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Wildlife Friendly Fencing

Fence lines are amongst the most common linear features in southern Alberta, criss-crossing through open prairie, coulee slopes, and rolling hills. Though fencing is a necessity for holding livestock and delineating land ownership in rural lands, the installation of these structures can present obstacles to wildlife using the land. Fences that are too low can impede the movement of pronghorn and the young of ungulates like deer, elk, and moose that rely on going under fences, and fences that are too high can impede and injure ungulates that tend to go over fences. The difficulty of crossing a fence is further compounded by designs of atypical heights or materials such as chain link or page wire fencing, to the point where crossing may not be possible for a wide range of animals. At the very least, fences impede movement and slow animals down as they crash through or attempt to jump over, and at the most cause wildlife mortality. Attempts by wildlife to cross fences also typically damages the fence and requires maintenance from the landholder.

Looking at ways to avoid or reduce fence line issues is nothing new as producers continually try to balance the needs of managing their livestock and costs to repair fences with the needs of wildlife. Below are a few examples of fences that producers use that allow management of their livestock but also provide safe wildlife movement.

Pronghorn friendly fencing

The simplest step to take to improve fences for wildlife, especially in the open grassland, is to install a double stranded smooth wire as the bottom wire at least 18” off the ground. This allows pronghorn and deer to go under the fence easily and without injuries associated with barbed wire. Research using trail cameras along fence lines with cattle in them found that calves didn’t get out any more often than when barbed wire was used at lower heights (e.g. 12”). However it is believed that calves that accidentally get out are more likely to go back under a fence where the entire bottom wire is at 18”. In this case, there are plenty of areas to get back under the fence, as opposed to a fence with a low bottom wire where a calf accidently gets out and can’t find that same spot to get back in.

If placing a smooth wire along the entire bottom of your fence isn’t feasible, then other options include only using smooth wire at known ungulate crossings, or simply clipping the existing bottom wire up to the second wire from the ground at known crossings to allow for that 18” space. Continued on next page.

Wildlife friendly fencing **continued**

4-Wire fence

An option for a wildlife friendly four-wire fence is to have a double stranded smooth wire on the bottom at 18” above the ground and a double stranded smooth wire on top no higher than 42” above the ground. The second wire from the top would then be placed 12” below the top wire to reduce the risk of deer and other ungulates entangling their back legs when jumping over the fence. The third wire would be placed 6” down from the second wire.

Portable electric fence

Portable electric fences that can be towed around and are easy to set up are another option that several landholders are using on their operations to avoid the need to install permanent fencing. These units rely on one electric rope strand that can run for several miles, creating a management unit in a relatively short time to allow for site specific livestock management with a relatively low impact on wildlife. Electric rope is often white and orange allowing greater visibility to approaching wildlife.

Look for the new *Alberta Landholder’s Guide to Wildlife Friendly Fencing* in spring 2020! This guide will be similar to the guides that Montana and Wyoming have and will use the latest research and Alberta examples of wildlife friendly fencing.

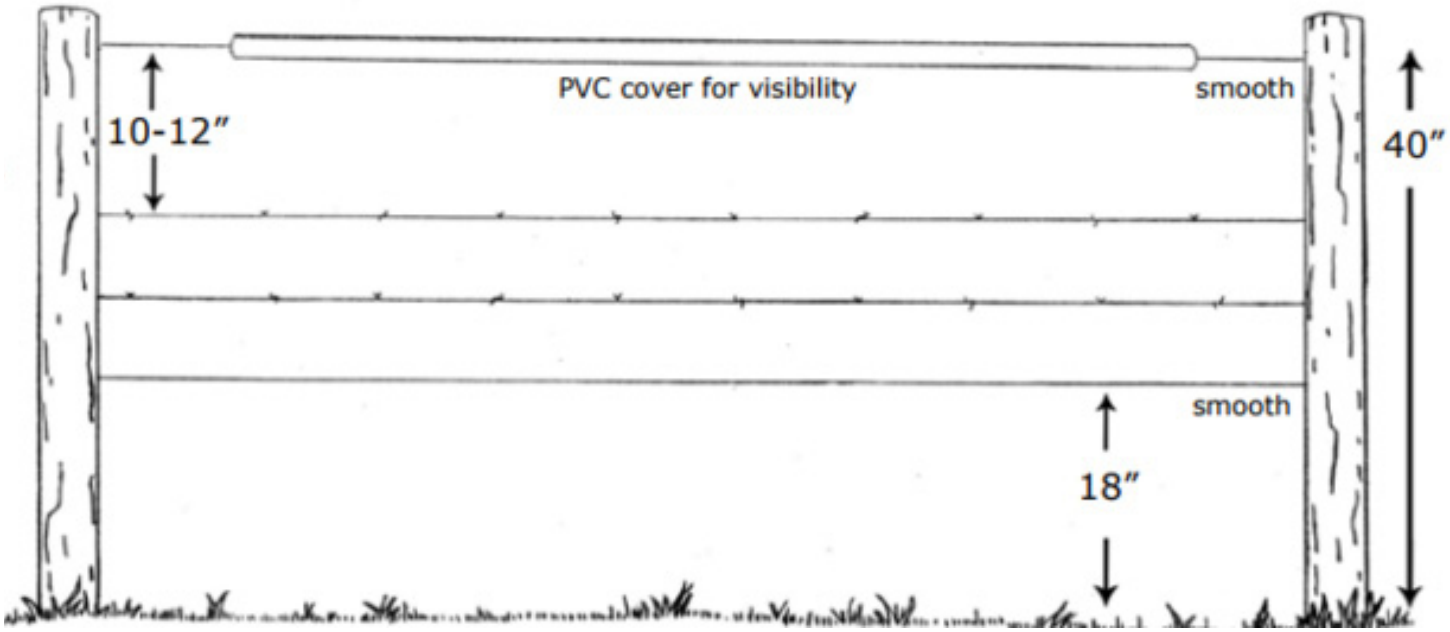
Reflectors

Securing reflectors on the top two wires of fence lines near waterbodies (especially for waterfowl) and important habitat for grouse improves visibility of those wires and reduces potential collisions.

Clips

At known ungulate crossings simply clipping the bottom wire up helps reduce entanglements.

AN IDEAL 4 WIRE WILDLIFE FRIENDLY FENCE:



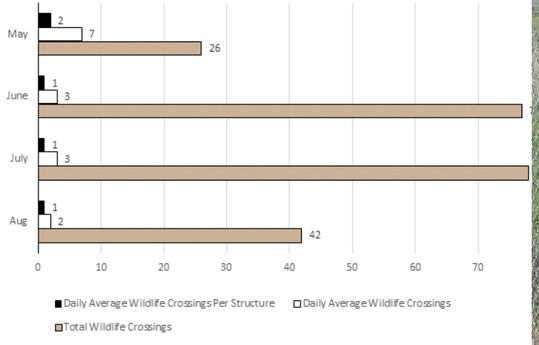
CASE STUDY: A WILDLIFE-FRIENDLY APPROACH TO CHAIN LINK FENCING

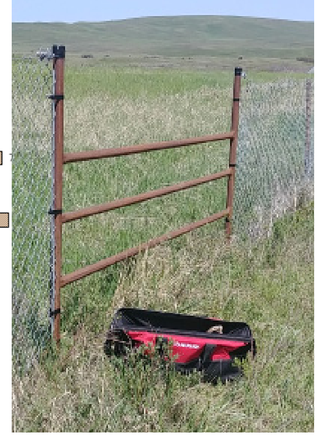
BACKGROUND

From late May through to mid-August of 2019, MULTISAR partnered with landowners in the Foothills Fescue Natural Subregion to document the movement of ungulates through crossing structures installed along chain-link fencing. The project involved the remote monitoring of three crossing locations, designed by the landowners, with the use of trail cameras in order to determine the design's effectiveness in facilitating the movement of wildlife. The findings of the project were to be used to decide whether the installation of more of these crossings would prove beneficial to local wildlife.

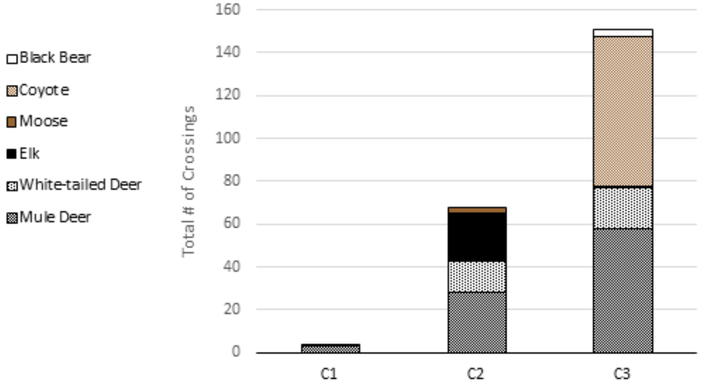
RESULTS

A total of 223 individual crossings at 3 locations were detected over the 84-day study period, with each location seeing an average of 75 successful crossings during the course of the project. Wildlife were documented utilizing the crossings during 73 of the 84 days monitored. July saw the most crossings, with 78 total observations, though May had the highest average number of crossings per day (Figure 1). Each crossing was utilized an average of 1-2 times per day.

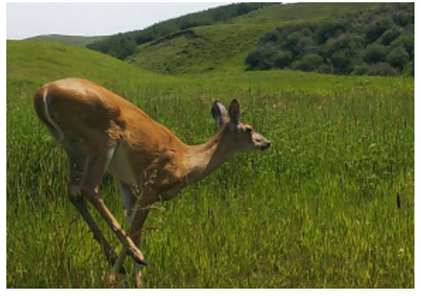




A variety of species were documented utilizing the crossings during the project, including mule deer, white-tailed deer, elk, and moose. Curious coyotes and a family of black bears were also observed passing through. The most documented species was mule deer (89), followed by coyote (70), white-tailed deer (34), elk (24), moose (3), and black bear (3) (Figure 2).



Juvenile animals made up 6% of all the crossings detected. The ability for young of the year to utilize the crossing structures is particularly important, as young animals are more likely to experience an unsuccessful crossing attempt than their adult counterparts.



Of all the wildlife documented near the crossings, most (60%) chose to utilize the crossing structures, while the remaining 40% either continued to follow the fence or cautiously investigated the crossings before deciding not to cross. Most ungulates chose to leap through the crossings as was intended, while others opted to duck underneath the structures instead. These results indicate that most animals will readily use the crossings. Follow-up with the landowners in the future will allow us to determine if the crossings successfully reduce the amount of fence repairs required when animals try to get over the chain link fence.

CONCLUSION

In conclusion, the wildlife crossing design effectively allowed for the safe passage of wildlife across chain link fencing. The majority of animals detected during the project were observed utilizing the crossing areas, with various species and all age groups documented. The installation of wildlife-friendly fencing, even along the most impervious of fencing materials, can be a simple, effective, and proactive way to lend a hand to local wildlife, increasing landscape connectivity, preventing animal injuries, and reducing the cost of fence repairs, all while promoting biodiversity on your land.

Species Profile: McCown's Longspur

Description: Small sparrow-sized songbird with a thick bill and distinctive white tail marked by a black "T" (black center and tip). Breeding males are grey with a black bill, crown, cheek stripe, and breast band. Males also have a chestnut-colored band near the top of their wings. Females have a similar plumage pattern but lack the contrasting black markings and are overall a duller greyish brown. Males can be identified by their unique warbling "flight song" and territorial flight display. Males will fly up into the air, spread their wings and tail feathers, then slowly float their way back to the ground while singing.

Status: Listed as Threatened in Canada and May be at Risk in Alberta. Since the 19th century the McCown's longspur breeding range has been steadily shrinking in Canada and is now concentrated within southeastern Alberta and south-western Saskatchewan. Breeding populations have been described as fragmented and disjunct and prone to shift over time due to changing climatic and moisture conditions.

Habitat: McCown's longspur are restricted to the short- and mixed-grass prairie. This species breeds in relatively open, bare conditions in comparison to other grassland birds. Breeding territories are typically situated in arid, sandy soil on native prairie with sparse litter and vegetative cover, short grasses (average = 5 cm), and up to 52% bare ground. More common in short-grass prairie but can also be found in structurally similar mixed-grass prairie that has been moderately or heavily grazed. McCown's longspur avoid idled or deferred native grassland. Will also nest in plowed or stubble fields but with lower success rates than in grassland habitats.

Threats: The primary threat to the McCown's longspur is habitat loss and degradation in both its breeding and wintering ranges. Habitat loss has been caused by conversion of native grassland to cropland and forage production, and to a lesser extent industrial development. Other threats include alterations to natural grazing and fire regimes, nest predation, extreme weather conditions, and accidental mortality in agricultural areas caused by tillage, seeding, and the application of pesticides.

Beneficial management practices for McCown's longspur:

- Graze at moderate to heavy intensity in late summer, fall or winter in areas longspurs are known to nest to reduce vegetation height and density. Keep in mind that the entire grassland songbird community requires a mosaic of habitat conditions
- Maintain/reclaim native shortgrass prairie using native species
- Control non-native and invasive plants, as they do not provide suitable vegetation structure and displace native plants
- Manage pastures and other grassland parcels as large units rather than small ones
- Use alternatives to chemical control of insects to preserve the food supply for insect-eating birds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Gillihan, S.W. and S.W. Hutchings. 2000. Best management practices for shortgrass prairie birds: a landowner's guide. Colorado Bird Observatory, Brighton, Colorado.

Environment Canada. 2014. Management Plan for McCown's Longspur (Rhynchophanes mccownii) in Canada. Species at Risk Act Management Plan Series. Environment Canada, Ottawa, Ontario.

Photo Credits: ACA & PCF

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