

BEST MANAGEMENT PRACTICES *for* Off-Road Vehicles *in* BC's Grasslands



Grasslands Conservation Council of British Columbia

This field guide is based on a 2004 report titled, ***Best Management Practices for Recreational Activities on Grasslands in the Thompson and Okanagan Basins.***

The 2004 report was developed with input from over 40 organizations, including a stakeholder workshop held in September 2003 near Merritt B.C. The original document was a joint initiative of the Grasslands Conservation Council of British Columbia and the Ministry of Water, Land and Air Protection in collaboration with the motorized recreation sector, ranchers, First Nations, conservation organizations, and ecosystem specialists.

This field guide was published in 2005 and 2010, and it has been updated in 2019 to reflect changes in the Off-Road Vehicle (ORV) Management Framework of British Columbia.

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www.bcgrasslands.org

Page	2	Background	
	6	Impacts to Grasslands	
	8	How You Can Help — Best Management Practices	
		Soil Disturbance	9
		Invasive Plants	10
		Native Plants and Wildlife	12
		Sensitive Environments & Features	14
		Livestock & Forage	16
		Private Property	18
		First Nations Cultural Heritage & Traditional Land Use (includes Historic Features)	19
	20	Commercial Operators & Clubs	
	22	Education – some ideas	
	24	Sources, Websites & Contact Information	

BACKGROUND



“Ecosystems are not only more complex than we think, they are more complex than we can think.”
—Frank Egler, *Journal of Forestry*, 1991

What are Grasslands?

Grasslands are generally found in areas that are too hot and dry for forests to establish. They are characterized by widely spaced clumps of bunchgrass, several types of perennial wildflowers, moderate cover of shrubs, lichens and mosses.

Why are Grasslands Important?

Grasslands provide:

- A home for plant, animal, and invertebrate species, including over 30% of B.C.’s threatened and endangered species;
- Visually attractive landscapes;
- Valuable forage for livestock and for wildlife; and,
- First Nations with resources such as wildlife, food, medicinal plants, clothing, shelter, travel routes, and sites of spiritual significance.

“Grasslands are sensitive, unique landscapes that provide critical habitat for a wide range of flora and fauna while also providing a critical forage base for BC’s ranching industry. Working collaboratively, we can ensure healthy grasslands for our children and their children’s enjoyment.”
—Mark Hornell RPP MCIP, Chair, GCC



Important Grassland-Related Areas

Wetlands and riparian zones are specific habitats found near or within grassland areas. Healthy wetlands and riparian zones perform a number of functions including:

- Stabilizing the shoreline of water bodies;
- Controlling water flow by capturing surface and ground-water and slowly releasing it back into the environment – like a sponge;
- Improving water quality; and,
- Provide a home for fish and wildlife.

Silt cliffs, hoodoos, and rock and talus habitats are found within or adjacent to grassland areas.

Silt cliffs and hoodoos are geological formations (photo above left). Rock and talus slopes are large areas of loose gravel to boulder-sized rock, found at the base of hills, escarpments or mountains. These sites provide important habitat for many species, for example:

- California Bighorn Sheep use rock bluffs for lambing and as escape terrain;
- Falcons and White-throated Swifts use cliff ledges/crevices for nesting; and,
- Rodents, lizards and snakes use talus sites for cover, hibernation and sunning spots.

Other Important Grassland Relationships



Good Range Management and Healthy Grasslands

Grasslands provide forage used by the province's livestock industry. Good range management and healthy grasslands go hand in hand and unplanned changes in cattle behavior can seriously affect grassland health. For example, motorized activities can change cattle grazing patterns, causing habitat loss or changes in habitat quality due to soil disturbances or the introduction and spread of invasive plants.

Inadvertently directing or scaring cattle onto steep slopes or sensitive grazing areas (e.g., wetlands and riparian zones) can severely impact grassland health and its associated ecosystems.





Species at Risk

More species at risk are found in BC's grasslands than in any other area of Canada. Many of the species are found nowhere else in Canada, and a few are found nowhere else in the world. The special conditions found in BC's grasslands – hot, dry summers and mild winters – allow many unique species to survive. In addition to many species of wildlife, invertebrates and amphibians, nearly all of the plant communities found within BC's grasslands are considered threatened or endangered.

Some of BC's species or habitats at risk associated with grasslands, include:

- Mammals such as the Badger and the Pallid Bat;
- Birds such as the Sage Thrasher, Burrowing Owl, Prairie Falcon and Sharp-tailed Grouse (opposite page);
- Reptiles such as the Western Rattlesnake and the Gopher Snake;
- Invertebrates such as Behr's Hairstreak (butterfly) and the Vivid Dancer (damselfly); and,
- Plants such as Geyer's onion and plant communities such as antelope-brush/needle-and-thread grass.
- Amphibians such as the Tiger Salamander (above) and Spadefoot Toad.

IMPACTS TO GRASSLANDS



Well-managed motorized recreational activities can help minimize negative impacts to grasslands and help foster a voluntary grassland stewardship ethic.

What are the Impacts to Grassland Health?

Soil Disturbance

Repeated traffic can compact soils, uproot plants, expose mineral soils making them susceptible to wind and water erosion, and cause water infiltration changes. This impact can last for decades.

Introduction and Spread of Invasive Plants

Non-native plant seeds and fragments can travel on tires, undercarriages of vehicles, clothing and footwear. Dry, exposed soils make ideal conditions for seeds to colonize.

Damage to Sensitive Environments and Landscape Features

Steep grassland slopes, wetlands and riparian environments are especially susceptible to soil compaction, invasive plants, exposure, and erosion.



Disturbance of Native Plants and Wildlife

- Native plants: when the snow pack is minimal, compaction can reduce the insulating quality of snow, to the detriment of soils and vegetation. Crushing or uprooting native grassland plants can seriously hinder native plants' ability to grow and reproduce.
- Wildlife: ORV traffic can disrupt natural wildlife behavior, damage underground burrows, create access trails for predators, create trails that degrade/fragment grasslands, cause animals stress from vehicle noise, cause wildlife deaths by collision or crushing.

Altering Livestock Management Practices

Creating new trails or changing fences and gates can cause livestock to wander into sensitive areas. Noise from vehicles can disrupt livestock movements. These can in turn affect grassland health.

Damage to Cultural and Heritage Sites and Features and Private Property

Impacts include compaction and erosion of buried cultural sites, disruption of First Nations traditional hunting and gathering sites, loss of medicinal plants, and the possible loss of the cultural value of First Nations spiritual sites.

See page 8 for how to avoid or minimize these impacts through Best Management Practices (BMPs):

BEST MANAGEMENT PRACTICES (BMPs)



PNWMA Clean Up Crew

What are BMPs?

Best Management Practices, or BMPs, identify ways in which YOU can help sustain healthy grasslands while continuing to enjoy your favorite outdoor activities.

This BMP pocketbook provides a set of guidelines to achieve conservation and effectively steward BC's grassland areas.

Who Should Apply BMPs?

We all should – for continued access to and enjoyment of BC's grassland areas.

BMP DESIRED OUTCOME #1:

Minimize Soil Disturbances**What's the big deal about soil?**

Soils perform vital functions such as sustaining plant and animal life (below and above the surface), regulating water flow, storing and cycling nutrients, and providing support to structures.

Here's what you can do to maintain healthy soils...

- Stay on managed or established trails, roads, and routes.
- For off-road vehicles, avoid trails that are narrower than your vehicle.
- Stay in the middle of trails to avoid widening them.
- Avoid creating switchbacks, shortcuts, or new paths for others to follow.
- Park or stage only in designated parking areas or turn-around sites.
- Avoid travelling on poorly placed trails that can cause erosion problems, such as steep hillsides.
- Avoid muddy trails, wet areas, or travelling through water holes.
- When in designated riding areas, hill climb and mud bog in permitted areas only.
- Do not exit off of managed or established trails onto travelling livestock or wildlife trails.
- Accelerate slowly. Avoid spinning wheels/tracks to avoid creating rooster tails. 'Rip and Tear' acceleration causes many times the impact than that of conservative driving.
- Ride snowmobiles in areas with 12" or more snow cover. Ride where exposed soil/plants are not visible to avoid damaging soils and vegetation, and spreading invasive plants.

Avoid Introducing /Spreading Invasive Plants



Why are they such a threat?

Invasive plants out-compete native species for nutrients, sunlight, and water leading to a crowding out of our native species in their natural environment. Often invasive species can produce millions of seeds each year. Invasive plants threaten fragile ecosystems, reduce biodiversity and cost our provincial economy millions of dollars every year.

Here's what you can do to help...

- Stay on managed or established trails, roads, and routes.
- Check and clean vehicle undercarriages, wheel wells, and engine compartments when travelling from an infested site to one that is not infested.
- Clean vehicles and equipment by removing mud, dirt, and plant parts after leaving grassland areas, or as soon as possible, in a weed-safe site such as a car wash. Do not wash your vehicle in streams or waterways to prevent spreading invasive plants downstream.
- Use staging areas that are free of invasive plants and be sure to keep them free of invasive plants.
- Support regional invasive plant programs.

BE A LOCAL HERO Organize a “weed pull” –
make it a club outing!





Know your enemy...

Learn to identify these and other invasive plants (see resource section to find out more about invasive plants):

Diffuse Knapweed (1) grows up to 1 meter tall with white, sometimes pinkish flowers, surrounded by yellow-green bracts that narrow to short stiff spines.

Sulphur Cinquefoil (2) has distinctive green, hairy leaves divided into 5 to 7 separate toothed leaf segments that grow on a single stem 0.3 to 0.8 meters high. Flowers are pale yellow, with 5 heart-shaped petals.

Hound's-tongue (3) is a biennial that grows from 0.3 to 1.2 meters high with reddish-purple flowers. Each flower produces four velcro-like burred seeds that stick to clothing, livestock and wildlife, allowing the weed to spread over great distances.



Dalmatian Toadflax (4) is a vigorous perennial plant that typically grows from 0.8 to 1.5 meters tall with yellow flowers and waxy green, heart-shaped leaves that are pointed and clasp the stem.

Did you know?

In one experiment, a truck that drove 12m through a patch of knapweed picked up an average of 1,644 knapweed seeds. After driving 1 km, 86% of the seeds had dropped off the truck. After 12 km, 8% remained on the truck.

Respect Native Plants & Wildlife

Grasslands provide a home for plant, animal, and invertebrate species, including over 30% of B.C.'s threatened and endangered species. In addition, native plant communities provide forage for livestock, as well as feeding, breeding, and cover habitat for wildlife and invertebrates. Looking after our native plant communities (including the soil crust) is important to maintaining the natural diversity of grassland ecosystems.



How you can leave a good impression...

- Stay on managed or established trails, roads and routes.
- Avoid riding ATVs or trail bikes along beaches, through marshes or in other sensitive sites that may be breeding areas.
- Obey all posted signs that pertain to wildlife.
- Avoid travelling through areas during times known to be sensitive for certain wildlife (e.g., avoid grasslands adjacent to Bighorn Sheep during their lambing season – April to June).
- Maintain your equipment: Keep machines tuned and properly muffled to reduce exhaust and noise.

If you encounter wildlife...



- Slow down, leave your engine running and stay on your machine.
- When snowmobiling in deep snow, stay clear of wild animals so that vehicle noise and proximity do not add stress to animals.



Sshhh...

Noise is of special concern for species that normally live in quiet environments. Spadefoot Toads may mistake vehicle sounds for the sound of thunder, which triggers their emergence from underground burrows to breed in temporary ponds created by storm rains. If the Spadefoots emerge at the wrong time of year, they risk being unable to rebury themselves if they are stressed from dehydration or have depleted fat reserves.

Making a difference



The Pacific Northwest Motorcycle Association (PNWMA) has instituted noise testing for their races – if a machine is over 96 decibels, it isn't allowed to race.

Respect Sensitive Environments & Features



Not as tough as they look!

Sensitive environments associated with grassland landscape include wetlands and riparian areas, rock faces, hoodoos, silt cliffs and talus slopes.

You can help by acting responsibly...

- Stay on managed or established trails, roads, and routes.
- Avoid exiting off established trails.
- Stay in the middle of trails.
- Avoid travelling through riparian areas and do not drive through streams, except at approved crossings.
- Never re-fuel in riparian/wetland areas.
- Riding through ponds or waterways in summer months causes damage to wet meadows and grasslands.

If you are snowmobiling:

- Stay on managed or established trails or within designated snowmobile areas.
- Ride only where snow is more than 12" deep.
- Avoid travelling over waterways, snow-covered or not: fuel/oil causes damage to waterways at spring thaw.

If you are camping or picnicking:

- Use existing campsites.
- Where no sites are available, minimize your footprint and leave no trace.

Minimizing the Threat of Fire!

- Clear plant material from exhaust pipes or on parts that become hot during use.
- Re-fuel at staging areas where possible.
- Always make sure cigarettes are fully extinguished and pack them out.
- Be aware that vegetation can become very dry, stay away from maturing field crops and haystacks.
- During extreme fire hazard conditions, **ALWAYS TAKE CARE.** Landowners and ranchers may ask for areas to be closed to public use; for your own safety and continued access, respect land owners' wishes and carry a fire extinguisher into staging areas.



Avoid Disturbing Livestock & Damaging Forage



Home on the range... How you and livestock can co-exist

- Respect livestock and the land they use for forage.
- Do not cross private land without permission.
- Be aware that on some sections of trails, motorized equipment may be used for farming or other purposes.
- Do not trample forage and minimize the creation of dust where possible.
- Pack out what you pack in, to avoid contaminating forage.
- Keep dogs under control, or leave them at home to avoid harassing livestock.
- Avoid calving areas, give livestock the right-of-way and don't spook cattle.



The word on gates

- Leave gates as you found them, or as marked.
- If gates are lying on the ground pick them up, lean them up against a fence, and, if possible, inform the landowner.



Riding on managed or established trails, roads, routes

- Be aware of trail closures and/or restrictions; ask the landowner, local dealer or club, or local MFLNRO District Office if you are uncertain.
- Report any damage, or sick/injured livestock to the landowner or to MFLNRO Range Branch staff in your area.

Respect Property and Livelihoods

Respect private landowners, their land, and their buildings:

If in doubt about private property, ask the landowner/manager's permission to go on the land, or contact the local Range Branch staff for information.



Wherever you are...

- Read and obey all trail/road signs and closures.
- Stay on designated and established trails, roads, and routes.

Respect all buildings.

- Avoid creating any new trails, routes, or paths across grasslands, as each new track will attract others to follow.
- Clean up after events and gatherings in open range areas.
- Build a positive relationship with landowners. For example, work with ranchers to learn more about planned grazing in your area.



BMP DESIRED OUTCOME #7A:

Respect First Nations Cultural Heritage & Traditional Land Use

Increase Awareness and Communicate

- Find out if recreational activities are permitted on First Nations' land.
- Learn about and communicate with the First Nations that live in your region to find out in whose territory you are planning to conduct your activities.



Be Respectful

- Do not disturb or remove cultural features such as pictographs or petroglyphs.
- Do not disturb known cultural sites such as First Nations traditional use areas, pit dwellings, or burial grounds.
- Avoid picking native species of plants. Some plant species, like arrow-leaved balsamroot, sagebrush mariposa lily, and yellow bell, may be used by First Nations for traditional purposes.
- Do not cut, damage, or otherwise impact culturally modified trees.

If you think you have found cultural artifacts or traditional use sites:

- Contact the Band Office of the local First Nation:
<http://fnp-ppn.aandc-aadnc.gc.ca/fnp/Main/Index.aspx?lang=eng>
- Contact the BC Archaeology Branch: 250-953-3334.
<https://www.for.gov.bc.ca/archaeology/>

BMP DESIRED OUTCOME #7B:

Respect Historical Sites & Features

Do not damage or alter historic features such as old homesteads, cabins, and historic mining sites. B.C. law forbids the removal of archaeological material or historical artifacts.

COMMERCIAL OPERATORS & CLUB ORGANIZERS



General

- Clean up after events and gatherings in grassland areas.
- Apply and raise awareness of BMPs to ensure that the areas you operate in stay healthy and accessible for your recreational activities. Distribute copies at your events.
- Remember that good practices ensure continued access.

Invasive Plants

- Learn the specific concerns with invasive plants are in your area. Ask your local MFLNRO District Office or local government for information about avoiding introducing and spreading invasive plants, and share it with your clients or members.
- Control invasive plants in your staging areas to avoid their spread onto trails.
- Consider organizing volunteers at trailheads during busy times of the year for a “weed pull”, to build trail user awareness and ensure understanding of invasive plant issues.



Livestock and Range Sources

- Collaborate with landowners on proactive solutions to ensure that gates and fences are maintained.
- Supply educational information to members on the issues associated with trespassing (see Education, page 22).
- Tell users that gates may deliberately be left open to allow livestock passage (most are tied to the fence).

Cultural Heritage Resources and Historic Features

- Provide your clients and club members with appropriate educational materials to enhance their appreciation of the First Nations cultural heritage and of historic features in the areas they visit.
- If you are building or maintaining trails, roads, routes, involve First Nations in trail planning, design, and implementation.

EDUCATION

Get the Message Out through Outreach and Education

You and your members can use the BMP 2005 report and this BMP field guide to promote grassland stewardship.

To Consult the 2005 Report:

Best Management Practices for Recreational Activities on Grasslands in the Thompson and Okanagan Basins

<http://bcgrasslands.org/resources/>

Here are some ideas:

Youth Outreach

- Encourage schools to inform youth about why these BMPs are important; conduct field trips to demonstrate problems and solutions.
- Spread the word at clubs that involve youth such as 4H, and Boys and Girls Clubs and at dealerships and riding clinics.

Pre-Packaged PowerPoint or Speaker's Series

- Provide information for guest speakers to clubs, community and school groups.

Trade Shows, Malls, Dealers

- Distribute BMP field guide at trade shows and encourage motorized recreation product dealers to support and distribute these BMP guidelines.



Newsletters, Websites, AGMs

- Put activity-related BMPs on your club website and in newsletters.
- Include information items in local papers and on radio/TV.

Events

- Have the BMP document available at races, special events and club activities.
- Invite the GCC to be present at events to talk about grassland issues.

Adopt on-the-Ground Projects & Activities:

- Use the BMPs as guidelines in developing trail systems.
- Develop a signage strategy (e.g. marking the location of trails and sensitive ecosystems).
- Place signs at a trailhead with "Do's & Don'ts"
- Invite the GCC to speak to the membership.

Membership

- Email the BMP field guide to membership to inform and educate members about ORV use in grasslands.
- Invite invasive plant committee representatives to provide your club with field presentations on invasive plants.

WEBSITES & CONTACT INFORMATION

Ministry of Forests, Lands and Natural Resource Operations:

- **Off-Road Vehicle Management Framework**
<https://www2.gov.bc.ca/gov/content/industry/crown-land-water/crown-land/crown-land-uses/off-road-vehicles>
- **Recreation Sites & Trails BC**
<https://www2.gov.bc.ca/gov/content/sports-culture/recreation/camping-hiking/sites-trails>
- **ORV Trail Fund**
<https://www2.gov.bc.ca/gov/content/sports-culture/recreation/camping-hiking/sites-trails/orv-trail-fund>
- **District Office Locations**
<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/ministry-of-forests-lands-and-natural-resource-operations-region-district-contacts?keyword=flnro&keyword=distric&keyword=offices>

ORV Organizations and Clubs:

- **Quad Riders ATV Association of BC**
<https://atvbc.ca/>
- **BC Off-Road Motorcycle Association**
<http://www.bcorma.ca/>
- **BC Snowmobile Federation**
<https://www.bcsf.org/cpages/home>
- **Four Wheel Drive Association of British Columbia**
<http://www.4wdabc.ca>

Conservation Organizations:

- **Grasslands Conservation Council of British Columbia**
<http://bcgrasslands.org/>
- **Invasive Species Council of British Columbia**
<https://www.bcinvasives.ca/>
- **Species at Risk (BC Conservation Data Centre)**
<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre>

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