

**BRAGG
CREEK**

WILD



wildlife and people living in community

Newsletter Spring 2024



- **Fire Fighting Beaver** - Feature article by Laura Griffin
- Beaver - Fun Facts
- Beaver and Fish by Miistakis Institute

Also

Wild-Safe Spring Planning and Tips

Mark your calendar

- Bragg Creek Wild Annual General Meeting plus
Special guest speaker - **Brad Stelfox**

Suggested Reading and more



**Beaver
Special!**

Fire fighting Beaver

By Laura Griffin

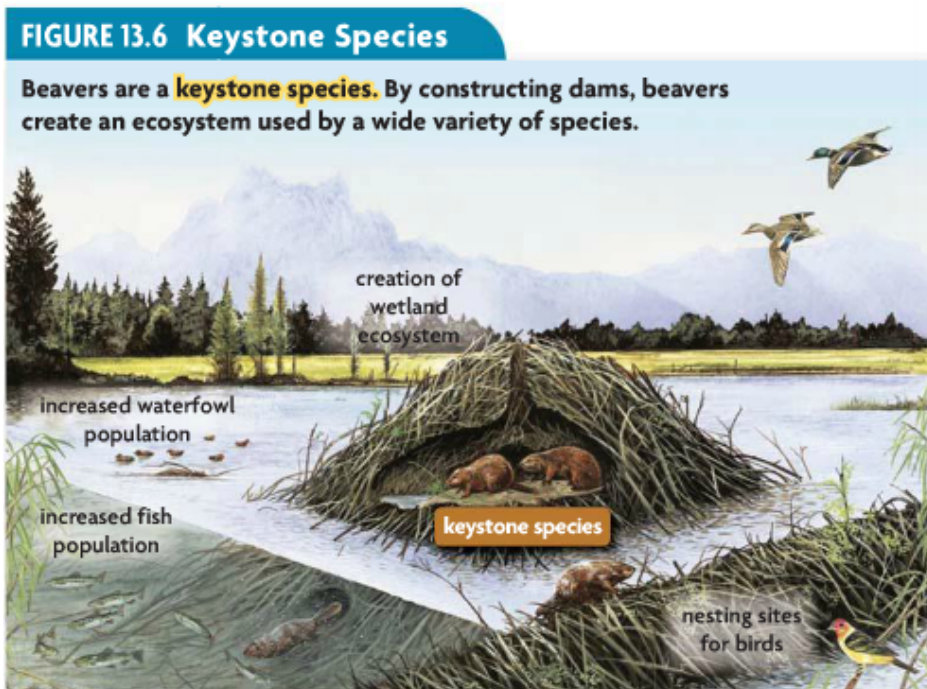
@lgr.griff

Photo credit - James Griffin

As North America's largest rodent, the beaver is often seen as a pest - especially by those concerned with community infrastructure like roads and pathways. With a broader perspective on community needs and consideration given to current weather trends in Alberta, we can begin to appreciate the benefits that beaver bring to our local environment.

Beavers are second only to humans when it comes to engineering their environment to suit their needs. They are semi aquatic mammals, and seek out suitable water sources to support their life cycle requirements. Armed with teeth that need to be continuously sharpened and

having dextrous forepaws, beavers fell trees and build dams over small streams and rivers to create ponds for their habitat. They meticulously repair their dams and lodges with mud and foraged sticks to maintain suitable water levels in their beaver ponds, affording them seasonal protection - including in the winter months when ponds freeze over.



If a beaver population can create a suitable habitat with a healthy supply of herbaceous food, they will remain there for generations.

A beaver pond is more than just the body of water they create. When they dam a source of water, they slow down the flow, creating less turbidity in pools - which then act as nurseries for aquatic insects and waterfowl. The abundance of water changes the types of aquatic vegetation that can grow in these pools, allowing greater groundwater recharge and promoting more terrestrial vegetation to take root. The build-up of silt on pond bottoms and other sediments trapped in surrounding areas enrich the riparian zone. This in turn attracts a higher diversity of wildlife - from large mammals such as moose to small, sensitive amphibians. The Riparian Management Society, (also known as “Cows and Fish”) has a publication dedicated to the benefits of beavers on fish populations. (visit <https://cowsandfish.org>)

Of specific concern to humans is the remarkable ability of beaver ponds to store water. Although incredible swimmers, beavers are very cumbersome and vulnerable on land. In order to keep themselves and their families safe when moving vegetation and trees back to their pond, they dig canals that radiate away from the pond and under its surface. According to a study done in Elk Island Park, these canal features allow beaver ponds to store up to nine times more water than in ponds of equal area without a beaver presence. With drought and anticipation of future wildfire seasons, extra water certainly has appeal, particularly in rural landscape where water for firefighting is typically supplied by airborne water bombers. Ecohydrologist, Dr. Emily Fairfax, has discovered that ponds without the presence of beavers burn three times more intensely than ponds with beavers present. Fires with lower intensity have a better chance of being controlled by firefighting efforts, thereby reducing their ability to spread. In flooding events, beaver dams and ponds have been shown to reduce the impact of fast-flowing water by absorbing some of the excess quantity and velocity.



Photo credit - James Griffi

Living with beavers is not without its challenges. Beavers take down trees, they can damage infrastructure with their incessant need to dam up running water, and they can cause flooding in unwanted areas. However, given the amount of evidence that beavers are a **keystone species** on the landscape, humans have begun creating cost-effective methods to coexist with beavers. Beaver Deceivers, a company dedicated to protecting the land, infrastructure and wild habitats, suggests helping to maintain ponds at levels that prevent infrastructure damage, adding fencing, and bringing in alternative sources of food in beaver-prone areas in order to protect certain trees from being harvested. An incredible resource for how to live with beavers and their importance to the landscape can be found in the “Cows & Fish” publication [Caring for the Green Zone: Beaver - Our Watershed Partner](#).

To adequately prepare for drought and help mitigate the effects of wildfires in our province, we must store more water on the landscape. There is no animal better equipped to make this happen than the mighty beaver. Let us embrace what these firefighting, ecosystem engineers offer.

Beaver Fun Facts



Industrious, Enduring—the Canadian Nickel



Did you know - The beaver has a long history as both a commodity and a cultural icon. It has appeared in the heraldic bearings of Québec City and Montréal and even marked Canada's first postage stamp. The beaver coin design was created by artist G.E. Kruger-Gray and was first used in 1937. Source - Royal Canadian Mint

1. Beaver teeth are orange and grow none stop.
2. Beavers eat wood!
3. Beavers are one of the few animals that modify their habitat.
4. Beavers don't just build dams. They also build lodges.
5. Beavers slap their tails on the water to warn of danger to other beavers.
6. Beavers are the largest rodents in North America.
7. A beaver's activity is not synchronised with the typical solar day.
8. Beavers can stay underwater for about 6-8 minutes.
9. Beaver's large back feet are webbed, which helps them swim.
10. The male and female mate for life and are monogamous.
11. Beavers are a key stone species meaning their presence provide food and shelter to many animals and plants.
12. Ponds and channels build by beavers slow down forest fires and reduce their Intensity, making fire easier to control.

Source - Smithsonian's National Zoo and Conservation Biology Institute and others.



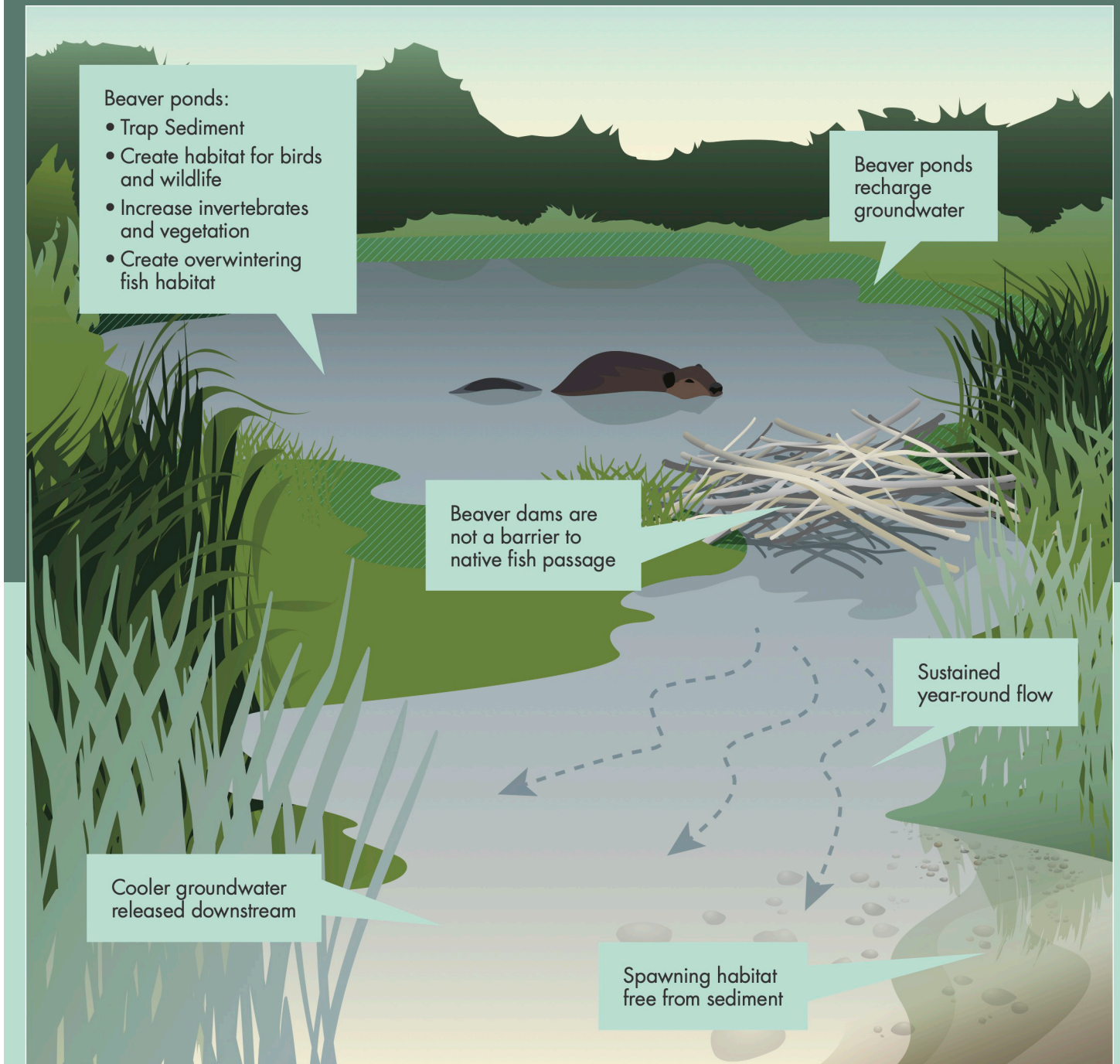
1851 - Oldest Canadian beaver stamp



BEAVERS AND FISH

This fact sheet outlines the general relationship between beavers and fish, along with addressing some of the common misconceptions about how beavers impact fish, including that they increase water temperature, increase sediment accumulation on spawning gravels, and create barriers to fish movement.

Beavers are significantly reduced in numbers or absent from much of their historic range and habitat in Alberta due to trapping, and habitat loss, both historic and present. Prior to the 1700's beavers were abundant in Alberta and lived harmoniously with fish, having evolved together. The beavers that exist on the landscape today are a benefit to fish species, just as they are a benefit to many other wild species.



WATER IMPACTS

- **Beaver dams reduce stream velocity and power.**
 - This protects streambanks from erosion and decreases sediment downstream.
 - Slower water allows for more groundwater storage.
- **Increase water quantity**, resulting from water storage of beaver ponds, both above and below the surface. This means more available fish habitat and sustained water availability, supporting critical needs for fish during times of drought and low flow.
- **Improve water quality (up to 10 times greater purification)** by capturing and storing sediment and contaminants, which settle to the bottom of beaver ponds behind dams. This enhances fish habitat, providing cleaner water, resulting in less sediment accumulating downstream in spawning gravels, which otherwise can bury and smother eggs and fry.
- **Decrease water temperatures** through creation of deeper, cooler ponds, creating a refuge when water temperatures rise.
 - Native trout, whitefish, grayling, and many other sport fish species require cool water to survive.
 - Deeper pond water is less influenced by air temperatures than a stream, resulting in more stable water temperature.
 - Ground water recharge, enhanced by beaver dams and ponds, cools streams as discharged groundwater is naturally cooler than surface water, providing cooler water when warm water temperatures can impact fish.

BIODIVERSE FISH HABITAT CREATION

- **Decrease slope gradient** creating a wider, flatter stream valley profile and connected floodplain, enhancing stream health and creating more potential fish habitat.
- **Beaver ponds create or enlarge wetlands**, resulting in increased water depths, increased food (aquatic invertebrates) for fish and more water-loving vegetation, which creates more edge habitat and overhead cover, meaning more wetland and riparian habitat that supports fish at various life stages.
 - Some fish species use beaver ponds extensively as rearing habitat (eg. cutthroat trout).
- **Beaver ponds create overwintering habitat for fish.**
- **Increase fish production** (more and/or larger fish).
 - Slower water produced by damming means fish spend less energy foraging, and since more aquatic invertebrates are available for food, there is greater fish productivity
 - Increased survivability due to more over-wintering habitat.

BEAVER DAMS—**NOT** A BARRIER TO NATIVE FISH PASSAGE

- **Beaver dams are not barriers to native fish species;** however, some non-native fish may find dams a barrier, which is a positive impact as it could provide a competitive advantage to threatened native species such as westslope cutthroat trout.
- **Beaver dams can be temporary/seasonal barriers** but no study has ever demonstrated a detrimental, population-level effect of beaver dams on most fish species, including trout.

ADDITIONAL FACTS

- In several U.S. states, beavers are used as tools to provide important habitat for imperiled fish species, because beavers create much needed slow-water environments, such as ponds, and increase stream habitat complexity and riparian vegetation.
- More than 80 North American fish species have been documented in beaver ponds, with 48 species commonly using them.
- Beavers are herbivores and do not eat fish.
- In an extensive review of meta-analysis of literature and expert opinion on the impacts of beaver dams on fish, experts concluded that beavers have a positive impact on fish.
- Although some people have concerns about beaver dams and ponds causing increased water temperatures or reduced flow, reduced spawning habitat, increased fish predation, and a decrease in popular angling species, these concerns are not supported by the research; instead, research shows the overwhelming benefits beavers (and their activities) provide fish.

Information for this factsheet was primarily provided by:

Fitch L. Caring for the Green Zone: Beaver – Our Watershed Partner.

Lethbridge, Alberta: Cows and Fish – Alberta Riparian Habitat Management Society; 2016. <http://cowsandfish.org/whatsnew/documents/BeaverOurWatershedPartnerforWEB.pdf>

Additional publications were used in the production of this fact sheet and a comprehensive reference list can be viewed at www.rockies.ca/beavers



PHOTO: U.S. DEPARTMENT OF AGRICULTURE



FUNDERS
Alberta Environment and
Parks' Watershed Resiliency
and Restoration Program

CONTACT

**Putting Beavers
to Work**
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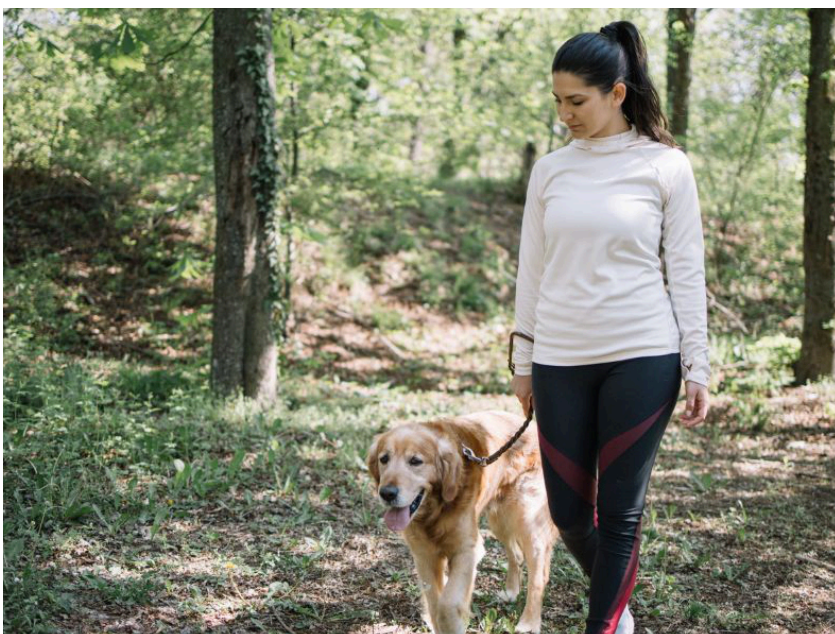
Spring Tips

Source - Alberta Park and Assiniboine Park.

As we welcome spring, remember it's also a critical time of year for wildlife



Respect wildlife's spaces. Spring is a time when many wildlife species are giving birth to their young. Mothers are very protective – do not approach them. If a fawn appears seemingly abandoned but, not in distressed, keep your distance and just observe. The doe is likely feeding and will be back. The fawn is safe.



Keep pets leashed to prevent them from chasing or disturbing wildlife.

Protect Pollinators

Early Spring yard cleaning isn't always a good idea!

Bees and butterflies often overwinter in loose plant debris that you may wish to remove.

Wait till the temperature remains above 10c before raking and removing plant material. This will allow pollinators to wake up and emerge from their overwintering beds in your garden.

Leave some organic material such as leaves and stems over the soil or in a corner of your yard. These can provide homes and nesting sites for beneficial insects.

Garden pollinator friendly plant species that flowers early and others late. Pollinators need nectar sources from Spring to Fall.



If a doe appears to stand still in the middle of the road, she is likely waiting for her fawn(s). Please allow her time to move on at her own pace.

Wild-Safe Spring Planning

When we look out our windows, we see Winter is waning and Spring is slowly emerging in our community! With vernal warming just ahead and local wildlife slowly moving back into their seasonal habitats, there are practical resilience measures we can take to ensure wildlife and people flourish in the Spring season of new life and regrowth.

Geese can be heard honking on Louis Lake (Antler Ridge Pond). Soon wood frogs will join their chorus, backed by calls of loons with the movement of the seasons. Birdsong reminds us to be mindful of riparian habitat - the fringe areas around ponds, wetlands and streams, where eggs lay in hidden nests and tadpoles swim, undetected by predators. We can help protect this emerging life by maintaining a 10-foot distance from the edge of any water body until we determine there are no signs of nesting birds or amphibians (frogs, toads, and salamanders) in the area.

Amphibians have a permeable skin which makes them Indicator species. They indicate a healthy environment when they are present and an unhealthy environment when they are absent. Natural systems are more than skin-deep; amphibians literally absorb everything we put into their habitat. This is important to remember when we begin our garden and lawn care preparations. Avoid phosphate and sulfate-based fertilizers and opt instead for point-of-application - utilize worm castings,

egg shells, manure or compost and soil amendments like blood meal, bone meal or mulch. Local bears are attracted to smelly stuff, so ensure these substances are thoroughly mixed into the soil at the recommended proportions. Mulching in old plant material eventually negates the need for using fertilizer at all. We can witness nature's actions for ourselves when we observe the forest floor.

Spring runoff will soon fill water bodies and the ditches and swales around our homes. Make sure your culverts and overland drainage paths are clear of obstacles to let water find its way back into the hydrologic cycle. Quality river habitat is supported by sufficient water volumes, while allowing our groundwater to recharge in a resilient cycle that protects precious drinking water.

Overland flow carries sediment (soil particles), oil, lubricant, paint, salt and other remnants of winter maintenance. These pollutants impair drinking water quality, groundwater quality and aquatic habitat. They end up in our soil, groundwater and gardens, harming micro-organisms, worms, spiders, insects, and other soil-benefitting creatures. They get eaten by birds, small mammals and deer, accumulating toxins up the food chain.

This process, known as bioaccumulation, causes birth defects and poor fertility in wildlife (and humans). The onus is on all of us to clean up contaminants in our driveways and yards and avoid washing vehicles and buildings by limiting excess water use and avoiding harmful chemicals.

On a final note, remember that many animals LOVE birdseed. Bird feeders aren't needed when Spring allows for natural foraging behaviour by warblers, kinglets, juncos, and grosbeaks revisiting from warmer climes, along with the resident nuthatches and chickadees who share our beautiful local environment year-round.



Amphibians have permeable skin, which makes them 'indicator species.' Their presence indicates a healthy environment, and their absence suggests the opposite. To help them, avoid using chemical-based products in your garden or lawn and opt instead for natural products and point-of-application.



JOIN US!

Garbage Pick up day

June 22nd

In collaboration with Bragg
Creek Foundation

and the

Bragg Creek Community
Association

Feature Guest
speaker
Brad Stelfox

Members and
none members
Are welcome

Annual General Meeting

May 22, 2024

Evening Program

Guest speaker

Review BCW 2024 objectives
Short Annual General Meeting
Wine and cheese



**BRAGG
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2023 ACCOMPLISHMENTS

HUMAN-WILDLIFE HARM REDUCTION

- Refuse bylaw proposal to RVC
- Safe wildlife berm crossing proposal to RVC
- Wildlife hotspots road signage on hwy 22

AWARENESS / EDUCATION

- Website
- Social media
- Monthly articles
- Seasonal newsletters
- Media presence

RESEARCH

- Citizen wildlife mapping

2024 OBJECTIVES

HUMAN-WILDLIFE HARM REDUCTION

- Refuse bylaw approved
- Safe wildlife crossing over the berm built
- Increased wildlife hotspots road signage

AWARENESS / EDUCATION

- Website
- Social media
- Monthly articles
- Seasonal newsletters
- Host public information sessions

RESEARCH / ADVOCACY

- Citizen wildlife mapping completed
- Engage in RVC Municipal Development Plan
- Engage in Greater BC ASP



Why Membership Matters

- Your membership demonstrate support in providing safe and sustainable environment for both wildlife and humans.
- Learn about local wildlife challenges and how you can make a difference.
- Support conservation efforts.
- Meet like-minded individuals and build a sense of community.
- Access resources such as educational materials and training programs.
- Volunteer opportunities

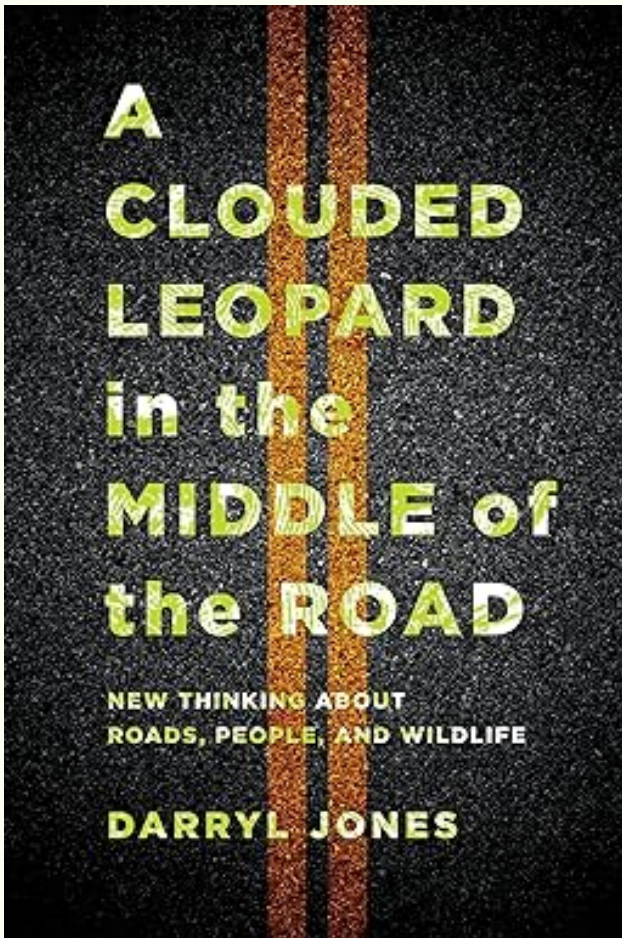
MEMBERSHIP BENEFITS

- Quarterly BCW Newsletter, E-news and updates.
- Automatically become a member of *Nature Alberta* and receive their e-magazine.
- Preferred invitations to community and learning events.
- Voting privileges at the Annual General Meeting.
- The knowledge that you are making a difference improving the lives of our wildlife.

BE A WILDLIFE HERO TODAY WITH OUR FREE MEMBERSHIP

WWW.BRAGGCREEKWILD.CA/MEMBERSHIP

Suggested Reading



A Clouded Leopard in the Middle of the Road:

**New Thinking about Roads,
People, and Wildlife**

by Darryl Jones

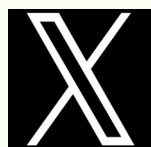
A Clouded Leopard in the Middle of the Road is an eye-opening introduction to the ecological impacts of roads. Drawing on over ten years of active engagement in the field of road ecology, Darryl Jones sheds light on the challenges roads pose to wildlife—and the solutions taken to address them.

One of the most ubiquitous indicators of human activity, roads typically promise development and prosperity. Yet they carry with them the threat of disruption to both human and animal lives. Jones surveys the myriad, innovative ways stakeholders across the world have sought to reduce animal-vehicle collisions and minimize road-crossing risks for wildlife, including efforts undertaken at the famed fauna overpasses of Banff National Park, the Singapore Eco-Link, "tunnels of love" in the Australian Alps, and others. Along the way, he acquaints readers with concepts and research in road ecology, describing the field's origins and future directions. Engaging and accessible, A Clouded Leopard in the Middle of the Road brings to the foreground an often-overlooked facet of humanity's footprint on earth.

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