ODFW Non-Lethal Measures to Minimize Wolf-Livestock Conflict

5/30/2019

The following is a list of non-lethal or preventative measures which are intended to help landowners or livestock producers minimize the risk of wolf predation on livestock. It is not intended to be a list of mandatory prescriptions applicable to all producers or situations. Rather it is a guide for appropriate non-lethal measures which are likely to be most effective in different circumstances. Producers are encouraged to work with ODFW, U.S. Fish and Wildlife Service (USFWS), and APHIS-Wildlife Services (WS) to determine which non-lethal measures may be most effective. More information is on the ODFW website at www.odfw.com/wolves/non-lethal_methods.asp.

There may be other non-lethal deterrents not included on this list which may be reasonably expected to minimize wolf-livestock conflict. ODFW may periodically update this list based on new research, information, and experience in working with wolves, landowners, and wolf-livestock conflict.

Reducing Attractants – Bone Piles, Carcass Disposal Sites, or Other Known Carcasses

Description and Intent: The physical removal or treatment of dead livestock carcasses (or portions of) which may attract wolves. This is most important in areas where livestock are concentrated in medium-sized wintering and birthing pastures or in open range situations near ponds, salt licks, or bedding areas. Removal may occur by hauling carcasses to disposal in a landfill or other appropriate location, or by burying in some situations (see Considerations and Limitations below). In situations where removal or burying is not an option, treatment of carcasses may include covering or protecting by fladry or temporary fences. It is also appropriate to decrease the vulnerability of sick or injured livestock by removing them from unprotected situations.

Application: General Removal – Prior to Wolf Use: Wolves and many predators are attracted to dead animals and the presence of a single carcass can have the effect of attracting and keeping wolves in areas of livestock. When wolves become accustomed to an easily attained food source they often return to the area which may increase the risk of depredation. In Oregon, the removal of several identified bone piles in one area resulted in a subsequent decrease of wolf use (and depredation) in the immediate area. Dispersing radio-collared wolves often travel long distances only to stop once they have found a bone pile or carcass. As a general practice, carcasses should be removed prior to wolf use whenever possible. Carcass and bone pile removal may be the single best action to keep from attracting wolves to areas of livestock.

Identified Circumstances Which Attract Wolf/Livestock Conflict: These are situations in which there is information that wolves are using a particular dead animal carcass or other attractant. It may also be a situation in which a carcass has been placed intentionally to attract other scavengers like coyotes.

Documentation: Land owners or livestock producers should document all carcass removal or treatment actions, and final disposition of carcass. All documentation should include date(s) of actions taken.

Appropriate Season & Area: Year-round in all areas where possible (see below).

Considerations and Limitations: Not all carcasses can be physically removed due to terrain or the condition of the carcass. In situations where a carcass cannot be removed, other options to discourage wolf use of these carcasses such as burying, or barrier fencing should be considered. However, some of these measures must comply with other land-use policies (e.g., U.S. Forest Service and Oregon Department of Agriculture regulation) and may not be allowed in certain situations. In addition, some landfills may not be authorized to accept dead animal carcasses.

In some situations, weather conditions (i.e., frozen, deep snow or extreme wet/muddy) may prevent the removal or burial of carcasses. When this occurs, carcasses should be removed as soon as possible, and temporary barrier fencing or fladry may be appropriate as an interim measure.

Under the Wolf Plan, carcasses of natural prey species (i.e., deer and elk) are not generally considered unnatural attractants. However, in some cases wildlife carcass disposal sites may be identified as attractants and these should also be addressed by the appropriate entity.

Barriers – Fladry and Fencing

Description and Intent: Fencing used specifically to deter wolves from livestock, may be permanent or temporary, and may be from a variety of fencing materials, depending on each situation. In general, fencing is considered when attempting to protect livestock in a small pasture, enclosure, or when stock is gathered in a reasonably protectable area (i.e., sheep nighttime bedding area). It is generally not applied to larger or dispersed grazing operations. The type of barriers used is highly dependent on the type of livestock and conditions, but includes two general types as follows.

Fencing: May be effective, and often a good option for small numbers of livestock and/or small acreages or pens. Types of fencing vary and may include multiple-strand electric or electric mesh, woven wire mesh, panels, or other hard barriers. In some cases, existing fences may be augmented (e.g., by increasing effective height or by adding fladry) to protect against wolves at a lower cost than new permanent fencing. Fencing may also be used to create small temporary or permanent pens to protect livestock at night and may be used in conjunction with other measures such as noisemakers, guard animals, or lighting.

Fladry and Electrified Fladry: A rope or electric wire with evenly spaced red flags that hang down. Highly portable and can be installed relatively quickly, fladry can be used for a variety of livestock operations –sheep night penning, and some calving areas. It may be applied to certain open range situations but is best used as mobile protection on a short term basis. Producers are encouraged to work with biologists to determine if fladry is appropriate. Fladry requires regular maintenance for effective use. In general, fladry is not intended for use over long periods of time in the same location because wolves may become habituated, and thereby reduce effectiveness. ODFW or other organizations may develop cooperative fladry projects to assist producers with installing and maintaining fladry protection.

Application: Sheep: Electrified hard fencing is recommended for all small protectable areas that have sheep. Open range night penning of sheep in portable electric net fenced areas or fladry fences in areas of wolf use is highly recommended. Even with herders present, fladry may reduce depredation risk. Defined areas of lambing when wolves are present would also be an appropriate application for fladry.

Cattle: Fencing options are generally used where cattle are confined to small pastures or pens. Some operators calve in smaller areas which could be appropriate for fladry or other fencing. Prioritization of fencing or fladry as a deterrent should consider wolf use of the area, and the ability to install and maintain it.

Livestock Working Animals: In areas of regular wolf use, fencing or other protective barriers to protect livestock working dogs should also be considered. This is especially important if dogs are left unattended in areas of wolf use during non-working periods.

Documentation: Producers should document the dates, areas, type, and amount of fencing used as a non-lethal measure to reduce wolf depredation.

Appropriate Season & Area: Sheep; all seasons for hard fences, but fladry or electrified mesh is most appropriate for temporary and movable night pens on open range in areas of wolf use. Cattle; specific cattle pens or small pastures (often during winter months) or calving areas (calving season) within areas of wolf use.

Considerations and Limitations: Permanent fencing, though long lasting, is usually expensive and can often only be affordably applied to small areas. Fladry installation is also expensive and fladry is often limited in availability. Fladry, when determined to be an appropriate deterrent, is generally effective on a short-term basis, requiring the use of other tools for longer term deterrence. Livestock animals which are fenced in smaller pastures or pens may require additional feeding which can increase the cost to the producer. Some livestock may not respond well to confinement which may also increase management costs. Fencing on allotments must comply with grazing permit requirements, and may not be allowable in some cases.

Human Presence as a Non-Lethal Measure

Description and Intent: The underlying concept of increasing human presence as a deterrent to wolf depredation is that wolves tend to avoid humans. When human presence occurs in an area of simultaneous use by wolves and livestock, it is expected that wolves will move away and depredation will be reduced. Human presence actions are often conducted with the primary intent of reducing or deterring wolf depredation, though in some situations it may be passive or secondary to other ranching operations (e.g., all-night presence for the purpose of calving while wolves are in the area would be expected to minimize wolf-livestock conflict).

Application: Two approaches to using human presence as a deterrent are; 1) Regular or planned presence using range riders, hazers, herders, or other planned human guarding of livestock, and 2) Presence in response to alerts (i.e., notification by ODFW, tracks, observations of wolf activity, abnormal livestock behavior), or during susceptible depredation times (i.e., night, when wolves are known to be present in areas of livestock, etc.). Monitoring for signs of wolf activity, though not considered a non-lethal measure by itself, is important to help prioritize effective wolf-deterring human presence.

Regular or Planned Human Presence – Hazers and Range riders: Generally considered to be regular or sometimes continuous presence for the specific purpose of protecting livestock, range riders should patrol areas with wolves and livestock at hours when wolves are most active (dawn, dusk, night). The rider should use any information available to patrol in livestock areas with current wolf activity and should be equipped to actively haze wolves away from livestock when found. See below for harassment considerations. In areas of active depredation and in large areas with dispersed livestock, more than one range rider may be necessary to provide adequate protection.

Herders or other Guarding: Directly applicable to sheep operations where herding is a normal part of sheep ranching. During the daytime herders can keep the sheep bunched, this makes the sheep more protectable and helps sheep from becoming separated from the band. Herders need to be present and active at night when sheep are gathered or in bedding areas – and effectiveness is increased if a herder is working with guarding animals and/or fladry to protect sheep. Additional herders may be needed in areas of high wolf activity to specifically work at night when depredation is most likely to occur.

Human Presence – Individual Response: This is human presence which may be additional to regular ranch operation and with the intent of deterring wolf-livestock conflict if wolves are present. Human presence should be flexible in approach, but should be tailored to situations when wolves are in proximity to livestock (i.e., may not be practical or expected when wolves are known to be in another area). Presence may be conducted by patrolling during active wolf periods such as dawn and dusk, and in situations such as calving or lambing periods, may be best conducted at night when depredation is most likely to occur. It should also include monitoring and responding to information of wolf activity in areas of livestock.

In Oregon, several incidents of depredation have occurred following significant changes related to cattle and sheep bands. Specifically, the gathering and moving of livestock often creates a great deal of noise and activity that may attract wolves to the area. In addition, the herding or weaning of livestock creates stress, noise and a lack of maternal protection. In the spring calves are often put into large pastures and allotments, often before elk calves and deer fawns are born. Producers are highly encouraged to increase human presence in association with these particular activities.

Though increased human presence may not prevent all wolf-livestock conflicts, it should be conducted in a manner which would reasonably be expected to deter wolf-livestock conflict, and this would be determined based on frequency of wolf use in the area, depredation patterns (i.e., depredation around calving areas), seasonal patterns of wolf and livestock use, and in conjunction with other known presence (i.e., range rider was in area last night so producer did not go out).

Documentation: Producers should document activities when human presence is used. ODFW or other agency/individual presence which meets the above applicability standards should also be documented. Documentation could include, but is not limited to the following: dates, times, specific location, action taken, purpose or intent of action, and results.

Appropriate Season and Area: All seasons, but should be tailored to livestock areas which are being used by wolves. Lambing and calving areas and periods should especially be prioritized if wolves are known to be in the area.

Considerations and Limitations: Wolves can travel fast and far and may be hard to locate. With dispersed livestock grazing, range riders will need to cover as much area as possible or focus on the area where the wolves are and may not always be in the right location to protect livestock. All increased human presence activities (i.e., range riders, herders, and individual producers) should consider information of wolf activity, areas of livestock use, and recent depredation patterns to prioritize areas and times to best apply human presence. Costs associated with any kind of increased presence will have the effect of increasing production costs. Agencies and other participants should consider pooling resources to increase human presence most effectively based on the situation.

Livestock Protection Dogs and Other Guarding Animals

Description and Intent: Use of specific breeds of guarding dogs or other animals with intent to protect livestock from wolf depredation and alert the producer to wolf presence.

Application: Guard Dogs: Breeds such as Pyrenees, Anatolian, Akbash, or other established guarding breeds. Livestock protection dogs are normally used in conjunction with herded livestock such as sheep, but may be used in some situations for cattle or other livestock species. Multiple trained adult dogs are usually recommended, but may depend on the level of wolf activity in the area, size of grazing area, and behavioral characteristics of the dogs. Some guarding breeds used in the United States were selected decades ago to protect livestock from coyote predation and may not

be as successful at protecting livestock from wolves. Preliminary findings by the National Wildlife Research Center (NWRC), part of WS, have found additional breeds of large guarding dogs that show some promise in their ability to deter wolves. Consultation with ODFW, WS or other professionals may be necessary to evaluate the most effective guard dog strategy.

Other Animals: This may include the use of non-guarding dog breeds used to specifically alert herders of wolf presence. With this type of use, dogs must be protected from wolf attack and are only effective if followed by human presence. Other aggressive breeds of animals (i.e., donkeys, etc.) may help protect against wolves but should be considered experimental.

Documentation: Producers should keep records of guarding dog use including numbers of animals, dates, areas, species protected, etc. Experimental use of other guarding animals should be documented and coordinated with ODFW so that their effectiveness can be evaluated.

Appropriate Season and Area: All seasons, but not recommended near wolf den sites and summer pup rendezvous locations. Wolves may be more aggressive towards dogs in these areas as wolves may consider the dogs to be a threat to their young pups. If dogs are used within a few miles of these sites, additional deterrents to help protect the dogs and livestock are recommended.

Considerations and Limitations: Guard dogs work best in combination with human presence. The dogs can be exceedingly effective at detecting the presence of wolves near livestock, but in certain situations they may not be effective at repelling the wolves without human presence.

Guard dogs and other types of guarding animals must be appropriate for each grazing application. For example, a single guard dog in a large-area dispersed grazing situation would not be expected to provide adequate protection.

Guard animals are expensive and require specific training, care, and precautions. Producers should seek advice on the use of this method from other professionals or producers with experience using these animals.

Alarm or Scare Devices

Description and Intent: This includes any combination of alarm system with lights and/or loud sounds which are used for the purpose of scaring wolves from areas of livestock. Primarily used for protection of defined/enclosed areas or small pastures, but in certain situations may be used to deter wolves from using a more general area (esp. calving pastures).

Application: Radio-Activated-Guard (RAG) Devices: These are scare devices which are triggered by the signal from an approaching radio-collared wolf. When activated they emit strobe light flashes and varying loud sounds designed to deter the wolf. RAG devices can also be used as an alarm device to alert a producer that radio-collared wolves are in the area. RAG devices may be available

through ODFW or other organizations. Coordinate with ODFW for information on placement and use.

Other Light and Sound Making Devices: These may be warranted in situations similar to above but where wolves are uncollared and could include a variety of lighting devices (e.g., Fox Lights), radios, music players, etc. Varying the sounds and frequently changing positions of the device will increase effectiveness and reduce the chance that wolves become habituated. Techniques such as lighted pastures or pens may be considered experimental (depending on situation) and should be coordinated through ODFW to determine if applicable.

Documentation: Producers should track use of devices, dates, times, locations, etc. In addition, proper function and effects of devices (on wolves) should be monitored and documented.

Appropriate Season and Area: Any season, but generally not expected to be effective in large areas, or areas with widely dispersed livestock.

Considerations and Limitations: RAG devices require the presence of a radio-collared wolf to activate. Depredation may occur by uncollared wolves, since wolf packs do not always travel together, even in the presence of a properly functioning device.

Scare devices are generally only effective for short-term use in small areas. Wolves can easily become habituated to any type of fixed scare device, and devices should be varied by moving or changing the response.

Hazing or Harassment of Wolves

Description and Intent: This is direct harassment of wolves with the intent to use human actions to actively scare wolves away from livestock and may include loud noises (e.g., air horns), firing shots in the air, spotlights or other confrontation with wolves.

Application: There are two types of harassment recognized by Oregon Administrative Rule; non-injurious and non-lethal injurious.

Non-Injurious Harassment: This is harassment which does not cause bodily harm to a wolf. It is allowed without a permit for livestock producers, agents, or grazing permittees on land they own or lawfully occupy and is encouraged any time wolves are observed testing, chasing or in close proximity to livestock. To qualify as non-injurious harassment a person must encounter the wolves unintentionally (pursuit is not allowed without a permit).

Non-lethal Injurious Harassment: This is harassment which may result in injury (not death) to a wolf. Injurious harassment may entail the same actions as above but wolves may also be intentionally pursued or chased. In addition, the use of non-lethal ammunition (rubber bullets, cracker shells, beanbag shells, etc.) may be used.

West of Hwys 395/78/95, all injurious harassment is regulated by the USFWS. East of Hwys 395/78/95 ODFW regulates injurious harassment under OAR 635-110-0200 as follows. Injurious harassment is allowed without a permit on private land by livestock producers on land they own or lawfully occupy as long as no identified circumstance exists that attracts wolf-livestock conflict. If ODFW confirms wolf depredation on livestock or other wolf-livestock conflict and if no identified circumstances exist, injurious harassment is allowed by permit on public land by grazing permittees under valid grazing allotments.

Documentation: Any type of harassment of wolves must be reported to ODFW within 48 hours. All types of harassment or actions taken with intent to harass (e.g., wolves were seen in pasture of cows and producer drove out to haze them off …) should be documented. Record dates, times, location, actions taken, and results of actions.

Appropriate Season and Area: All seasons or situations when wolves are testing, chasing or in close proximity to livestock. ODFW will consider the location of known den sites when permitting injurious harassment on public land.

Considerations and Limitations: Producers should coordinate with ODFW to determine if injurious harassment is an option. It is challenging to locate wolves in order to haze. Some types of hazing tools may not be appropriate in some seasons.

Livestock Management/Husbandry Changes

Description and Intent: These are husbandry actions taken specifically to help avoid wolf-livestock conflicts. Actions taken may be tailored to each ranching situation and thus, not all actions used will be appropriate for all. Management actions may include but are not limited to switching or changing pasture use to avoid areas of wolf activity, night feeding, calving season changes, changing herd structure, and possibly others. Actions should be considered individually for each producer and in some cases may be experimental.

Application: Changing pastures or grazing sites to avoid wolf use areas may be an option when wolf use data or recent depredation indicates area-specific problems. This may be most applicable when wolves show seasonal use of a particular area.

Some changes to herd structure may minimize conflict. Producers may choose to put cows with small calves and weaned calves in more protectable situations or areas that have less wolf use, and dry cows, cows with larger calves, and ewe only bands in areas that have documented more wolf use.

When practical, producers may choose to wait to put calves in forested pastures and allotments until after the elk and deer have produced their young for the year, greatly increasing the wolf's natural food sources.

Evening feeding can have the effect of bunching cows and calves into a common area where they would be less vulnerable to night predation. Evening feeding may also affect birthing times of livestock (some animals do not give birth while their stomach is full).

Livestock operations are at increased risk during the calving and lambing seasons. Several management actions may reduce risk to young livestock. Calving and lambing in more protectable situations can reduce loss from wolves and other causes versus calving in large forested pastures or open range allotments. Birthing earlier to have larger calves on allotments and reducing the length of the calving period have appeared to be effective for some producers.

Low-stress livestock handling is a technique developed for working with cattle to efficiently move or handle cattle while minimizing animal stress. Traditional livestock handling can be stressful to cattle, which may lead to poor animal health, less efficient movement, and creates noise when calves are separated from their cows. Wolves in the area can be attracted to the noise and vulnerable calves. One of the main features of low-stress livestock handling is creating herd movement through the least amount of energy and pressure as necessary. With respect to predation risk, low-stress livestock handling offers several benefits. First, cattle moved in this manner are more likely to remain in a herd and cows are less likely to be separated from their calves. Calves that remain with their mothers and cattle standing their ground in a herd are less vulnerable to predation. Secondly, cattle placed through low-stress livestock handling are less likely to scatter after being moved, allowing the producer to place the cattle in an appropriate area and be more confident that the herd will remain there even in the producer's absence.

Techniques such as adjusting birthing seasons or shifting to more protective or aggressive breeds are typically long-term changes and may not be appropriate to solve immediate depredation situations. The purpose here is to encourage producers to explore options to better protect herds and to coordinate those efforts with ODFW so that all may continue to develop workable solutions.

Documentation: Producers should track and document changes in herd management practices and coordinate closely with ODFW on how a particular husbandry practice may reduce wolf depredation.

Appropriate Season and Area: All seasons and areas. However, practices associated with birthing livestock or management of newborn/young livestock should receive priority.

Considerations and Limitations: The effects of any particular action may be unknown in some cases and will be dependent on many factors. In some cases a practice may be experimental and close communication between producers and ODFW (for the purpose of reducing risk of wolf predation) will be important.

There may be increased production costs associated with alternative practices used to reduce wolf risk. Producers are encouraged to coordinate with ODFW and local Compensation Committees to determine resources available for implementing any changes.

Not all producers have grazing pasture options, or options may be dependent on other allotment plans. Individual producer coordination will be necessary to evaluate appropriate actions.

Experimental Practices

Description and Intent: There may be a number of non-lethal and preventative practices (i.e., bio-fencing, belling cattle, using wolf-savvy cattle, shock collars, and possibly others) which may reduce depredation risk, but are not yet known to be effective. Experimental practices are encouraged but may require additional use to determine if they are practical, useful, and the conditions in which they would be most effective.

Application: Development and implementation of any unproven non-lethal action would require close coordination with ODFW. Experimental practices will be evaluated based on their reasonable expectation to reduce depredation risk.

Documentation: Documentation of experimental practices will vary depending on the practice. Producers who implement experimental practices are encouraged to coordinate with ODFW to track use and effectiveness.

Appropriate Season and Area: May be implemented during any season or area.

Considerations and Limitations: Some experimental practices such as bio-fencing require active involvement by ODFW to implement.