

# Wetland Species



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Northern Leopard Frog - At Risk - Threatened  
 Plains Spadefoot Toad - May be at risk  
 Great Plains Toad - May be at risk - Data Deficient  
 Western Hognose Snake - May be at risk  
 Western Painted Turtle - Sensitive

## Western Hognose Snake

Wetlands provide very important habitat to a wide variety of wildlife and several species at risk. There are 2 types of wetlands, permanent and temporary. Temporary wetlands are called ephemeral wetlands and only hold water in wet years.

In Alberta 60% of wetlands have disappeared, mostly due to draining for crop production. Alberta's remaining wetlands are being impacted by contamination from sediments, pesticides, fertilizers and invasive species. The loss of wetland habitat has been the main reason for the decline of several species at risk. Wetlands are also important for water filtration, flood and stormwater control, shoreline protection and groundwater replenishment. The loss of these services costs Albertans financially and jeopardizes the ecosystem's ability to function properly.

## Northern Leopard Frog Life Cycle

### April

Emerge from overwintering sites.  
 Males arrive first at breeding pond and call for females.  
 Females arrive a few weeks later.

### August - September

Once metamorphosed, frogs become carnivorous.  
 Tadpoles are herbivorous.

Adults move to overwintering sites.



Northern Leopard Frog

### April - late June

Breed during optimal temperatures only.  
 600 to 7000 eggs are laid in one mass.  
 Eggs hatch after 5-9 days, longer if cold weather.  
 Tadpoles disperse after 2-3 days.

### July - early August

Tadpoles metamorphose into frogs after 60-90 days.

# Beneficial Management Practices

## General:

- Maintain or reestablish natural corridors between native prairie habitat patches.
- Restore drained wetlands and prevent further drainage of others.
- Leave a minimum 30m buffer of native vegetation around all wetlands. This prevents erosion and improves water quality by filtering out sediments and contaminants.
- Avoid using pesticides and chemical fertilizers near known habitat of species at risk. Chemical runoff into wetlands can cause mutation, paralysis and death in amphibians.
- Tolerate Richardson's ground squirrels if they are not causing excessive damage. They provide food for hognose snakes and they dig burrows that are used as refuges by snakes and toads.
- Watch for amphibians and snakes on roads when near known habitat.
- Do not introduce game fish into natural wetlands. They eat amphibian eggs and larvae.

The best decision you can make for all wetland species at risk is to leave your wetlands in their natural state.



## For ephemeral wetlands:

- Leave them natural and unaltered.
- Do not cultivate, even in dry years. This may decrease their ability to hold water in wet years. Also, these areas have poor soils that are not as productive as the surrounding uplands.
- Do not convert to permanent water bodies. This decreases their suitability for breeding sites.
- Do not dig dugouts in them.



Great Plains Toad

Plains Spadefoots and Great Plains Toads live in temporary wetlands (called *ephemeral* wetlands). They spend most of their time underground and only come out to mate and feed in wet years. When temporary wetlands are tilled these amphibians may be killed and will lose their valuable breeding habitat.



Plains Spadefoot

### On grazed land:

- Defer grazing near known toad and frog breeding ponds from late April to mid July. This is an especially sensitive time for breeding and hatching. Also, banks are soft and will be easily trampled and eroded.
- Place salt and minerals at least 1km from natural water bodies if possible. This causes cattle to make better use of the range and reduces the time cattle spend near ponds.
- Create variability in the pasture by strategically placing water sources. A range of grass heights is desirable.
- Use low to moderate stocking rates in pastures that contain or connect ponds that have these species living in them.
- Ensure adequate carry-over and litter. A 50% utilization rate is recommended for mixed grass and dry mixed grass prairie. A 40% utilization rate is recommended for fescue grasslands.
- When grazing riparian areas use 25-50% utilization rates to ensure vegetative cover remains intact. Allow rest after grazing.
- Provide gravelled or hardened surfaces for cattle to access water bodies. Locate these away from toad and frog breeding areas.
- In August northern leopard frog young emerge from their breeding ponds so avoid grazing at this time.
- Provide alternative watering sites (troughs) to reduce the impact on natural water bodies.
- If known breeding ponds are severely damaged fence them out to restore water quality and vegetation. Monitor and allow grazing again once restored. Too much vegetation will impede frog/toad movement.
- Modify existing dugouts to create a low shoreline gradient with shallow, marshy edges to attract great plains toads.



Wetlands provide water filtration, flood and stormwater control, shoreline protection and groundwater replenishment.

### Industrial guidelines:

- Conduct predevelopment wildlife surveys on the property before developing and check databases for known breeding ponds and hibernaculae.
- Leave a 100m setback distance between industrial developments and wetlands.
- Leave a 200m year round setback distance between hognose snake hibernaculae and all permanent structures (wellsites, powerlines, pipelines or roads).
- Leave a 100m year round setback distance between northern leopard frog, great plains toad and plains spadefoot ponds and all permanent structures.
- Avoid disturbance during the breeding season (late April to mid June).
- Routinely check for and remove snakes, frogs and toads from pipeline trenches during construction.

For more information please read MULTISAR's Industrial Guidelines Factsheet and Grazing Factsheet in your binder or online at [www.multisar.ca](http://www.multisar.ca).

# Riparian Zones

Riparian zones are the green ribbons of lush plant growth that surround streams, lakes and wetlands. They are transition zones between the water body and the uplands making them wetter regions that can support unique varieties of plants and animals.

Riparian zones perform these key ecological functions:

- Trap and store sediment
- Build and maintain banks and shorelines
- Store water and energy
- Recharge aquifers
- Filter and buffer water
- Reduce and dissipate energy of the water
- Maintain biodiversity
- Create primary productivity (vegetation growth)



Tiger Salamander

Special attention and management is required to maintain these fragile zones. Riparian Health Assessments are used to measure the 8 key functions shown above. Cows and Fish is a non-profit organization that specializes in Riparian Health Assessments as part of their work with communities and landholders on riparian and grazing management. You can obtain a workbook, factsheets and advice from them to help you assess your riparian zones.

## Contact Cows and Fish

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Healthy riparian zones have several different layers of vegetation cover that protect the soil from erosion and keep the banks from slumping.



Please see the [MULTISAR Grazing Factsheet](http://www.multisar.ca) provided in your binder or online at [www.multisar.ca](http://www.multisar.ca). Refer to the Riparian Grazing Systems section.

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