and socio-economic values. In British Columbia, the Conservation Data Centre lists most wetland and riparian ecological communities as at-risk, as well as, numerous plant and wildlife species associated with these ecosystems. Wetlands and riparian areas are recognized as habitats of high biodiversity that provide wildlife and biodiversity values that are disproportionate to the area they occupy on the landscape.

Wetland and riparian areas are fragile and vulnerable to a range of human disturbances such as removing vegetation, dredging, diking, filling, alien invasive species, pollution, livestock grazing, recreation and artificial stabilization (e.g. channelization). Yet, their function is crucial to both species survival and human well-being. Properly functioning wetlands store and filter water while maintaining water quality. Healthy wetlands reduce levels of sediment, nutrients, and toxic chemical outflow of water. Riparian ecosystems reduce peak flows, maintain water quality, provide flood protection, and erosion reduction. Further social values provided by these ecosystems include green space, opportunities for education, bird watching, wildlife viewing, walking, and aesthetic enjoyment.

Wetland and Riparian Status in the Okanagan

Wetland ecosystems are very rare and have been significantly impacted by human activities. Since the 1800s more than 90% of the wetland area has been lost in the Okanagan valley. Riparian ecosystems have also been reduced in area by 73% since the 1800s. Human habitat disturbance through agricultural, urban and suburban settlement and development, including forestry and flood control (e.g. Okanagan River Channelization) have all negatively affected wetlands and riparian areas in the Okanagan.

Protecting These Ecosystems – TLC and the South Okanagan Similkameen Stewardship Program

TLC

TLC The Land Conservancy is a non-profit, charitable Land Trust working with land stewards throughout British Columbia. TLC protects important habitat for plants, wildlife and natural communities as well as properties with historical, cultural, scientific, agricultural, scenic or compatible recreational value. For more information on TLC including information on how to become a member, please see www.conservancy.bc.ca.

South Okanagan-Similkameen Stewardship Program

Since its inception in 1994, the SOS Stewardship Program has been providing private landowners with assistance to be land stewards and in the protection of habitat on their lands. The SOS Stewardship Program is recognized as one of the longest running and most successful landowner contact initiatives in BC. This landowner initiative is crucial, as approximately one third of the land in the South Okanagan-Similkameen area is under private ownership. The majority of private land is located in the valley bottoms where the richest and most diverse habitats and species at risk are found. Hence, the delivery of stewardship information and support to private landowners is vitally important to the continued health and integrity of this rare ecosystem.

The SOS Stewardship Program assists land stewards by providing information on:

- native plants and wildlife;
- assisting with land management issues;
- preparing conservation plans;
- habitat enhancement and species residence creation projects;
- sharing information on habitat sensitive development.

There are a few ways private landowners can get involved in actively protecting or conserving habitat to help species at risk. These options include becoming a Wildlife Habitat Steward through a Stewardship Agreement, Conservation Covenants and EcoGifts.

For more information on stewardship options, please contact TLC's Okanagan Office at 250-492-0173.

Insects
(Coleoptera)

*Dark Saltflat
Tiger Beetle*
(*Cicindela parowana*)

Status: Endangered (F), Red (P)



Robert A. Cannings

Dark Saltflat Tiger Beetle

What do they look like?

The Dark Saltflat Tiger Beetle ranges in size from 10 mm to 21 mm long. These beetles have large pointed antennae that arise from the top of the head, long spindly legs which hold the body well off the ground, a narrow body, and broad hind wings used for flying. Ground colour ranges from brilliant green, violet, or orange to greyish and black.

Where is it found?

Alkaline flats (a nearly level plain that is covered with a hard, dry mixture of alkaline salts and sediment, formed in an arid region by the complete evaporation of a shallow lake or basin) are the preferred habitat of the Dark Saltflat Tiger Beetle. These beetles are active during daylight and are sun-loving species, however, adults have been found to burrow into sand at night or on hot days.

What threatens its survival?

- Development on alkaline flats
- Loss or degradation of their habitat
- Compaction of soil by livestock and ATVS use
- Pesticide use

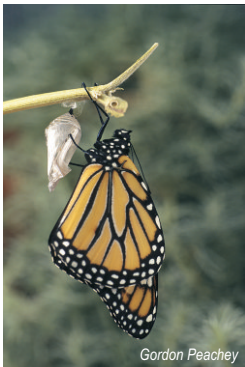
What you can do to help!

- Protect alkaline lakes and flats
- While recreating around these areas be careful to stay off them
- Learn more about this species and the potential of it on your land

Insects
(Lepidoptera)

Monarch
(*Danaus plexippus*)

Status: Special Concern (F), Blue (P)



Monarch

What do they look like?

The 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. Monarch larvae or caterpillars are striped yellow, black and white and grow to about 5 cm in length.

Where is it found?

This species exists wherever milkweed and wildflowers (such as goldenrod, asters, and purple loosestrife) are present. Sites containing these plants include abandoned farmland, along roadsides, and other open spaces.

What threatens its survival?

- Widespread and increasing usage of herbicides which kills both the milkweed needed by the caterpillars and the nectar-producing wildflowers needed by the adults
- Development and breeding habitat loss

What you can do to help!

- Learn more about this species
- Allow nectaring plants to grow on your land (milkweed, goldenrod, asters, and other wildflowers)
- Decrease the use of herbicides

Molluscs

*Rocky Mountain
Ridged Mussel*
(*Gonidea angulata*)

Status: Special Concern (F), Red (P)



Rocky Mountain Ridged Mussel

What do they look like?

The Rocky Mountain Ridged Mussel is a large freshwater mussel. Its shell is trapezoidal and up to 12.5 cm long and 0.4 cm wide. The surface of the shell is marked by well-defined growth rings with a prominent ridge at the beak. The colour of the shell ranges from greenish in juveniles to bluish-black in adults. The inside of the shell is white tinged with coppery blue.

Where is it found?

This mussel can be found in fresh water in various sizes of lakes and streams. It prefers shallow water where the flow is constant and where the bottom is composed of fine material. This species avoids murky, nutrient rich water and can commonly be found buried partially or completely.

What threatens its survival?

- Destruction and degradation of its habitat
- Sensitive to changes in its environment (e.g. temperature, composition of water)
- Eutrophication (the process by which a body of water becomes rich in dissolved nutrients from fertilizers or sewage, thereby encouraging the growth and decomposition of oxygen-depleting plant life and resulting in harm to other organisms) of lakes and streams
- Invasive species (such as zebra mussels)
- Pollution

What you can do to help!

- Decrease the use of fertilizers near water bodies
- Avoid eroding lake and stream banks which add mud to the water
- Report all sightings of the species and invasive mussels

Fish

Umatilla Dace (*Rhinichthys umatilla*)

Status: Special Concern (F), Red (P)



Gavin Hanke



Rhinichthys umatilla



Rhinichthys falcatus



Rhinichthys cataractae

Gavin Hanke

Umatilla Dace

What do they look like?

The Umatilla Dace is a member of the Carp family that lives exclusively in the Columbia Basin. It has a mottled pattern with cream-coloured flanks. Small barbels located on the edges of its downward facing mouth identify this species. This fish lives in rivers or creeks with fast-flowing water.

Where is it found?

This species prefers river habitats with cobble and stone cover where the current is fast enough to prevent siltation. These fish are usually found along the river banks, at depths of less than 1 m. The Umatilla Dace prefer productive low elevation waters where food may be more abundant than in the colder, unproductive water of higher elevations.

What threatens its survival?

- Dams
- Silt introduced into waterways from disturbance (forestry, development, agriculture) or from reduced waterflow due to irrigation

What you can do to help!

- Conserve water
- Prevent land disturbances from occurring near waterways
- Stabilize riparian banks

Fish

Chinook Salmon (*Oncorhynchus tshawytscha*)

Status: Threatened (F)



Chinook Salmon

What do they look like?

The population of Chinook salmon in the Okanagan basin are genetically distinct from every other species of Chinook in Canada. The Chinook is blue-green on the back and top of the head with silvery sides and white abdomen. It has black spots on its tail and the upper half of its body. As they approach fresh water to spawn, the body colour darkens and a reddish hue around the fins and belly develops. The teeth of adult spawning males become enlarged and the snout develops into a hook. This fish can weigh up to 57 kg.

Where is it found?

Chinook salmon are born in fresh water and grow in streams, lakes, estuaries, or the ocean. The Okanagan population spawns in the Okanagan River near the McIntyre Dam, between the dam and Osoyoos Lake. During migration, resident adults may hold in the Okanagan River below the Similkameen confluence or Osoyoos Lake until spawning temperatures are favourable. As young emerge, some remain in Osoyoos Lake or the Okanagan River while other individuals migrate through the Columbia River and into the Pacific Ocean.

What threatens its survival?

- Overfishing in the Columbia River and the Pacific Ocean
- Pollution in the Columbia River
- Loss of habitat
- Dams
- Water Quality in spawning habitats
- Ecological effects of invasive species in Osoyoos Lake

What you can do to help!

- Ensure that Chinook spawning grounds are accessible by the fish and left undisturbed
- Support river restoration efforts from Okanagan Falls to Osoyoos
- Get involved locally in BC Rivers Clean Up Day
- Assist with efforts to clean up Osoyoos Lake

Fish

Columbia Sculpin
(*Cottus hubbsi*)

Status: Special Concern (F), Blue (P)



Gavin Hanke



Cottus hubbsi

Gavin Hanke

Columbia Sculpin

What do they look like?

The Columbia Mottled Sculpin is a small fish that reaches a maximum 10 cm to 11 cm in length. It is a typically shaped sculpin with dark mottling on the fins, tail and body.

Where is it found?

This species can generally be found in rocky riffle habitats in rivers and streams, but may sometimes occur in lakes as well. In the Okanagan, the Columbia Sculpin can be found in the Similkameen River in British Columbia.

What threatens its survival?

- Limited habitat and competition with other more effective species
- Unnatural fluctuations in water levels, temperature and flow (hydroelectric and storage reservoirs)
- Dams
- Agriculture, mining, logging, pollution from lumber mills, and sewage treatment facilities
- Lake poisoning due to extraction of materials (coal mining)

What you can do to help!

- Prevent river and creek side erosion
- Avoid polluting water bodies

Amphibians

Northern Leopard Frog

(*Rana pipiens*)

Status: Endangered (F), Red (P)



What do they look like?

The Leopard Frog has an olive green top side, and a white coloured underside. The topside is covered in white-ringed black spots and the legs have dark bars. It has bulbous eyes and large tympanum (the circular ear covering on the side of the head).

Where is it found?

The Northern Leopard Frog uses a variety of habitats to meet its needs throughout the year. Separate sites are generally used for overwintering and breeding. Overwintering sites are well-oxygenated water bodies, such as streams or larger ponds that do not freeze solid. Breeding sites are temporary ponds that often dry up in late summer and marshes or swamps. A typical breeding pond is 30 m to 60 m in diameter, 1.5 m to 2.0 m deep, located in an open area, with a lot of emergent vegetation, and no fish. In the summer the frogs are found in a wide variety of habitats, but usually not in heavily treed areas, in grass that is more than a meter tall, or in open sandy areas. The preferred habitat of the frogs seems to be vegetation 15 cm to 30 cm tall that is relatively close to water.

Northern Leopard Frog

What threatens its survival?

- Disease transmitted from invasive species (e.g. *American Bullfrogs*)
- Predation from invasive species (e.g. *Non-native fish, American Bullfrogs*)
- Stocking of wetlands/ponds with non-native fish
- Loss of wetland habitat through destruction and modification
- Wetland draining resulting in the drying up of temporary ponds
- Wetland 'choking' from invasive plants
- Use of pesticides and other water contaminants (or pollution)
- Habitat fragmentation, causing species isolation and an increasing risk of road mortality
- Livestock trampling and erosion of banks around wetlands
- Swimming pools with unprotected circulation pumps

What you can do to help!

- Avoid releasing fish into ponds and remove introduced fish
- Protect natural wetlands from livestock and fish stocking
- Remove invasive frogs that may carry disease or be predacious (e.g. *American Bullfrog*)
- Reduce wetland exposure to contaminants and pollution (e.g. increase vegetation buffers)
- Protect remaining wetlands and terrestrial habitat (e.g. grasslands and forested areas)
- Conserve water - over irrigation lowers the water table, and dries up small ponds
- For swimming pools install floating ramps for escape, and pump filters to help keep amphibians from getting impinged

Amphibians

Western Toad (*Bufo boreas*)

Status: Special Concern (F)



Floyd Bertrand



Danna Schock

What do they look like?

These toads have dry, bumpy, and olive green to red-brown skinned. The Western Toad has a distinctive white stripe down its back and a pale mottled underside. A large oval parotoid gland is behind each eye. Outside of the breeding period, toads spend 90% of there time on land.

Where is it found?

The Western Toad will breed in various natural and artificial aquatic habitats — from the shallow margins of lakes to roadside ditches. It does not seem to matter if the sites have trees or shrubs, coarse woody debris, or emergent vegetation. During breeding season adult females lay their eggs communally in ponds, typically in the same location each year. Adult toads can be found in forested areas, and wet shrublands.

Western Toad

What threatens its survival?

- Disease transmitted from invasive species (e.g. *American Bullfrogs*)
- Predation from invasive species (e.g. *Non-native fish, American Bullfrogs*)
- Stocking of wetlands/ponds with non-native fish
- Loss of wetland habitat through destruction and modification
- Wetland draining resulting in the drying up of temporary ponds
- Wetland 'choking' from invasive plants
- Use of pesticides and other water contaminants (or pollution)
- Habitat fragmentation, causing species isolation and an increasing risk of road mortality
- Livestock trampling and erosion of banks around wetlands
- Swimming pools with unprotected circulation pumps

What you can do to help!

- Avoid releasing fish into ponds and remove introduced fish
- Protect natural wetlands from livestock and fish stocking
- Remove invasive frogs that may carry disease or be predacious (e.g. *American Bullfrog*)
- Reduce wetland exposure to contaminants and pollution (e.g. increase vegetation buffers)
- Protect remaining wetlands and terrestrial habitat (e.g. grasslands and forested areas)
- Conserve water - over irrigation lowers the water table, and dries up small ponds
- For swimming pools install floating ramps for escape and pump filters to help keep amphibians from getting impinged

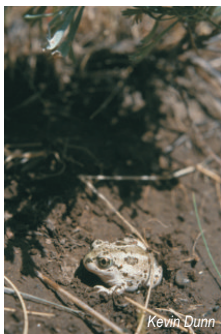
Amphibians

Great Basin

Spadefoot

(*Spea intermontana*)

Status: Threatened (F), Blue (P)



What do they look like?

Spadefoots are about 4 cm to 6.5 cm in length, have vertical-slitted eyes, and grey or tan skin. They also have a small "spade" on the underside of each hind foot which they use to burrow into loose soil to hibernate or seek shelter.

Where is it found?

These species have separate requirements for different stages of the year: breeding ponds (temporary and small ponds), foraging areas (adjacent riparian and grassland areas), and hibernating sites (loose, uncompacted soil in sagebrush flats, shrublands, or woodlands). Spadefoots spend most of their life living in their terrestrial habitats, moving to breeding ponds for just a few days per year.

Great Basin Spadefoot

What threatens its survival?

- Disease transmitted from invasive species (e.g. American Bullfrogs)
- Predation from invasive species (e.g. Non-native fish, American Bullfrogs)
- Stocking of wetlands/ponds with non-native fish
- Loss of wetland habitat through destruction and modification
- Wetland draining resulting in the drying up of temporary ponds
- Wetland 'choking' from invasive plants
- Use of pesticides and other water contaminants (or pollution)
- Habitat fragmentation, causing species isolation and an increasing risk of road mortality
- Livestock trampling and erosion of banks around wetlands
- Swimming pools with unprotected circulation pumps
- Compaction of soil through urban development, agricultural practices (including grazing and tiling), and recreational activities (ATV).

What you can do to help!

- Avoid releasing fish into ponds and remove introduced fish
- Protect natural wetlands from livestock and fish stocking
- Remove invasive frogs that may carry disease or be predacious (e.g. American Bullfrog)
- Reduce wetland exposure to contaminants and pollution (e.g. increase vegetation buffers)
- Protect remaining wetlands and terrestrial habitat (e.g. grasslands and forested areas)
- Conserve water - over irrigation lowers the water table, and dries up small ponds
- For swimming pools install floating ramps for escape, and pump filters to help keep amphibians from getting impinged
- Maintain natural sandy soils and vegetation instead of using sod, gravel, or pavement
- Prevent over-grazing, which causes soil compaction, and prevents the spadefoot from being able to dig itself in to the ground

Amphibians

Tiger Salamander (*Ambystoma tigrinum*)

Status: Endangered (F), Red (P)



What do they look like?

Tiger Salamanders are 14 cm to 22 cm in length, have unwebbed, pointy toes, and variety of yellowy-greenish brown mottled skin colouration.

Where is it found?

Key habitat features include loose soil for burrowing, fishless semi-permanent to permanent water bodies for breeding, and possibly small mammal burrows for daily cover and suitable over-wintering sites.

Tiger Salamander

What threatens its survival?

- Disease transmitted from invasive species (e.g. *American Bullfrogs*)
- Predation from invasive species (e.g. *Non-native fish, American Bullfrogs*)
- Stocking of wetlands/ponds with non-native fish
- Loss of wetland habitat through destruction and modification
- Wetland draining resulting in the drying up of temporary ponds
- Wetland 'choking' from invasive plants
- Use of pesticides and other water contaminants (or pollution)
- Habitat fragmentation, causing species isolation and an increasing risk of road mortality
- Livestock trampling and erosion of banks around wetlands
- Swimming pools with unprotected circulation pumps
- Compaction of soil through urban development, agricultural practices (including grazing and tiling), and recreational activities (ATV).

What you can do to help!

- Avoid releasing fish into ponds and remove introduced fish
- Protect natural wetlands from livestock and fish stocking
- Remove invasive frogs that may carry disease or be predacious (e.g. *American Bullfrog*)
- Reduce wetland exposure to contaminants and pollution (e.g. increase vegetation buffers)
- Protect remaining wetlands and terrestrial habitat (e.g. grasslands and forested areas)
- Conserve water - over irrigation lowers the water table, and dries up small ponds
- For swimming pools install floating ramps for escape, and pump filters to help keep amphibians from getting impinged
- Maintain natural sandy soils and vegetation instead of using sod, gravel, or pavement
- Prevent over-grazing, which causes soil compaction, and prevents the spadefoot from being able to dig itself in to the ground

Reptiles

*Western Painted
Turtle*

(Chrysemys picta bellii)

Status: Special Concern (F), Blue (P)



Western Painted Turtle

What do they look like?

Distinctive greeny-brown turtle with a yellow and black 'inkblot' design on its red plastron (underside of shell). Fringe of shell also shows a yellow, black, and red scrolling pattern.

Where is it found?

This aquatic turtle species is found in the shallow waters of ponds, lakes, marshes, and slow-moving stream reaches. Suitable wetlands have muddy bottoms, an abundance of emergent vegetation, and numerous basking sites, such as logs and accessible sandy banks for nesting. The habitat of the Western Painted Turtle also includes the riparian zones bordering these water bodies.

What threatens its survival?

- Wetland and habitat loss due to human activities (agriculture, development, infilling, water pollution)
- Draining and drying of wetlands (increasing natural drought)
- Bank erosion, loss of riparian vegetation, habitat fragmentation
- Road mortality is a major problem for turtles as they migrate between habitat types

What you can do to help!

- Protect remaining wetlands and adjacent egg-laying habitat
- Avoid fragmenting turtle habitat with roads
- Restore existing wetlands (native vegetation), provide artificial basking logs and nesting beaches

Reptiles

Western Rattlesnake (*Crotalus oreganus*)

Status: Threatened (F), Blue (P)



Western Rattlesnake

What do they look like?

This snake is 38 cm to 91 cm long, with brown, olive, or black mottling and banding on its body. The Western Rattlesnake is distinguished by vertical eyes, a diamond-shaped head, “hoods” over the eyes, its stout body, and its rattle at the end of its tail.

Where is it found?

In winter, this snake dens on the sheer faces of outcrops, along talus slopes or on earth-covered rock outcrops. In spring and summer, these snakes head for grasslands that provide basking sites, shelter and food sources. In extremely hot weather, this species may be found near shoreline areas.

What threatens its survival?

- Human persecution as a result of misconceptions
- Roads as many get run-over yearly during spring and summer migration
- Rapid expansion of human activity into their habitat, which includes urbanization, agriculture, forestry and livestock grazing
- Reduction and fragmentation of suitable habitat for feeding and hibernating
- A slow reproductive rate means that populations take a long time to recover after events like fires
- Certain farming operations that require complete eradication of snakes

What you can do to help!

- Slow down and watch for snakes on rural roads
- Protect natural grasslands and rocky outcrops
- Public education; the Western Rattlesnake is still persecuted, despite its important role in the ecosystem
- Alternative farming practices
- Snake fencing around vineyards
- Report all sightings to your local conservation group

Birds

*Western
Screech-Owl*
(*Megascops kennicottii macfarlanei*)

Status: Endangered (F), Red (P)



Western Screech-Owl

What do they look like?

This owl is small, grey-brown, with small ear tufts, and a white chest with fine black lined feathers. This nocturnal owl hunts anything smaller than itself and is non-migratory.

Where is it found?

This owl is found in lower elevation forested areas, frequently close to water. The forest type and proportion of coniferous to deciduous trees may vary, however, the preferred breeding sites are usually below 600 m and mature Black Cottonwood trees are usually present.

What threatens its survival?

- Predation from Barred Owls
- Habitat loss from logging or tree removal
- Destruction of riparian areas in valley bottoms

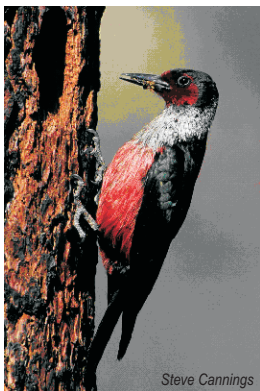
What you can do to help!

- Protect riparian plant communities
- Retain large diameter native trees within riparian habitats, particularly ones with cavities (wildlife trees)
- Allowing natural periodic flooding of riparian woodlands to encourage regeneration
- Report sightings to your local conservation group
- Put up owl boxes on your property
- Avoid complete removal of wildlife trees and consider modifications such as limbing or topping trees that pose a hazard
- Consider restoring riparian habitat using local species such as cottonwood, waterbirch and aspen, and a variety of shrubs

Birds

Lewis's Woodpecker (*Melanerpes lewis*)

Status: Special Concern (F), Red (P)



Lewis's Woodpecker

What do they look like?

This bird is easily recognizable, with a pink belly, a grey collar, red face, and green-black wings and back.

Where is it found?

Lewis's Woodpecker prefer open, mature ponderosa pine forests; riparian black cottonwood stands adjacent to open areas; and recently logged or burned coniferous forests with standing snags in valley bottoms. They like to nest in large, standing dead or dying trees (snags) and feed in relatively open areas.

What threatens its survival?

- Clearing of ponderosa pine and black cottonwood stands that support wildlife trees
- Fire suppression

What you can do to help!

- Conserve remaining old-growth ponderosa pine and black cottonwood stands, particularly when large diameter wildlife trees are present
- Report sightings to your local conservation group or Partner's in Flight

Birds

Rusty Blackbird (*Euphagus carolinus*)

Status: Special Concern (F), Blue (P)



Rusty Blackbird

What do they look like?

Male Rusty Blackbirds are rusty coloured in the fall or winter, and completely black during the rest of the year. The birds are the size of a robin, have pale yellow eyes with black pupils and have slightly curved bills.

Where is it found?

In British Columbia, the Rusty Blackbird nests favours the shores of high-elevation wetlands such as slow-moving streams, peat bogs, marshes, swamps, beaver ponds and pasture edges.

What threatens its survival?

- Habitat loss due to converting high-elevation wetlands
- Degradation of wetlands
- Invasion by more dominant species

What you can do to help!

- Conserve remaining wetlands and leave them undisturbed
- Protect and restore wetlands on your property

Birds

*Yellow-breasted
Chat*

(Icteria virens)

Status: Endangered (F), Red (P)



Yellow-breasted Chat

What do they look like?

The Yellow-breasted Chat is bright yellow on the throat and breast, white on the belly and olive green on the back. The bird has white markings on the side of its blue-grey head. Its song is a loud series of clear whistles and harsher notes.

Where is it found?

This bird breeds in dense thickets around wood edges, riparian areas, and in overgrown clearings. British Columbia populations are more or less confined to riparian environments, particularly thickets of wild rose and willow along streams and river oxbows.

What threatens its survival?

- Habitat availability limited due to human encroachment and development
- Removal of riparian forests along water bodies

What you can do to help!

- Protect remaining riparian forest areas
- Restore riparian areas on your property

Plants

Scarlet Ammannia (*Ammannia robusta*)

Status: Endangered (F), Red (P)



Scarlet Ammannia

What do they look like?

Scarlet Ammannia is a smooth, usually upright plant that usually grows between 5 cm to 20 cm tall. Its leaves are elongate, 1.5 cm to 8 cm long and clasp the stem. Each fall, the plant produces 1-4 pale lavender flowers in the leaf axils.

Where is it found?

Scarlet Ammannia grows on fine textured soils alongside ponds that dry into the autumn. The vegetation in these sites is low-growing and often sparse, and consists of a variety of herbs including species of spike-rush, awned cyperus, and short-rayed alkali aster.

What threatens its survival?

- It is rare and has been observed at two sites east of Osoyoos Lake
- Shoreline development
- Recreational activities
- Artificial maintenance of Osoyoos Lake water levels

What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and its habitat
- Learn more about this plant and its biology

Plants

*Short-rayed
Alkali Aster
(Aster frondosus)*

Status: Endangered (F), Red (P)



Short-rayed Alkali Aster

What do they look like?

The Short-rayed Alkali Aster is a small annual herb that grows 5 cm to 60 cm and sometimes has many branches. It usually grows upright but may also grow along the ground. Its Aster-like flower heads are composed of many small flowers. The centre of the head is composed of small yellow, rayless flowers, and these are surrounded by flowers with white or pink petals.

Where is it found?

In the southern Okanagan Valley this plant has been found mainly around lakeshore habitats in moist drawdown zones of sandy beaches and the perimeters of alkaline lakes and ponds. These sites have water that draws down in the late summer and early fall, exposing shallowly sloping moist sites which allows these plants to flower and disperse seed.

What threatens its survival?

- Beach management activities such as roto-tilling, sand sifting, lawn mowing and beach cleaning
- Heavy beach use by swimmers, boaters and children (digging in the sand, boat launching and storage, trampling and compaction) has a direct impact on this species' habitat
- Invasive plants

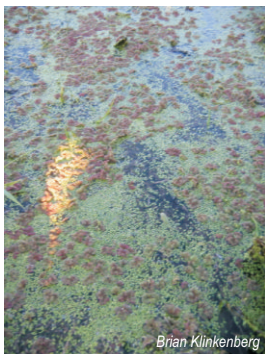
What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology

Plants

*Mexican
Mosquito Fern*
(*Azolla mexicana*)

Status: Threatened (F), Red (P)



Mexican Mosquito Fern

What do they look like?

This tiny, floating plant is 1 cm to 1.5 cm in diameter although it often clumps together and forms larger patches. It has numerous scale-like leaves up to 1 mm long, and many short trailing roots. The Mosquito-fern is reddish-green during the summer and bright red or brownish red in the fall.

Where is it found?

This plant prefers quiet backwaters or the still waters of oxbow lakes. During the summer, colonies of this plant can completely cover the surface of the water.

What threatens its survival?

- These plants grow close to major transportation corridors and spills of oil, gas and other toxic substances threaten this plant
- Accumulation of salt on the roads and its effect on water when the snow melts
- Road expansion or construction

What you can do to help!

- Keep the area free of invasive plants
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology

Plants

Rusty Cord-moss
(*Entosthodon rubiginosus*)

Status: Endangered (F), Red (P)



Terry McIntosh



Ole Westby

Rusty Cord-moss

What do they look like?

The rusty cord-moss is a tiny moss that grows as individuals or in small patches. Its small cup-like capsules grow on an upright stem from the center of a cluster of tiny leaves. The capsules identify the plant and are yellow-brown in colour when mature.

Where is it found?

It is restricted to open mineral soil alongside seasonally wet, alkaline ponds, lakes, and sloughs, and on seepage slopes or narrow gullies.

What threatens its survival?

- Degradation or destruction of the habitat through livestock (horses and cattle) damage
- Invasive plants
- ATV use

What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology

Plants

Giant Helleborine
(*Epipactis gigantea*)

Status: Special Concern(F), Blue (P)



Giant Helleborine

What do they look like?

The Giant Helleborine is an orchid that can have one or many stems and grows from 30 cm to 70 cm in height. Its leaves measure 7 cm to 14 cm long and 1.5 cm to 5 cm wide. The plant has 3 to 15 brownish-purple flowers.

Where is it found?

The Giant Helleborine requires a moist, usually calcareous habitat. It is found in wet areas along lakeshores and at the base of slopes, where there is an ample supply of base-rich water. The orchid grows in open wetland areas or in broken shade at the forest edge. It usually grows in dense stands or in small groups.

What threatens its survival?

- Limited distribution
- Commercial development of wetlands

What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology

Plants

*Small-flowered
Lipocarpha*
(*Lipocarpha micrantha*)

Status: Endangered (F), Red (P)



Terry McIntosh

Small-flowered Lipocarpha

What do they look like?

Small-flowered Lipocarpha is a tiny, annual sedge that grows as small clumps from fibrous roots. Its leaves are 1.5 cm to 10 cm long, and its flower-bearing stems are usually longer and up to 20 cm. Numerous flowers are found in each of one to three oval, brown spikelets near the top of the stems.

Where is it found?

This plant usually grows along wet, sandy, exposed shorelines in areas that dry out when water levels decrease in fall. It requires some protection from waves and strong currents, and does not tolerate the presence of litter.

What threatens its survival?

- The loss and degradation of habitat and controlled water level regime
- Recreational use of shoreline habitat
- Invasive plants

What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology

Plants

Toothcup (*Rotala ramosoira*)

Status: Endangered (F), Red (P)



Toothcup

What do they look like?

Toothcup is a smooth, upright plant that usually grows from 5 cm to 15 cm tall. Its leaves are oblong and 1 cm to 5 cm long. Groups of pinkish or white flowers can be found on this plant and the plant produces numerous small seeds.

Where is it found?

Toothcup grows on fine textured soils on flats alongside ponds that dry into the autumn. The vegetation in these sites is low-growing and often sparse, and consists of a variety of herbs including species of spike-rush, awned cyperus and rayless alkali aster.

What threatens its survival?

- Habitat destruction
- Invasive plants
- Livestock and recreational use

What you can do to help!

- Keep the area free of invasive weeds
- Avoid trampling or driving over the plant and the surrounding habitat
- Learn more about this plant and its biology
- If you have livestock, install protective fencing around the plants

Provincially Red Listed Species

- Viceroy (*Limenitis archippus*)
- Lance-tipped Darner (*Aeshna constricta*)
- Vivid Dancer (*Argia vivida*)
- Olive Clubtail (*Stylurus olivaceus*)
- Western Grebe (*Aechmophorus occidentalis*)
- American Avocet (*Recurvirostra Americana*)

Provincially Blue Listed Species

- Barn Swallow (*Hirundo rustica*)
- Townsend's Big-eared Bat (*Corynorhinus townsendii*)
- Western Small-footed Myotis (*Myotis ciliolabrum*)
- Fringed Myotis (*Myotis thysanodes*)
- Fisher (*Martes pennanti*)
- Emma's Dancer (*Argia emma*)
- Western Pondhawk (*Erythemis collocata*)
- Twelve-spotted Skimmer (*Libellula pulchella*)
- Western River Cruiser (*Macromia magnifica*)
- Blue Dasher (*Pachydiplax longipennis*)
- Autumn Meadowhawk (*Sympetrum vicinum*)
- Attenuate Fossoria (*Fossaria truncatula*)
- Umbilicate Sprite (*Promenetus umbilicatellu*)
- Abbreviate Pondsail (*Stagnicola apicina*)
- Chiselmouth (*Acrocheilus alutaceus*)
- Mountain Sucker (*Catostomus platyrhynchus*)
- Great Blue Heron (*Ardea herodias herodias*)
- American Bittern (*Botaurus lentiginosus*)
- Sandhill Crane (*Grus canadensis*)

For More Information

1) Species Identification/Biology/Habitat/Distribution

Committee on the Status of Wildlife in Canada

http://www.cosewic.gc.ca/eng/sct5/index_e.cfm

Species at Risk Public Registry

http://www.sararegistry.gc.ca/default_e.cfm

2) Stewardship Programs

South Okanagan Similkameen Stewardship Program

<http://blog.conservancy.bc.ca/nature/south-okanagan-similkameen-stewardship-program/>

Telephone: 250-492-0173

Wildlife Tree Stewardship Program

<http://www.wildlifetree.org/>

Email: witsos@shaw.ca

Telephone: 250-404-0115

3) Best Management Practices (Provincial)

Guidelines and Best Management Practices (BMPs)

<http://www.env.gov.bc.ca/wld/BMP/bmpintro.html>

Riparian Areas Regulations

http://www.env.gov.bc.ca/habitat/fish_protection_act/riparian/riparian_areas.html

4) Learn More About Species

BC's Ecosystem Explorer

<http://a100.gov.bc.ca/pub/eswp/>

5) Report Bird Sightings

Partner's In Flight

<http://www.pifbcyukon.org/>

