

Wild Predator Loss Prevention

Best Management Practices for Cattle

A guide for cattle producers on how to minimize predation of cattle



Funding provided by:



Best Management Practices for Cattle

What is a Best Management Practice?

A Best Management Practice can be a process, activity, method or technique. These processes, activities, methods and techniques are generally understood to be more effective in reaching a certain outcome or accomplishing a task than other conventional processes, activities, methods or techniques. Best Management Practices are used in many professions such as construction, technology, ecological protection, sustainable development and health care.

What is a Best Management Practice for Cattle Producers?

A Best Management Practice (BMP) is an approach to livestock production that seeks to minimize predation on a herd while taking into account the surrounding environment, including the wild animals within it. A BMP provides cattle producers with a toolkit of options to assist with the protection of livestock from predation. BMPs go with the idea that it is much easier to take steps to prevent predation than to try to stop it once it has started. These are your “best bets” for keeping your livestock safe. These best management practices fall into 5 categories, and are explained in the following pages. They include:

- ➡ Husbandry Practices
- ➡ Predator Repellants
- ➡ Guardian Animals
- ➡ Fencing
- ➡ Knowing Your Neighbours

The intent of this BMP is not to limit cattle producers, but rather, to provide options for them. It should be understood that every farm is different, and due to physical factors and geographic location, some farms do not have the option to adapt to several of the suggestions listed in this document. Each producer should evaluate his/her situation in terms of what is possible, both realistically, given the layout of their land, and financially. It may be the case that some of the BMPs listed in the following pages are not feasible, and then the producer must know and accept that they have a higher risk of predation, and then take other appropriate steps.

Why should BMPs be applied in livestock/predator interactions?

A farm that has adopted BMPs:

- Should experience less loss due to predation by wild predators
- Should increase its ability to be self reliant in managing predator problems responsibly
- Should have a better understanding about its role in the local environment and how it can exist without harmful impacts on the predators in the surrounding area

Limitations

Management practices are effective tools for protecting livestock. They cannot, however, be expected to prevent *all* predator problems. For minimizing predation, an integrated approach should be used. The most successful programs combine good husbandry with other control methods.

Husbandry Practices

Select an appropriate site for pasture

Pastures that are interrupted by streams, creeks or rivers have a greater chance of predation. Predators like to hunt in places where they can hide. Avoid pastures in thickly vegetated areas. Remove brush and trees in areas where cows and calves are kept. Make sure to keep vulnerable animals (calves and pregnant cows) away from this area.

Have defined storage areas at least 200 m away from calving areas or feeding areas

Farms that store old farm equipment and other items randomly throughout the property provide excellent hiding spots to invite predators, thus facilitating predation on the herd. Create a defined storage area for these items away from where cows are kept. If planning on creating a new facility for the calves, make sure to examine the design so that you are not creating corridors and pathways for predators to use to get to your herd.

Have a set breeding season

Calving seasons can last a long time if breeding seasons are extended. Long calving seasons can wear livestock producers out and make them less inclined to check the cows and calves regularly. The scent of birthing mothers and new born calves are also strong attractants for predators. To shorten the calving season and to minimize the chances of putting the whole herd at risk, plan your breeding season. If there are still cows who are calving after the main herd is scheduled to be put out to a pasture away from supervision, keep the late calvers back.

Husbandry Practices

Continued

Clean up the calving ground

Remove all waste such as afterbirths that occurs as a result of calving. The smell of calving waste can be a strong attractant to predators. This includes stillborn or dead stock.

Brand and castrate calves 10-14 days before putting them out to pasture/rangeland

The scent of vulnerable animals can attract predators from miles away. The wounds caused by castration and branding are enough to cause a strong odour that can attract predators. Time the castration and branding so that the calves can heal and move well before they are released into more remote pastures.

Keep records

Keep track of how many cows you have, as well as any losses you experience. Knowing how many cows you have makes it much easier to determine when they go missing. Keeping track of losses can help in the facilitation of the control or removal of the problem predator. It can also help to identify patterns of high predation times or areas.

Encourage grouping of the herd

Bunching up animals makes them less vulnerable to predators. Some predators are far less likely to try to isolate a cow from the herd than to attack an individual animal who is off by itself.

Develop safe watering locations for the herd

Avoid ambush locations such as watering areas with steep draws, canyons, or deep muddy soils. Also avoid areas that are heavily overgrown. Deep muddy soils or steep cut banks at watering areas can cause bogging or terrain traps for cattle, which increase the risk of accidental death and predation. Cattle stuck in vegetation, mud or ravines become easy prey for predators. The cow carcasses also attract scavengers such as ravens which signal and attract large predators. Neglecting to think about watering locations can potentially increase predation of your herd.

Husbandry Practices Continued

Inspect the herd regularly

Get out and look at your herd to assess their behaviour. Ask yourself: are they more alert? or fearful? Detecting unusual behaviour and taking steps to discourage predation before it happens will be very advantageous for you. Periodically change the time of day when the herd is checked to keep predators from learning your patterns and being more likely to kill the livestock. Observe animals for health or movement problems and isolate them. Predators will select and prey on the vulnerable, weak, sick or injured. Regular inspection of the herd is critical when herds are moved to open range (Crown range lands). Crown range lands cannot offer the same degree of protection as does a home farm or ranch. The herd is more vulnerable when in the natural habitat of wild predators.

Remove dead animals

The smell of dead animals will invite scavengers and predators. Remove carcasses or bury them deeply to lessen the chances of attracting and losing even more livestock. Many predators will return to a dead animal for feeding. Leaving dead animals out may encourage predators to develop a taste for domestic meat. Dead animals can be buried or composted on the farm where they died. If the dead animals are to be composted, ensure that they are not just placed on top of the manure pile, but buried into it with at least 1 meter of manure on top of the carcass. If the dead animal is to be buried, also make sure that there is at least 1 meter of soil above the carcass. This 1 meter of soil on top of the carcass will help to discourage bears from digging to get at the carcass. It should be noted, however, that deep burial (more than 1 meter), is more effective in discouraging bears. For both composting and burying, the carcass must be placed at a minimum of 30 meters from any water source to avoid any possibility of water contamination. For more information about composting, read the B.C. Ministry of Agriculture, Food and Fisheries' "Waste Management Factsheet" found at:

<http://www.agf.gov.bc.ca/resmgmt/publist/300Series/384300-2.pdf>

Some municipal landfills will accept dead livestock. Check with your regional district to see if this could be an option for you.

Predator Repellants



Top Photo: Fladry

Middle Photo: Radio Device

Predator repellants are designed to discourage or reduce the attractiveness of specific areas to predators. They can include scents, loud noises, and lights (anything that causes irregular sound, sudden light, or reflection can be temporarily effective). They should be used for high-risk, short-duration predation threats as predators are highly intelligent and quickly become accustomed to them. They are best used in combination with other techniques such as fencing, good husbandry practices, and guardian animals. To discourage predators, try some tools or techniques such as:

- * bells on cows
- * radios
- * water sprinklers
- * night lighting of corrals
- * motion sensor lighting
- * propane cannons
- * fladry (flagging tape on fencing)
- * parked vehicles in areas where losses have occurred

Guardian Animals

Guardian animals such as specific breeds of dogs, donkeys and llamas have been mainly used for protecting sheep from predators. Some guardian animals have also been used to protect cattle. Guardian dogs are used successfully in the U.S. and Australia with cattle. Some ranchers run longhorn steers with their other breeds of cattle to deter predators. While much investigation has gone into understanding and proving the usefulness of guardian dogs, the claims of using longhorn steers to reduce predation still largely comes from personal accounts rather than verifiable research. This is something to take into consideration when choosing a guardian animal.

Comparison of rough costs and life spans of guardian dogs and longhorn steers based upon various journals and websites.¹

Guardian Animal	Life Span	Initial Cost	Subsequent Costs
Dog	working life= maximum 10 years (rarely effective guardians until 2 or 3 years old)	Purchase cost: \$240 to \$1000 1st year cost: \$700-\$900	\$250-\$300 a year
Longhorn steer	up to 20-25 years	\$250-\$2000	similar to other cattle

¹ These costs are estimates, and may have increased since the time of these publications. The numbers were taken from various publications and through talking with those who have experience with Texas Longhorns. These sources include The Alberta Texas Longhorn Association, Krazy K Breeders of registered Texas Longhorns, California Department of Food and Agriculture's "Choosing a Guard Animal"; Smith, M.E. et al. "Review of Methods to Reduce Livestock Depredation"; USDA's "Livestock Guarding Dogs"; and Smith, M.E. et al. "Review of Methods to Reduce Livestock Depredation." ACTA Agriculture Scandinavia 50 (2000):279-290.

*Dogs

An effective livestock guardian dog stays with the herd without harming them. They are attentive, trustworthy and loyal to the herd. The guardian dog should not be confused with a herding dog or a pet. It is a full-time member of the herd. This does not mean that the dog does not still require care and training. It is important to remember that individual dogs and breeds will vary significantly in their effectiveness. Their protective behaviour is largely instinctive, but to form a bond between the dogs and the cows, the dog should be raised with the cows from the time it is a pup. Mature, trained dogs are more difficult to find, and are more expensive. If the guardian dog has been trained with another type of livestock besides cows, there is a possibility that the dog may be ineffective in protecting the herd.

The longer a dog stays on the farm, the more cost-effective it will be. The purchase price, training costs and ineffective juvenile months of a guardian dog can be gradually written off depending on if the dog demonstrates appropriate guarding behaviour. Guardian dogs should not be expected to be an immediate fix to predation, but in some cases, adding additional trained dogs to a herd can solve a problem immediately.

Considerations

1. Before you select a breed, learn about each breed's pros and cons. Suitable breeds include the Maremma-Abbruzzi, the Akbash, the Kuvasz, the Anatolian Shepherd, the Great Pyrenees and the Komondor. One of the most common guarding dog is the Great Pyrenees. Many producers also use cross breeds. Make sure that the parents of the pups have had experience as guardian dogs.
2. Keep in mind that it takes a lot of time and effort to incorporate a guardian dog into your herd. It is worthwhile to take a look at the recommended readings listed to the right to learn more about the steps in training guardian dogs. To maximize the efficacy of the dog, you must ensure the dog's health and safety. Do not feed the dog any raw foods or ever let them feed on livestock carcasses! They should get routine dog vaccinations and be dewormed (for tapeworms) annually, or as advised by your veterinarian. Make sure your herd is not going to frighten or injure your puppy. Keep an eye on them.
3. Some producers will keep the dog

USDA information sheep on guardian dogs
<http://www.nal.usda.gov/awic/companimals/guarddogs/guarddogs.htm>

Australian document about breeds, training dogs, dog management, common dog problems, and case studies
<http://www.invasiveanimals.com/wp-content/uploads/2010/09/Guardian-Dogs-web.pdf>

Information on breeds
<http://www.sheep101.info/guarddogs.html>

behind a fence during its life as they can show aggression to humans as well as predators.

4. From April through June (when wolf packs have new pups) keep livestock guarding dogs away from known wolf den sites. During times when pups are young, wolves can be incredibly defensive and aggressive towards the guardian dogs. When wolves work in packs, they can easily lure in a guardian dog to kill it. While guardian dogs can be effective, they are not invincible against wolves, particularly as individuals.

*Longhorn Steers

Longhorn steers have been used along with other breeds to protect cattle from predators. They show protective behaviour for one another and are good with calves. There have been accounts of longhorn steers charging at coyotes, wolves and even bears. Their long horns can also intimidate predators. They appear to avoid accidental horning of other cows. While trying out a longhorn steer could turn out to be a very successful way of keeping the herd safe, it is important to remember that the information and accounts are anecdotal. Trials documenting their effectiveness are advised.

Considerations

1. Longhorn steers, as well as the rest of the herd, may adapt better if you introduce the steer to the herd at a younger age. As the steer grows older and bigger, it becomes more intimidating, and more difficult to introduce to the rest of the herd. Let the steer grow with the herd from a young age, as the herd is likely to be more comfortable with it when introduced to it as a small animal.
2. As with any introduction to the herd, ensure the herd of origin is healthy and isolate the new animal(s) for at least 2 weeks before allowing them access to your animals.
3. In large range situations where the herd is scattered, the steers may not be as effective compared to a grouped herd. In a large range situation, there is too vast a space for them to cover and more steers may be required.

Fencing

In British Columbia, fencing may or may not be suitable for your cattle operation. If the range is large or includes unlevelled ground, fencing may not be the most effective predation control option. Some types of fencing are portable and have been used successfully even in open range situations. When trying to determine if fencing is suitable for your operation, think about your geographic location, the size of your operation, the cost of the fence, its expected life span, and what type of predators it is designed to keep out. Predator resistant fences can either be portable or permanent. They are often electrified, but non-electric fences are also an option.

Portable or Permanent? →

The size of your operation will largely determine the answer to this question. If you have a small operation, you may want to consider permanent fencing. Permanent predator fencing is not practical for large open range operations as it is too costly to build and maintain. Portable fencing can be used on both small and large operations for specific activities such as calving and for keeping vulnerable animals safe while they heal. Portable fencing gives extra protection from predators while still keeping the vulnerable animals with the rest of the herd.

Electric or not? →

Cold climates, dry climates, and areas with heavy vegetation can require additional maintenance and can reduce the effectiveness of an electric fence.

Permanent

- The most common permanent predator resistant fencing types are nine wire, mesh wire and page wire.
- The nine wire is made with 9 single strands of 12.5 gauge high tensile smooth wire. The wires alternate between being charged and grounded.
- The mesh wire fence is more expensive than the nine wire, but it lasts longer and can be stretched longer than the single wire strands.
- The page wire fence is made up of horizontal and vertical wires. Generally, the spacing between wires gets wider as the fence gets taller.
- Barbed wire or 12.5 gauge charged high tensile wire can be used at ground level to discourage predators digging under the fence.
- Electric fences, such as those listed above, require frequent maintenance.
- You can choose not to electrify your fence, and instead, add barbed or single-strand smooth wire above the mesh with a maximum of 15 cm intervals to increase fence height.

Portable

- These can either be electric, or non-electric.
- Portable fences can be constructed from several different types of materials including multiple electric fencing strands, wire mesh and portable panels.
- Pre-constructed fences can also be purchased.
- These portable fences should be moved every so often to reduce the impact on the pasture.

Fences do not have to be elaborate in design. In fact, some of the most effective fences have a simple design. To maximize their effectiveness, fences should also be combined with other deterrents.

MORE DETAILED INFORMATION

about fence costs, fencing materials, and manuals on how to build a fence yourself

<http://extension.oregonstate.edu/catalog/pdf/pnw/pnw225.pdf>

“Building an Electric Antipredator Fence” is a do-it-yourself manual for electric fences. It was produced by Oregon State University, Washington State University, and the University of Idaho.

http://www.agf.gov.bc.ca/resmgmt/publist/Farm_Structures.htm#livestock_control

B.C. Ministry of Agriculture, Food and Fisheries has several fact sheets about fencing including fence planning, fencing materials, how to build an electric fence for coyote control and a list of materials needed per mile. It includes diagrams and fence designs.

[http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex888?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex888?opendocument)

The Government of Alberta’s “Protecting Livestock From Predation With Electric Fences” provides the essential information for mesh wire and nine wire fencing.

<http://www.omafra.gov.on.ca/english/engineer/facts/08-035.htm>

Ontario Ministry of Agriculture, Food and Rural Affairs fact sheet on “ Farm Fencing Systems” explains different types of fencing and directs you to other relevant Ontario Fact Sheets about fencing.

<http://www.sheepandgoat.com/fencing.html>

The fencing section of this website is your best bet for directing you to information that you may need when thinking about predator fencing.

<http://www.scians.org/documents/factsheets/91eb2ec43bb177b37a19a362f0e6963af30aa9cc.pdf>

Nova Scotia’s Soil and Crop Improvement Association’s fact sheet on electric fencing provides pointers and hints for building fences for both cattle and sheep.

Before a fence is built, careful planning is required.

Remember to:

- Choose the most level ground
- Avoid putting fences in difficult areas such as creeks or ravines
- Clear enough trees and shrubs from the fence line so that the fence can be easily maintained
- Make sure the fence is strong enough to keep your cattle in

Knowing Your Neighbours

Make an effort to get to know both your human and non-human neighbours (the predators). Knowing and communicating positively with your human neighbours allows for a greater number of people who can look out for you and your herd. Your surrounding community may be able to teach you a lot. Neighbours may know of movement corridors or dens close to your farm or property, and they can give you a call if they have sighted a predator on their property, or inform you if they have recently experienced any losses. When using Crown range lands for your herd, your neighbours may be extended to an even broader community. This community can include other Crown land users such as forest and mine industry workers, local trappers, guide outfitters, and recreationalists. Networking with people from these sectors could lead to earlier detection of problems with your herd or sightings of predators on your range. Knowing your non-human neighbours is also important. Educate yourself about your local predators. Their behavioural habits, their social hierarchies, their range of territory, their breeding seasons, and the time of year when they are with their young can all affect predation of your herd.

Useful Websites for Learning about Local Predators

Cougars

http://www.env.gov.bc.ca/cos/info/wildlife_human_interaction/docs/cougars.html
<http://www.env.gov.bc.ca/wld/documents/cougar.htm>

Wolves

http://www.elp.gov.bc.ca/cos/info/wildlife_human_interaction/docs/wolves.html#predators
http://www.northernlightswildlife.com/wolf_info.html
http://www.env.gov.bc.ca/fw/wildlife/trapping/docs/gray_wolf.pdf

Coyotes

http://www.elp.gov.bc.ca/cos/info/wildlife_human_interaction/docs/coyotes.html
<http://www.env.gov.bc.ca/fw/wildlife/trapping/docs/coyote.pdf>

Bears

http://www.elp.gov.bc.ca/cos/info/wildlife_human_interaction/docs/bears.html
http://lcvirtualwildlife.ca/index.php?Itemid=66&catid=45:grizzlybear&id=61:grizzlybear&option=com_content&view=article
http://lcvirtualwildlife.ca/index.php?option=com_content&view=category&layout=blog&id=44&Itemid=65

The Washington Department of Fish and Wildlife has a “Living with Wildlife” series that explains the instincts, habitats, and ranges of many species

<http://wdfw.wa.gov/living/>

When Problems with Predators Persist

When problems with predators persist, notify your local conservation officer through the 24 Hour R.A.P.P. Hotline (Report All Poachers and Polluters) at **1-877-952-7277** (RAPP). Also refer to the Wild Predator Loss Prevention Pilot Project's "Guide to Targeted Predator Control."

Best Management Practices Checklist

General Husbandry Practices

- Pasture and areas surrounding fence are clear of vegetation where predators can hide
- Old farm equipment and other items are stored in a defined location away from where cattle are kept
- Breeding seasons are defined
- Afterbirth from calving is removed
- Calves are given enough time to heal from branding and castration before being put to pasture/rangeland
- Dead cattle are removed quickly
- Dead cattle are buried deep enough so that the carcass is covered by at least 1 metre of soil
- Record keeping is done frequently and is up to date
- Herd is inspected regularly
- Watering locations are safe
- Herd is grouped

Predator Deterrents/Scare Devices

- Bells
- Radios
- Lights
- Propane Exploders
- Parked vehicles in pasture

Guardian Animals

- Dogs
- Longhorn Steers

Predator Resistant Fencing

- Permanent
- Portable

Works Cited

California Department of Food and Agriculture. "Choosing a Guard Animal." Accessed at <http://www.predatorfriendly.org/how-to/how-to-pdf-docs/Choosing%20%20a%20Guard%20Animal.PDF>

Conservation Commission of the State of Missouri. "Using Guard Animals to Protect Livestock." Accessed at <http://www.predatorfriendly.org/how-to/how-to-pdf-docs/Using%20Guard%20Animals%20to%20Protect%20Livestock.pdf>

Cooperative Extension Service of Kansas State University. "Managing Predator Problems: Practices and Procedures for Preventing and Reducing Livestock Losses." Accessed at <http://www.ksre.ksu.edu/library/wldlf2/c620.pdf>

Coyote Predation of Livestock. Edmonton: Alberta Agriculture, Food and Rural Development (1998).

Government of Alberta, Agriculture and Rural Development. "Protecting Livestock From Predation With Electric Fences." Accessed at [http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex888?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex888?opendocument)

International Texas Longhorn Association. "Texas Longhorn FAQ." Accessed at http://www.itla.net/Longhorn_Information/index.cfm?con=faq

Invasive Animal Cooperative Research Centre. "Guardian Dogs: Best Practice Manual for the use of Livestock Guardian Dogs." Accessed at <http://www.invasiveanimals.com/wp-content/uploads/2010/09/Guardian-Dogs-web.pdf>

Isbell, Diane and Gray, Mary Jo. "Longhorn Beginner's Guide." Accessed at <http://www.rockinggranchlonghorns.net/guide/guide.html>

Myers, Stephan. "Livestock Husbandry Practices Relating to Wildlife Predation."

National Sustainable Agriculture Information Service. "Predator Control for Sustainable and Organic Livestock Production." Accessed at <http://attra.ncat.org/attra-pub/predator.html>

Ontario Ministry of Agriculture, Food and Rural Affairs. "Livestock Guardian Dogs and Their Care in Winter." Accessed at <http://www.omafra.gov.on.ca/english/livestock/sheep/facts/10-033.htm>

Ontario Ministry of Agriculture, Food and Rural Affairs. "Sheep Management Practices Can Influence Predation." Accessed at http://www.omafra.gov.on.ca/english/livestock/sheep/facts/info_mgmtpredinf.htm

Pacific Sun Alpacas. "Livestock Guardian Dogs." Accessed at http://www.pacificsunalpacas.com/guardian_dogs/

Shivik, John. "Tools for the Edge: What's New for Conserving Carnivores." *Wildlife Damage Management, Internet Centre for USDA Wildlife Research Centre*. Accessed at <http://ddr.nal.usda.gov/bitstream/10113/36304/1/IND44288759.pdf>

Smith, M.E. et al. "Review of Methods to Reduce Livestock Depredation." *ACTA Agriculture Scandinavica* 50 (2000):279-290.

Stone, S. et al. "Livestock and Wolves: A Guide to Nonlethal Tools and Methods to Reduce Conflicts." *Defenders of Wildlife*. Available at http://www.defenders.org/programs_and_policy/wildlife_conservation/solutions/carnivore_conservation_fund/publications.php

Texas Agriculture Extension Service. "Avoiding Calving Problems." Accessed at http://www.charolais.org.mx/upload/docs/L2150_calvingprob.pdf

The Alberta Texas Longhorn Association. "Breed Advantages." Accessed at http://www.AlbertaTexasLonghorn.com/breed_advantages.html

The Canadian Sheep Federation. "Predation." Accessed at <http://www.cansheep.ca/User/Docs/VTBox/Predation%20Section%207.pdf>

The Mountain Lion Foundation. "Promoting Non-Lethal Predator Control Techniques." Accessed at http://www.mountainlion.org/Nonlethal_Literature_Review.asp

United States Department of Agriculture. "Livestock Guarding Dogs." Accessed at <http://www.nal.usda.gov/awic/companimals/guarddogs/guarddogs.htm>

Photo Credits

Page 1: Coyote and Cattle photo. Accessed at http://www.msnbc.msn.com/id/31880990/ns/us_news-environment/

Funding provided by:

