Cattle Exclusion to Accelerate Recovery of At-Risk Species & Ecosystems at Grand Forks Grasslands, BC

PROJECT SUMMARY REPORT

Southern Interior Land Trust | April 2024

Southern Interior Land Trust

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Introduction

In 2020, the Southern Interior Land Trust (SILT) purchased 144 hectares of grassland habitats just east of Grand Forks, in the Dry Interior of British Columbia. The property is within one of the smallest and rarest ecosystems in BC, the Ponderosa Pine very dry hot biogeoclimatic subzone of the Southern Okanogan Highlands ecosection.

Figure 1: *Overview of the Grand Forks Grassland conservation property, Grand Forks, BC*

SILT's "Grand Forks Grasslands" conservation property is home to at least six federally listed species-at-risk including Western Rattlesnake (threatened; confirmed), Great Basin Gophersnake (threatened; confirmed), Western Yellow-bellied Racer (threatened; confirmed), Spadefoot Toad (threatened; critical habitat), Tiger Salamander (endangered; critical habitat) and American Badger (endangered; confirmed). It also provides habitat for a herd of California Bighorn Sheep that use the property year-round for forage and security, and it is an important winter/spring range for both Mule and White-tailed Deer.

SILT's goal is to protect and maintain the valuable ecological features of the Grand Forks Grasslands conservation property in perpetuity.

Since being purchased by SILT, frequent repeated trespass by cattle and motor vehicles has been an ongoing management concern for species-at-risk habitat recovery—despite SILT having prohibited these uses from this and all its conservation properties.

Figure 2: *Looking east from Lot A DL 493 toward DL 492, Grand Forks Grasslands*

SILT's priority is to find an effective solution to the livestock and vehicle trespass such that grassland habitat recovery can be accelerated, and wildlife habitats better protected. To this end, SILT sought funding for this project from the Government of Canada *Habitat Stewardship Program*, other donors, and in-kind support from several individuals and businesses. In total, 1.3 kilometres of new wildlife-friendly fence (see Appendix) and a cattleguard was installed to help protect the Grand Forks Grasslands for wildlife.

Project Goals & Objectives

SILT is committed to keeping livestock and motor vehicles off its Grand Forks Grasslands property to help recover the land's ecological integrity and thus protect the at-risk and other species that rely on the grassland habitats. Project goals were to:

- protect and maintain habitat for several species at risk, bighorn sheep, and deer;
- reduce and accelerate restoration of habitat damage caused by cattle grazing and motor vehicle trespass on land purchased for wildlife conservation;
- promote and encourage further collaboration in conservation between SILT and indigenous communities, and;
- increase public awareness and care of SILT's Grand Forks Grasslands property.

Project objectives, to be achieved by March 2024, were to:

a) install up to two kilometres of new wildlife-friendly fencing.
b) add a cattleguard to the public Morrissey Creek Road.
c) support further indigenous engagement in at-risk species recovery.
d) support community awareness and assistance in stewardship of at-risk species.

Results

a) Install up to two kilometres of new wildlife-friendly fencing.

Layout and construction of new fence began in June 2023 but was delayed to autumn 2023 due to prolonged heat, dry soils, and fire hazard throughout the summer. We put priority for fencing on excluding livestock from a shallow seasonal pond and a nearby year-round groundwater spring, both known to attract cattle onto the property, and both used extensively by wildlife. An equal priority was to also fence the westernmost boundary of the property, where cattle were known to enter from adjacent and unfenced private land. About 60-metres of Deadhorse Creek, another year-round water source for wildlife, lies within SILT's property and would also be protected by the west boundary fence.

Figure 3: *Installed wildlife-friendly property boundary fence; note the steel fire-proof posts, the low top and high bottom barbless wires, and vinyl flags added for wildlife awareness.*

Fence design and construction followed guidance of the *Alberta Landholder's Guide to Wildlife Friendly Fencing*.[1] As the property is for wildlife and is used extensively by deer and bighorn sheep, care was taken during final layout to reduce the amount of fencing wherever practical. On-site adjustments to the initially proposed fence locations were made during final layout to better avoid areas of bedrock and talus, and to more effectively cross known wildlife travel routes. None-the-less, the terrain proved difficult.

Figure 4: *A rock jack corner brace on bedrock shows the amount of labour required to fence on difficult terrain typical of bighorn sheep habitats. Where in-line steel posts had to cross over bedrock, a 6-inch hole was first drilled into the rock (requiring a generator be moved to the site) and each post was then anchored into the rock with epoxy. These posts, each 1-inch in diameter, had to be cut-to-size to maintain proper wire spacing. This was all time-consuming and difficult work on steep and sometimes unstable ground. Thankfully, other than the relatively few but necessary wooden posts and rails, most of the new fence is fire-proof, substantively reducing the risk of infrastructure loss to future wildfires, an important climate-change adaptation.*

[1] Paige, C. 2020. A Landholder's Guide to Wildlife Friendly Fencing. Alberta Conservation Association, Sherwood Park, Alberta. 68pp.

A total of 1.3 kilometres of wildlife-friendly fence was built, completing a barrier to livestock on the western boundary of SILT's property, and further excluding any trespass cattle (that may find their way in) from 2 of 3 waterbodies. The 60-metre section of Deadhorse Creek on SILT's land was excluded by a new fence from the adjacent private land but is not protected from trespass cattle that may find their way onto SILT's property. This was a risk-based decision to allow wildlife on SILT land unfenced access to the creek.

Figure 5: *Livestock exclusion fence surrounding a waterhole and its riparian vegetation; the fencing has barbless top and bottom wires, with wires spaced to optimize wildlife crossings.*

Though the permanent fence constructed is a "wildlife-friendly" design it is still a fence and thus poses a potential obstacle and hazard to wildlife, hence our decision to limit new fencing to the minimum amount wherever practical. In addition, drop-down wooden rail sections and seasonal gates were added at wildlife travel ways where identified.

In 2023, the provincial range program attempted to reduce range cattle trespass between its public range pastures by installing a temporary electric fence at one location, and The Nature Trust of BC also proposed to build a wildlife-friendly fence at the upper boundary of its property that also borders SILT's. For these reasons, SILT decided to take a wait-and-see approach to installing fence on the northern boundary of its land. This proved prudent because, though the electric fence was not effective, the range agreement holder has since

surrendered its grazing tenure, meaning no cattle should be on the public rangelands until at least 2025, should the BC Ministry of Forests choose to issue a new range tenure.

b) Add a cattleguard to the public Morrissey Creek Road.

The Grand Forks Grasslands conservation property is comprised of two land parcels, both owned fee-simple by SILT. A challenge in effectively fencing the western boundary of the property from livestock was the public "Morrissey Creek Road" which bisects SILT's western "Lot A", and ends where it meets SILT's eastern parcel "DL 492". In other words, the public has a right to motorized access on the road through Lot A but not onto DL 492.

Figure 6: *Cattleguard being installed on the public Morrissey Ck Road by YRB's bridge crew.*

In 2023, SILT acquired and installed a new cattleguard in collaboration with the Nature Trust of BC. The cattleguard was installed free-of-charge at the western boundary of Lot A by Yellowhead Road & Bridge (YRB), the local roads maintenance contractor. All work was done under permit from the BC Ministry of Transportation and Infrastructure. The cattleguard, with its associated rail wing fences, excludes cattle but allows vehicle traffic. Also installed were a "crows-foot" for walk-through pedestrian access, and a locked farm gate for removal of trespass livestock, should any find their way onto SILT's property.

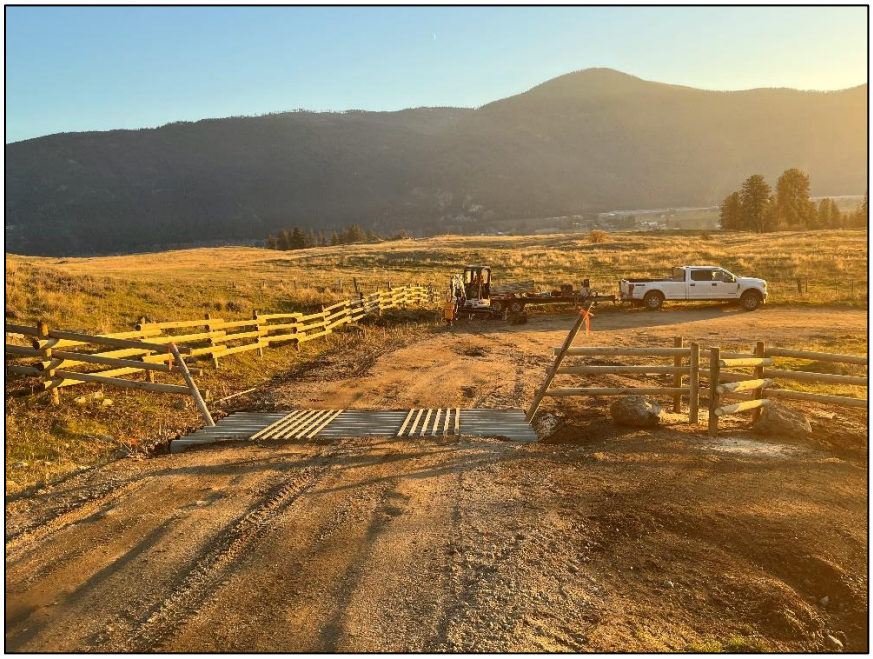


Figure 7: *Cattleguard installed at the public road access to SILT's Grand Forks Grasslands conservation property. The rail wing fence makes the property boundary obvious. The top and bottom rails alternate to "wildlife-friendly" heights. A "crows-foot" provides pedestrian access without having to cross the cattleguard, and a locked farm gate in the far-left corner provides for removal of livestock that may find their way onto SILT's property in trespass. Property signage will be added in Spring 2024.*

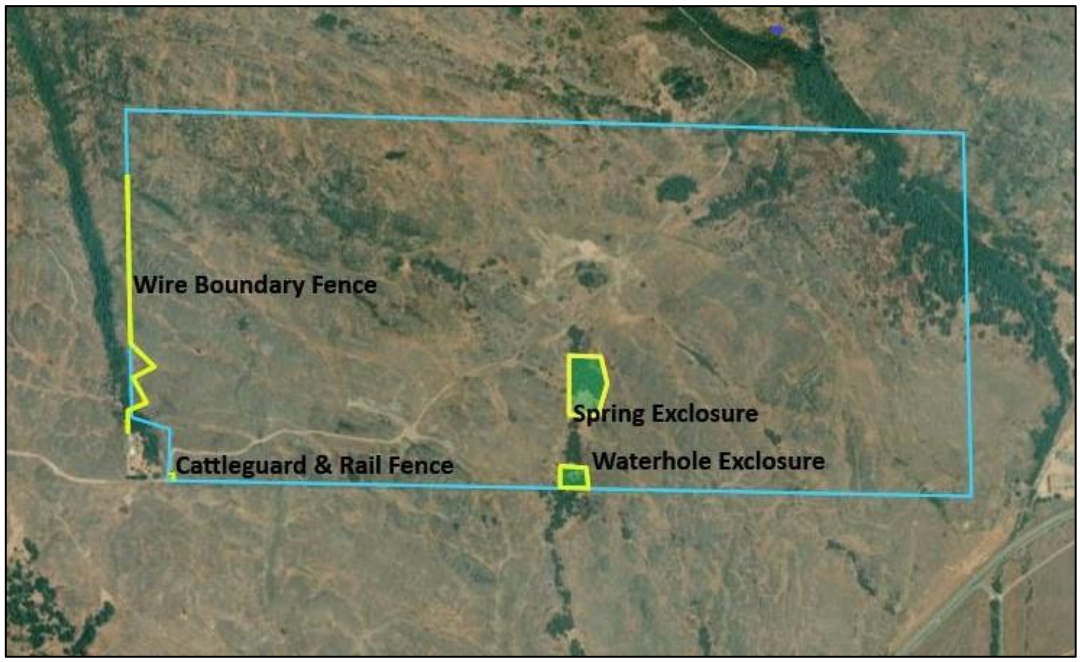


Figure 8: *Fence & cattleguard locations as built*

c) Support further indigenous engagement in species-at-risk recovery.

SILT proposed to engage the Osoyoos Indian Band (OIB) to do a preliminary archeological and cultural field assessment of the Grand Forks Grasslands property, and to assist with fence construction. Scheduling and staff availability at OIB proved difficult. With OIB's approval, SILT instead engaged the Lower Similkameen Indian Band (LSIB) to conduct an archeological overview assessment of the Grand Forks Grasslands property.

Following an office review and discussion with elders and others, LSIB's archeological and cultural/natural resources staff field-assessed the property in November 2023. No archaeological materials or features were identified during the survey. However, multiple cultural use plants were identified.

LSIB concluded that lack of archaeological materials does not indicate that syilx people did not use the area. Rather, it has been used, but the use did not leave sufficient materials for identification. Areas of moderate to high archaeological potential were mapped. LSIB also provided SILT with a list of n'syilxcen placenames and cultural use plants related to the property.

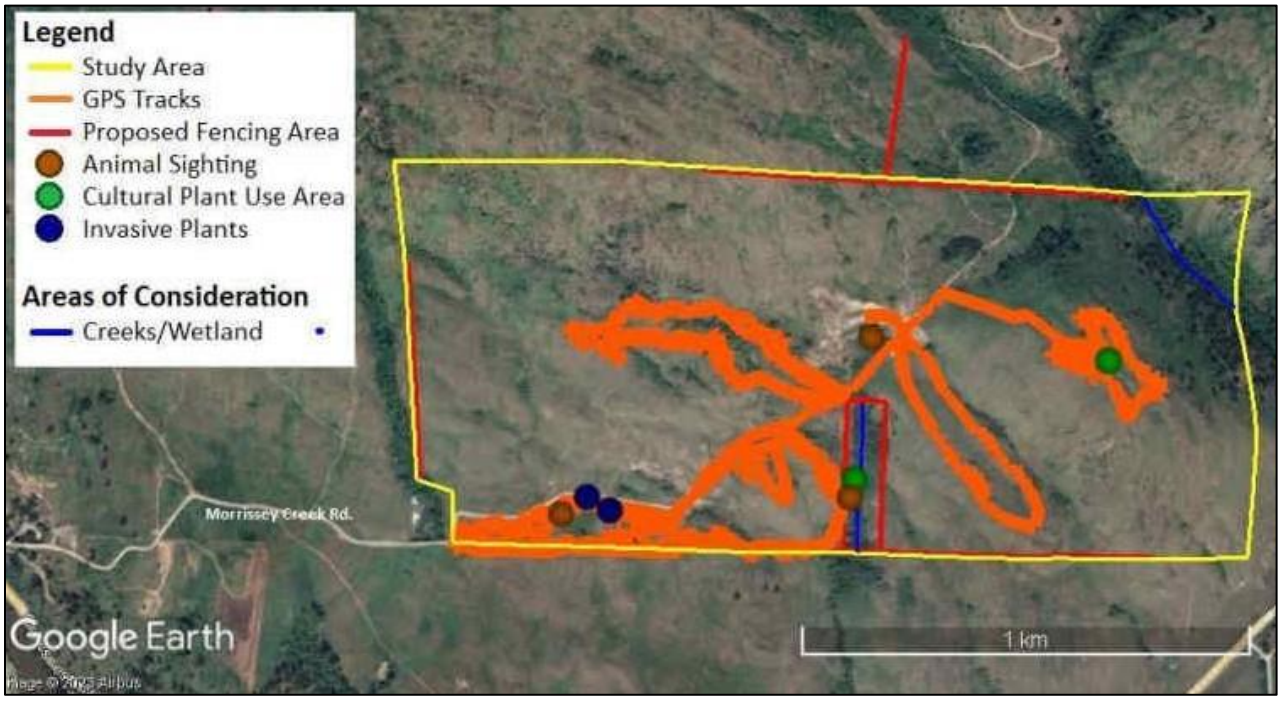


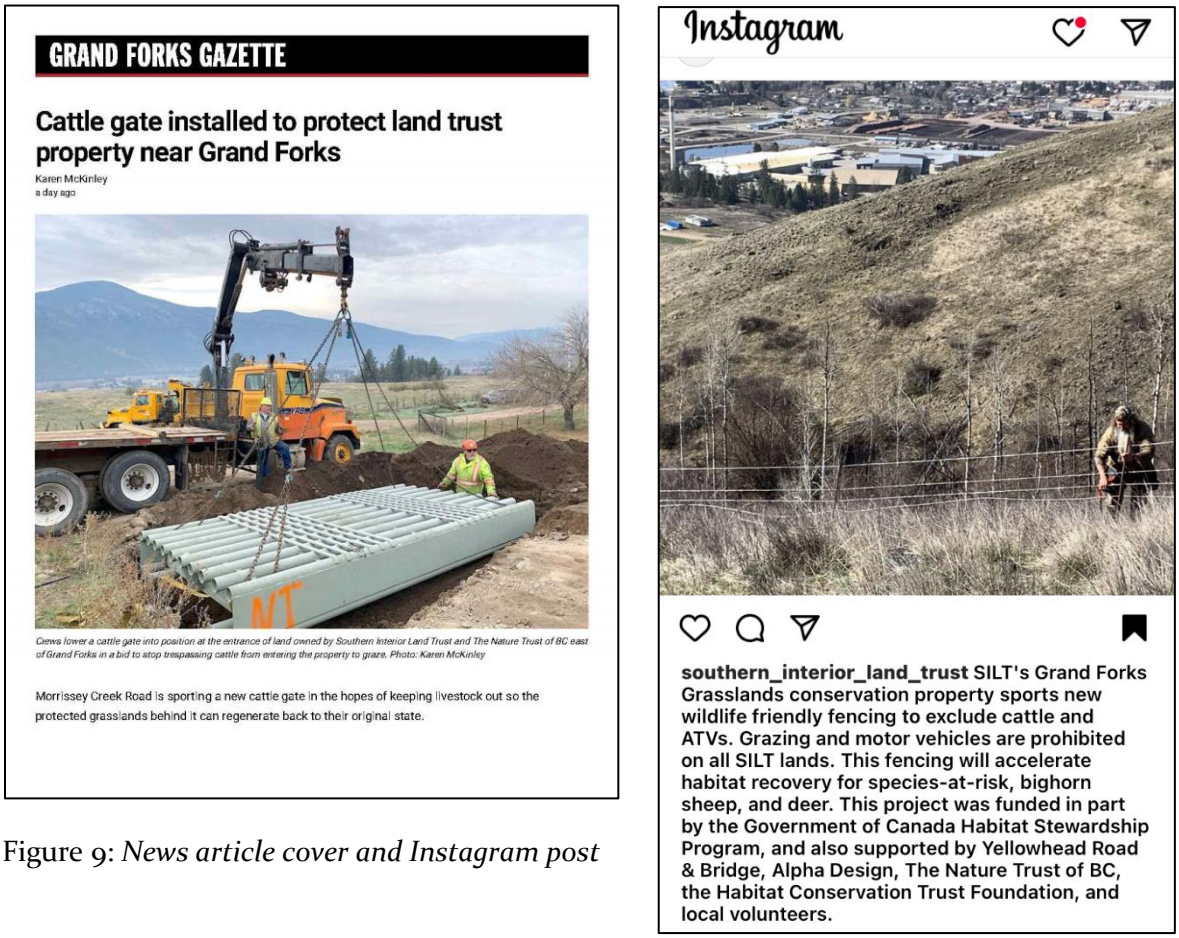
Figure 6: *Overview image of the areas field-assessed for archeological and cultural values.*

d) Support community awareness and assistance in stewardship of species at risk.

SILT periodically creates social media posts and public news announcements concerning its operational activities at the Grand Forks Grasslands property. Despite these measures, SILT has experienced continuing disregard of its motor vehicle and livestock grazing restrictions, and repeated unauthorized use of the property by some people for bonfires, drinking parties, and garbage dumping. There is also frequent vandalism of SILT signage.

A formal communications strategy for the community, including conversations with various interest groups is needed, but was beyond the scope of this project. For this project, the cattleguard and rail fence define the property boundary where most people access SILT's land. Better signage (to be installed in Spring 2024) will help to make people more aware of the land's private ownership, conservation intent, and permitted uses.

A local news article about the cattleguard reached a potential 4000+ customers and SILT has 221 Instagram followers.



GRAND FORKS GAZETTE

Cattle gate installed to protect land trust property near Grand Forks

Karen McKinley
a day ago

Crews lower a cattle gate into position at the entrance of land owned by Southern Interior Land Trust and The Nature Trust of BC east of Grand Forks in a bid to stop trespassing cattle from entering the property to graze. Photo: Karen McKinley

Morrissey Creek Road is sporting a new cattle gate in the hopes of keeping livestock out so the protected grasslands behind it can regenerate back to their original state.

Instagram

southern_interior_land_trust SILT's Grand Forks Grasslands conservation property sports new wildlife friendly fencing to exclude cattle and ATVs. Grazing and motor vehicles are prohibited on all SILT lands. This fencing will accelerate habitat recovery for species-at-risk, bighorn sheep, and deer. This project was funded in part by the Government of Canada Habitat Stewardship Program, and also supported by Yellowhead Road & Bridge, Alpha Design, The Nature Trust of BC, the Habitat Conservation Trust Foundation, and local volunteers.

Figure 9: *News article cover and Instagram post*

Appendix

Friendly Designs

An Ideal Fence

A fence that is friendly to wildlife should:

- Allow animals to jump over and crawl under easily without injury;
- Be highly visible for both ungulates and birds.

You can combine or tailor many of the ideas presented in this guide to your specific situation.

The top wire or rail should be low enough for adult animals to jump over, preferably 40" or less, and no more than 42" high. The distance between the top two wires should be no less than 12" apart. Deer and elk easily tangle their back legs if the top wires are closer together.

The bottom wire or rail should be high enough for adult pronghorn and young wild ungulates to crawl under. The bottom wire should be a minimum of 16" from the ground and preferably at least 18." Take advantage of small dips, swales, and gullies to provide a slightly larger gap below the fence and allow animals to pass under easily. Many cattle ranchers have found that although a small calf may slip under the higher bottom wire, it can also easily slip back again to its mom and not be stranded on the wrong side of the fence.

ALTHOUGH CALVES MAY SLIP UNDER A HIGHER BOTTOM WIRE, THEY CAN ALSO SLIP BACK AGAIN TO MOM AND NOT BE STRANDED.

Increasing visibility using a top rail, high-visibility poly-wire, flagging, or other markers can help ungulates and birds better avoid or navigate fences. Using smooth wire – such as barbless twisted wire – for the top and bottom strands will prevent snagging and injuries.

Use electric tape or braid only for temporary applications. It should be removed or lowered to the ground when livestock are not present.

In some situations, fence stays can help maintain distance between strands, prevent sagging, and reduce the chance of entanglement. However, wire stays are easily bent over, collapsing the fence and creating a three-dimensional hazard, and need to be regularly maintained. An alternative is a stiff plastic or composite stay or fiberglass post that flexes but maintains its shape.

In wildlife migration areas, drop-down fence, lay-down fence, or other crossings can be incorporated into fence sections for seasonal wildlife passage. **Good husbandry practices go hand-in-hand with wildlife friendlier fences. Livestock that have good forage and the security and companionship they want are much less likely to test or challenge fences.**

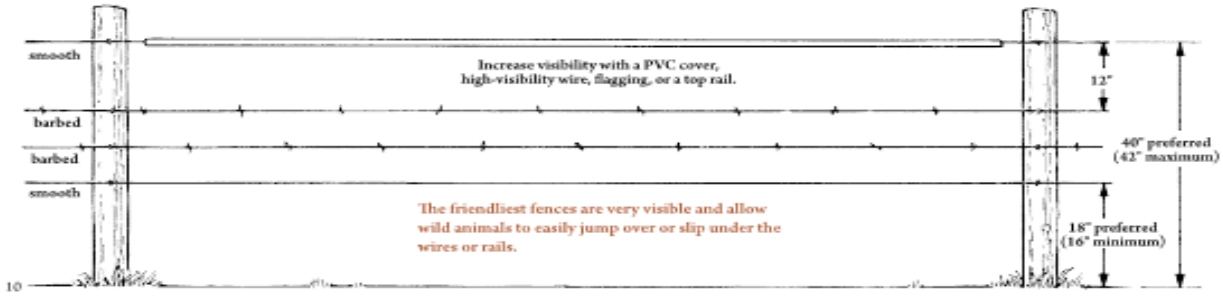
The Wildlife Friendly Fence: A Livestock/Wildlife Compromise

These standards will control cattle in most situations and allow for easier wildlife passage.

Fences should have top wires low enough for adult animals to jump, bottom wires high enough for wildlife to crawl under, and minimize the chance of tangling. We recommend:

- A top wire or rail preferably no more than 40" and a maximum of 42" above the ground;
- At least 12" between the top two wires;
- A bottom wire or rail at least 16" and preferably 18" above the ground;
- Smooth wire or rail for the top, smooth wire on bottom;
- Preferably, no vertical stays. If used, consider stiff plastic or composite stays, or regularly maintain wire stays that are easily bent;
- Posts at 16.5-foot intervals;
- Gates, drop-downs, or other passages where wildlife concentrate and cross.

IDEAL WILDLIFE FRIENDLY FENCE



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