

# THE EVOLVING USE OF LGDs IN WESTERN CANADA

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## 1. Introduction

Livestock guarding dogs (LGDs) arose within ancient shepherding systems. Whether in the mountains of Macedonia, the plains of central Asia or the steppes of Turkey, the traditional way such dogs were worked was a simple system based on shepherding (Fig. 1). The

dogs would accompany a shepherd and his flock to the grazing areas. This could be in the form of a seasonal transhumance, with the shepherds spending the entire summer away from home to ensure the sheep had enough food, or the trek would be a daily occur-



**Fig. 1.** Shepherd, flock, and dog head out to graze in a traditional shepherding system in Macedonia. Photo: Louise Liebenberg.

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**Fig. 2.** LGD being bonded to cattle in Canada. Photo: Louise Liebenberg.

rence to a close mountain or communal pasture. Winters were spent in villages. The shepherds ran multiple dogs, often in cohesive family packs. These dogs were free-roaming in the pasture but always close to the flock and shepherd as an integral part of pastoral life.

Less than 50 years ago, barely anyone in North America knew about LGDs and even fewer used them within their livestock operations. The wolf (*Canis lupus*) had for the most part been extirpated in the United States, with a few scattered populations surviving in the northern states bordering Canada. Ranchers had become accustomed to not having to deal with wolves and problems that arose with other predators were devolved to various government agencies to deal with. This led to a situation where looking after livestock became the government's responsibility rather than that of the rancher.

In Western Canada, too, predators were dealt with by killing them, which was encouraged through payment of bounties. In 1824, an interview was conducted with Mr. Alexander Brown who noted that, "wolves, though unknown in Britain, are very destructive to flocks in most places in this province, I conceive the bounty offered for their destruction to be a measure of general utility." (Colonial Advocate, 1824). The exter-

mination of the predator was simply the only solution offered to prevent predation and it would take another 150 years for the use of LGDs to become established as a preventative measure against predators.

## **2. An Old World solution for the New World**

Domesticated sheep were first brought to eastern Canada in the 1600s. In Western Canada, the sheep industry only took hold in the mid-19th century, when wool production was the primary business. Although Great Pyrenees dogs were mentioned as being present in Canada in the 17th century, there is barely any documentation of their early use as working dogs. From anecdotal reports and conversations with sheep keepers it is clear that in the late 1970s there were sheep ranchers using Komondor and Great Pyrenees dogs in Alberta. Research investigating the potential of using LGDs for livestock operations in the United States (Coppinger and Coppinger, 1978; Coppinger et al., 1988; Green and Woodruff, 1988) stimulated interest in Canada. Awareness of the "new" method spread rapidly among livestock farmers and has been promoted by the sheep industry. For example, a manual published by Alberta Agriculture and Rural De-

**Fig. 3.** Guardian dogs working on a migratory western range system. Photo: Cat Urbigkit.



velopment concludes that, “Guard dogs are the most useful tool for reducing livestock losses to predators.” (AARD, 2010, p. 77).

By 1993, it was estimated that about half the flocks in Alberta were protected with LGDs (Acorn and Dorrance, 1998). Today, a large majority of sheep ranchers in Western Canada understand the need for LGDs, which are now commonly found on sheep ranches and in growing numbers on cattle ranchers (Fig. 2). However, despite their widespread use, many producers still struggle to raise these dogs in an effective manner. History highlights how relatively new the whole concept of using guardian dogs is in Canada. There has been no generational transfer of knowledge, nor cultural history of using these dogs, so the only readily accessible ways for people to learn about LGDs has been from reading the literature and edu-

cation programmes offered by the sheep industry or various government and non-government agencies. Part of the problem can also be attributed to changes in how LGDs are expected to work under varying grazing management systems.

### 3. Changing grazing systems

The original role of LGDs was primarily to protect small hoofed livestock from predators, particularly wolves. This usually formed part of a shepherding management system in which a shepherd tended to and guided sheep or goats to grazing areas on a daily, or seasonal, rotation. Livestock guardian dogs were initially introduced into the USA and Canada primarily for the protection of livestock in range operations (Fig. 3). These typically involved large flocks grazing



**Fig. 4.** LGD with goats and turkeys. Photo: Linda Sutterfield.

vast tracts of land, some privately owned, some public land including forestry leases and communal pastures. Public lands are often in wilderness areas, where livestock is under constant predation pressure. Shepherds live in camps, often shepherd on horseback and move flocks to follow the growth of the grass. In winter the flocks, dogs and shepherds return to the homestead for lambing, before heading back to the summer grazing the following spring, a system much like the transhumance in Europe.

However, the grazing management systems in which LGDs are expected to function and the expectations of livestock owners are changing. There is a trend from shepherded flocks to more commercial, intensive or stationary based systems without full-time shepherds and, increasingly, small-scale micro-farms (very small subsistence-type farms primarily providing the immediate family with food). The demand for LGDs to protect a broader range of livestock against a greater variety of predators is increasing (Fig. 4).

A disconnect has arisen between the traditional use described in older literature on LGDs and the expectations and problems people are experiencing when raising and utilizing these dogs today. Most of the literature on how to work with these dogs is geared more to the range/shepherding system rather than the smaller stationary operations, resulting in many misconceptions or lack of understanding of how LGDs work. Guidelines for raising LGDs have

tended to promote minimising human interaction, based on the belief that LGDs needed to bond with livestock and not with humans. Additional problems such as inappropriate cross breeding, poor raising techniques, lack of selection in breeding dogs and the misconception that any breed can be trained to do the job of a LGD add to the issues with LGDs in North America.

Public opinion also now has a greater influence on how people can utilise working dogs, with concerns such as liability, sustainability and welfare becoming increasingly important. There is an informational and educational lag in meeting these new demands. Breeding and selecting LGDs which can fulfil roles, educating users with no previous farming or ranching background and incorporating the demands that today's society is placing on the care and use of working dogs all need to be addressed.

#### 4. Predators, livestock and dogs in Canada

Predators are regarded as a major threat to livestock in Western Canada. The wolf was never extirpated and the population is robust, with estimates of 4,000 wolves in Alberta (AWA, 2017). Many ranchers must deal not only with wolves but also coyotes (*Canis latrans*), black and brown bears (*Ursus americanus*, *U. arctos*), cougars (*Puma concolor*), lynx and bobcats (*Lynx canadensis*, *L. rufus*) as well as wolverines (*Gulo gulo*).



**Fig. 5.** Guardian dog working in fenced pasture in Canada.  
Photo: Louise Liebenberg.



**Fig. 6.** LGD working on a large open pasture system in Canada. Photo: Louise Liebenberg.

Sheep numbers in Canada reached an all-time high in the 1930s, when there were over 3.6 million (Castonguay, 2017). Following the Second World Wars the demand for wool decreased and production focused on meat. Sheep numbers declined and grazing management became more stationary, with intensive grazing rotations on smaller fenced pastures. Sheep breeds changed to reflect the emphasis on meat production: higher growth rates, meatier carcasses and higher lamb production. Daily checks replaced full-time shepherds.

Even in a stationary, intensive system, sheep are still vulnerable to predators. Good fences, in many cases, may be sufficient to keep predators at bay, but LGDs are still the best solution to keeping flocks safe and are increasingly utilised. However, the dogs are now often expected to live alone in fenced pastures, with little interaction with people other than during routine flock checks and feeding (Fig. 5).

The requirement for LGDs to perform their job under very different circumstances than the traditional shepherding system (Fig. 6) may perhaps explain the multitude of problems that many ranchers have when raising their dogs: issues such as compulsive escaping/roaming, excessive barking, longer and rougher play periods, boredom and lack of bonding to the stock. On a

mountain top or on the steppes, there are no fences. Instead, the flock, shepherd, pack and food “tie” the dog to its area. A cohesive pack of LGDs provides support, back up, guidance and companionship. Undesirable behaviour such as rough play with the stock can be promptly corrected as the young dogs are under constant supervision of the shepherd. This is not the case in many large, fenced operations.

A new trend in LGD use is to be the protector of the micro-farm. Increasingly, people are looking to livestock guardian dog breeds to protect a handful of chickens, rabbits, a goat or mini horse on a few acres (Fig. 7). These dogs are perhaps not strictly speaking “livestock guardian dogs” anymore, but instead are expected to take on a more generalised “farm dog” role, where they co-exist with the animals on the farm and provide some general guard dog duties. Over the last decade there has been a dramatic increase in people wanting LGDs for such micro-farms, but the transition has not always been smooth.

It was never the primary job of LGDs to guard chickens and it is perhaps premature to have expectations that most LGDs will work out as poultry or rabbit guardians. Too often, advice is given to new owners that stems from the range or pasture system, that may simply be inappropriate under these micro-

-farm conditions. While larger sheep operations are advised to utilise two or more LGDs, on a micro-farm it might be a better option to build a good chicken coop. Some dogs certainly do excel at this job, and it is these dogs who should form the basis for a new generation of poultry guardians. However, demand is currently outgrowing the ability to select and breed dogs with the requisite traits. For now, in order to be successful in this situation, most dogs will require an owner to have an abundance of stock sense, practical understanding and the experience to raise them correctly.

There has also been a rise in popularity of exotic animals for niche and hobby markets. LGDs are now expected to guard alpacas, llamas, quail, reindeer and other species. In most cases the animals are barely domesticated and often their owners have little experience either in raising them or working with LGDs. In addition to protecting animals from familiar predators (e.g. wolves, bears, coyotes, foxes *Vulpes vulpes*), there is now an expectation that LGDs will also protect against a variety of other predators including raptors, ravens (*Corvus corax*), raccoons (*Procyon lotor*), mink (*Neovison vison*), weasels (*Mustela* sp.), fishers and martens (*Martes pennant*, *M. americana*) as well as stray dogs.

## 5. Predator-friendly farming, animal welfare and public involvement

The historical, and current, approach to reducing depredation on livestock in Western Canada is to hunt, poison, snare and trap predators close to livestock operations. Bounties are still utilised, primarily targeting wolves. There is little evidence that shows that these bounties significantly reduce depredation, but they cause animal suffering and may compromise wildlife conservation efforts (Proulx and Rodtka, 2015). Alternative, effective approaches to livestock protection are therefore greatly needed.

LGDs are being used in areas where wolves were reintroduced, returned or are protected. The idea is to provide farmers with tools to better protect their livestock, thus reducing the need for lethal control of predators. LGDs have thus become the means to promote conservation and co-existence. This reflects a significant change of mentality towards predation and livestock. Many ranchers now understand that predators are part of the landscape and, instead of trying to eradicate them, they are trying to manage their livestock better (Fig. 8). According to Susan Hosford (pers. comm.), an early user of LGDs in Alberta, predation should be viewed “like our Canadian winter: not as



Fig. 7. Maremmas guarding poultry in Australia. Photo: Jacqueline Zakharia.



**Fig. 8.** These seven wolf pups were born and raised in the middle of our ranch, about 300m from our sheep and cows. It is a challenge to live with them, requiring management changes and the implementation of protective as well as aversive measures. Photo: Louise Liebenberg.

a problem to be solved, but to be managed as best as possible.” Ranchers are implementing multiple strategies to decrease the risk of predation, for example: cleaning up dead stock to avoid attracting predators; utilising better fencing strategies; monitoring weak, sick and young animals; timing lambing to avoid times when predators have their young; and shifting lambing to more intensive indoor systems.

The public are also becoming a major factor: they are more vocal on how public lands are used for grazing, demand more sustainability from producers, more co-existence with wildlife and higher welfare standards for dogs and livestock. On the other hand, there is less tolerance for barking and roaming and members of the public are generally not informed about how to deal with large dogs such as LGDs when recreating in the backcountry, forcing policy makers and owners to consider liability issues.

The public simply does not comprehend the work LGDs do, so for many, seeing a dog out in the snow, doing its job, appears to them to be neglectful as they do not understand the distinction between pet and working dogs. New laws are being put in place to ensure that all dogs (including LGDs) must be housed indoors in poor weather (e.g. Alberta Animal Protection Act<sup>1</sup>). Welfare standards for pet dogs are thus being imposed on working dogs. Laws on the number of dogs that owners can have, compulsory spaying and neutering in certain counties, and even legislation on dangerous dogs<sup>2</sup> (Shaw, 2009) can have an impact on how and where people can utilise LGDs and this in turn, impacts the effectiveness of LGDs in protecting livestock from predators.

There is a lag between understanding how to utilise guardian dogs in this rapidly changing landscape and educating the various users of LGDs in how to

<sup>1</sup> [www.qp.alberta.ca/1266.cfm?page=A41.cfm&leg\\_type=Acts&isbncln=9780779738564](http://www.qp.alberta.ca/1266.cfm?page=A41.cfm&leg_type=Acts&isbncln=9780779738564)

<sup>2</sup> [www.qp.alberta.ca/documents/Acts/D03.pdf](http://www.qp.alberta.ca/documents/Acts/D03.pdf)

work and raise such dogs effectively. Older literature, still widely cited as “best practice”, is not relevant to most of the new roles LGDs are expected to fulfil. It does not provide enough information on how to raise and train LGDs in a world that is demanding more welfare and socialization of dogs.

## 6. Conclusions and recommendations

The working environment of many LGDs in North America has changed, along with various management systems. In a relatively short time period, one can see how dogs have gone from working in an extensive, pastoral system to stationary, mid-size, pasture-based farms, and now onto the homesteading micro-farm. There is a need to breed and select for dogs with the right temperament and the ability to adapt to these various management styles. Socialization of LGDs is becoming increasingly important and should be balanced with the need for dogs to bond with livestock, protect against predators and be sociable to the family.

Multifaceted education is the key. Dog breeders should focus on breeding and selecting dogs with the correct temperaments to fulfil the needs of today's

users. The idea of semi-feral dogs is simply unacceptable to most new owners, who do not want a liability on their farm or the possibility their dog will cause injury to others. Instead, they want a more rounded dog who can fulfil the role of protector while being sociable to family and friends. Buyers must be made aware that they should find good working dogs from a reputable source and they need mentors to help raise them successfully. Ranchers need guidance in raising techniques that are applicable to the specifics of their husbandry system. The public should be taught how to behave around LGDs.

Whatever system one uses, if predators are present, there will always be a need for good dogs. The selection for dogs with the right traits to meet new challenges cannot happen overnight. Education is ongoing and better management systems are being put in place. New electronic and digital technologies are opening new possibilities for livestock protection. Guardian dogs will remain one of the best deterrents for predator management, but we need to rethink their role in our changing society so they can continue to perform effectively for many years to come.

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