



Big Dogs, Hot Fences and Fast Sheep

A Rancher's Perspective on Predator Protection

Presented by
Dan Macon
Flying Mule Farm
and
UC Davis – California
Rangeland Watershed
Laboratory

Overview

- Why should we consider non-lethal tools, and why aren't they used more?
- Background on our Operation
- Types of Predators in our Environment
- An Integrated Approach to Predator Protection
- What do our customers want?
- What about wolves?
- What works for cattle?
- Additional Resources



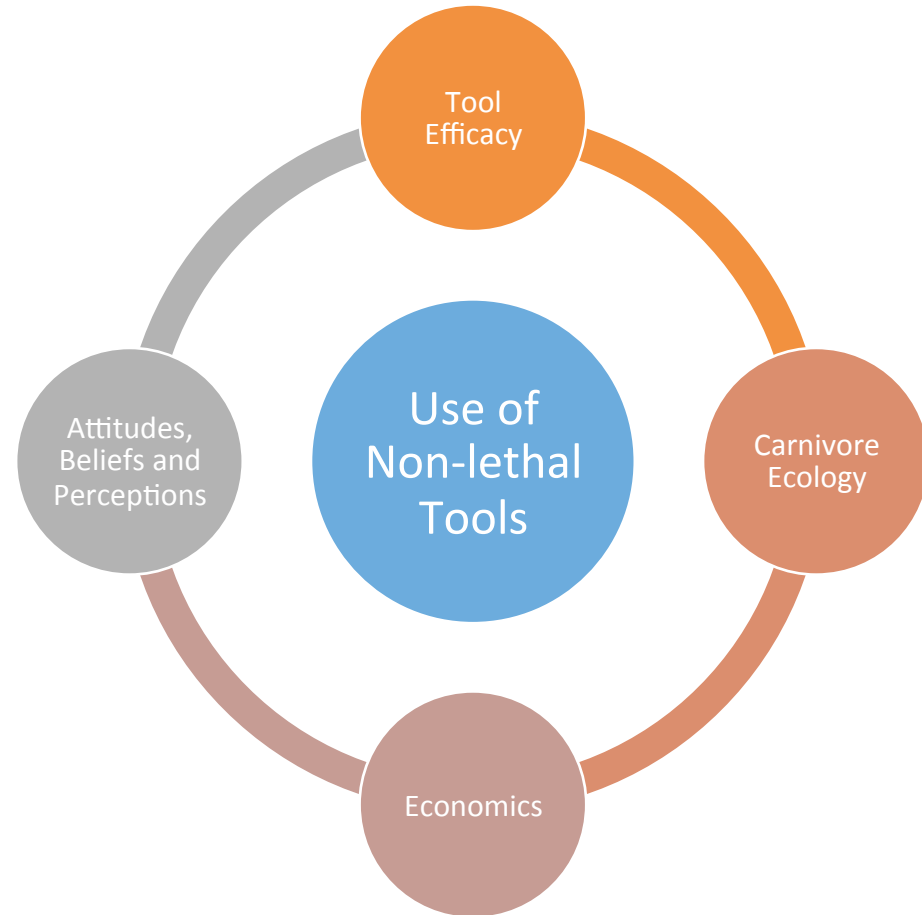
Why should we consider non-lethal tools?

- Socio-political and marketing benefits
 - Public perceptions about predators have changed
 - Opportunities to market “predator friendly”
- Biological reasons
 - Evidence that lethal control can cause increased predation by disrupting social structure with in predator populations



Why aren't non-lethal tools used more?

These tools are like any other approach to raising livestock. If you believe they'll work, you'll find a way to make them work. If you don't believe they work, they'll seem like a lot of extra work (and ultimately, they won't work – no matter what I tell you!



Source: Eric Gese, NWRC USDA-APHIS

Flying Mule Farm



- Small-scale commercial sheep operation in Sierra foothills (pre-drought: 300 ewes)
- Have managed large-scale targeted grazing operations (4000+ sheep and goats)
- Previously herdsman for Sierra Foothill Research and Extension Center – Yuba County
 - 150+ mother cows, 300 heifers and 400 yearlings
- Operate entirely on leased land and on contracted vegetation management projects
- Largely in semi-rural environments
- Market lambs and wool direct-to-consumer and through commodity channels
- We employ non-lethal predator protection methods
 - In 12 years, we've lost a fewer than 10 sheep to predators (coyotes, dogs and mountain lions)
 - We've lost as many ewes to rattlesnakes (1) as we have to mountain lions
 - To date, we have not had to use any lethal means of predator protection

What are the main predators in our environment, in order of significance?

- Domestic Dogs
- Coyotes
- Mountain Lions
- Black Bears
- Birds (Eagles, Great Horned Owls and Crows/Ravens)
- Humans
- Wolves?!



An Integrated Approach



The predators here...



...are different than
the predators here!

- Understanding the environment – what are the likely threats?
- Are there any constraints on the type(s) of predator protection you can use?
 - Legal or operational
- Are you operating in open range, permanently-fenced pastures or electric fence?
- Are you likely to be fencing predators IN your paddocks?

An Integrated Approach (continued)

- How does your production cycle match up with the life cycle of predators?
 - Is there alternative prey available?
- FAST SHEEP - Selecting for vigor and for females that will protect their young
 - Docility may be detrimental to maternal ability
 - Doesn't mean we want sheep that run away
- Understanding signs of predation – get to know your trapper
- HOT FENCES - electric fences are our first line of defense!
- Are most of the predators likely to be canines (coyotes and dogs)? If so, a llama (or 2) may be an option.
 - My theories on llamas!
 - Our experiences
 - Other producers' experiences
 - APHIS Research



BIG DOGS: Livestock Guardian Dogs – Our Mainstays

- We rely on livestock guardian dogs (LGDs) more than any other predator protection tool!
- We try to incorporate LGDs into our system as if they were the alpha canine predator in the environment.
 - Behaviors include marking territory and protecting their “pack” (the sheep).
 - Have never observed our dogs fighting with predators.
 - Our dogs come to an “understanding” with local predators – which is why I prefer not to remove predators that understand our system!



Our LGDs

- We typically use 1-2 dogs per flock.
- We've been able to succeed with fewer dogs because of our grazing management (small paddocks, electric fence and rapid movement).
- If we started experiencing predation, we'd increase the number of dogs.
- My experience at McCormack Ranch...
- Dr. An Peischel's experience with goats on timberland...
- Observations of open range operations...
- Other shepherds' experiences with wolves and brown bears in the US and Europe...



Rosie, a 3-year-old Akbash x Anatolian



Reno, a 5-year-old Anatolian

Socializing LGDs and LGD behavior

- Puppies should be reared in close proximity the type of stock you want them to protect
- Dogs that will be working around your home place should be socialized differently than dogs that need to stay with livestock in more remote areas (more human interaction)
- Puppies should be reared with mature ewes, bucks or does – livestock that won't take any guff but that won't hurt the puppies, either
- Each dog has a different personality and normal behaviors – get to know them!
- Puppies (and working adult dogs) should never be corrected for exhibiting guarding behaviors (including barking)



Observations



- Not every dog will work in your situation
- A dog that starts out working well might change it's behavior
- Over-socialization (in my experience) can create problems
- They are NOT pets!
- Expected working life depends on environment and individual dog
- Re-homing problem dogs

Costs

- Purchasing a dog (puppy vs. adult dog)
 - \$350 - \$1500 (depending on breed, age, etc.)
- Feeding – I figure about \$1 per dog per day
- Vet Care - \$150-200 per year
- Total cost - \$550-600 per year



More on Wolves...



- Wolves have killed LGDs in Wyoming and elsewhere
- APHIS research in northern Rockies may be helpful in developing strategies here
- Preventing wolf predation requires greater number of more aggressive, larger LGDs, possibly with protective collars, as well as other measures
 - Some producers feel that intact males are best in wolf country
- Wolves will make predator protection more costly!

LGD Breeds and Wolves

Emerging Breeds

Common Breeds

- Great Pyrenees
- Akbash
- Anatolian
- Maremma
- Kuvasz

- Spanish Mastiff
- Pyrenean Mastiff
- Kangal
- Karakachan
- Cão de Gado Transmontano



Bigger, more aggressive predators will likely require bigger, more aggressive dogs. Given the proximity of some grazing land to suburban and recreation areas, these dogs may not be an option for some producers (including us).

What do our customers want?



- As direct marketers, our practices are open for all (including our customers) to see!
- Customers like the idea of “predator friendly,” but they also want us to care for our animals (in other words, they don’t like predation, either).
- Value-added and direct marketing are not necessarily the answer for small-scale commercial production.
- What are the options for adding value from our approach to predator protection without direct marketing?
- LGDs offer 24/7/365 protection (as opposed to traps or firearms)

What works for cattle?



- Depends on the predator!
- Multi-species benefits
- Combinations of tools
 - Fladry
 - Herding and day-riders
 - Frightening predators (RAG or MAG boxes, lights, etc.)
 - Re-instilling protective behavior (maternal instincts, low-stress handling systems)
 - Management-Intensive Grazing systems
 - A note on paradigms (my own!)

More on cattle...



Photos: John Stephenson, USFWS

Importance of Relationships

- Animal Control
- County Trapper
- Law Enforcement
- Neighborhoods
- Landowners
 - Predator control
 - Dogs





USDA Wildlife Services is researching the efficacy of new breeds – placing imported dogs with producers who are coping with wolves. Wildlife Services is also researching other non-lethal techniques.

More research is needed on dog behavior and dog-human interactions.

Additional Resources

- USDA Livestock Guarding Dogs publication (<http://www.nal.usda.gov/awic/companimals/guarddogs/guarddogs.htm>)
- OSU Cooperative Extension – Raising and Training a Livestock-guarding Dog (<http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/18914/ec1238.pdf>)
- Guardian Dog Research in the US (<http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1282&context=gpwdcwp>)
- Carnivore Damage Prevention (<http://ucanr.edu/sites/placernevadasmallfarms/files/198355.pdf>)
- From my Foothill Agrarian blog (www.flyingmule.blogspot.com)
 - “Using Livestock Guardian Dogs in a Small-Scale Commercial Sheep Operation”
 - “Some Observations on Guard Dog Behavior”
 - “Dogs, Neighbors and Farming Close to Town”