Nez Perce Tribe Wolf Recovery Project Trapping, Ground Darting, and Neck-snaring Protocols

Overview

Wolf capture and radio-collaring is important to wolf recovery in Idaho because it enables the Wolf Recovery Project to monitor population size, distribution, numbers of packs and breeding pairs. Radio-collaring wolves also provides support for law enforcement and control activities associated with illegal take and wolf depredations on domestic livestock, respectively.

Traditionally, trapping utilizing leg-hold traps, has been the principal method used in Idaho for capturing wolves. The Nez Perce Tribe has used ground darting and neck-snaring in limited applications, though these techniques have promise as well. Trapping will probably continue to be the primary means of wolf capture by virtue of its long-standing history, familiarity to personnel, and the fact that the agencies involved in Idaho wolf recovery already have the equipment. But for those situations where trapping is not feasible such as when packs are located in remote areas where it is impractical to transport traps to the site, or where human activity precludes use of traps, ground darting and/or neck-snaring may be viable alternatives. Additionally, ground darting and neck-snaring can be used during the winter when trapping is inappropriate.

Wolf capture will continue to be a key component of the Wolf Recovery Project. In order to insure that wolf capture is conducted in the most effective, safe (for both wolves and humans involved), and humane manner possible, the following protocols have been developed and will be followed by all Nez Perce Tribe Wolf Recovery Project personnel. Concerns for the welfare of captured wolves, and non-target species, must be of paramount import[illegible]g these animals.

Email UI joint committee about Spring Break

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Trapping

To date, leg-hold trapping has been the primary ground tool used in capturing wolves. This technique is feasible during snow-free periods and when temperatures do not pose a risk of frostbite to trapped animals. Leg-hold trapping has come under scrutiny lately as an inhumane method of capturing animals and has been outlawed in several countries around the world. The negative publicity associated with the capture of non-target species, specifically pet dogs, heightens this concern. It is important for Nez Perce Tribal biologists to understand the sensitive nature of this issue and abide by these protocols to insure safe and humane use of this technique.

Training and Experience

A primary wolf trapper/handler for the Nez Perce Tribe will have been employed for at least one field season, attended at least one wolf handling class, spent a minimum of 2 10-day work hitches with a primary wolf trapper/handler, i.e. Carter Niemeyer (U.S. Fish and Wildlife Service), Rick Williamson (Wildlife Services), or Nez Perce Tribal primary wolf trapper/handler, been involved in the capture and processing of a minimum of 3 wolves under the supervision of a primary wolf trapper/handler, and then received approval from the Project Coordinator to serve as a primary wolf trapper/handler.

Equipment (Trap Type)

Rubber-jawed traps, like the McBride "EZ" grip #7, seem to cause less **severe injuries** to the feet of captured animals, wolves and non-target species alike. In a limited number of captures by the Nez Perce Tribe, the "EZ" grip #7 appears to hold wolves as well as the traditional McBride #7 offset, has a slightly greater jaw width, and superficially causes fewer noticeable foot injuries. There is debate concerning the potential, due to the lack of offset jaws with the "EZ" grip #7, for compression-induced foot injuries that would not be detected. Because the Nez Perce Tribe has no recaptures of wolves originally caught in the "EZ" grip #7, and is unaware of a sizable sample from other studies, it cannot assess whether compression-induced foot damage is more or less likely than with the traditional McBride #7 trap. The McBride "EZ grip #7 has a wider jaw spread (7") and greater jaw height (4") than the traditional McBride #7 offset (width 6 and 13/16", height 3 and 3/4"). Wolf recovery personnel in Montana use the "EZ" grip #7 exclusively and those in Wyoming employ them when trapping in the vicinity of home sites where pups could be caught. Although the Nez Perce Tribe has both McBride #7 and "EZ" grip #7 traps, Wolf Recovery Project biologists acting as the primary wolf trapper/handler will emphasize the use of the rubber-jawed "EZ" grip #7 traps while continuing to evaluate the performance and effectiveness of each. In addition the Nez Perce Tribe has a supply of Victor #3 Soft-catch traps that are intended for use specifically on pups.

Protocols:

-Traps should be no smaller than McBride #7s or comparable model; e.g. Newhouse #4 1/2.

-Traps should be no larger than the equivalent of a Victor #4.

-Traps should have offset jaws with teeth OR padded jaws; the teeth should be ground down so that they pose minimal risk of puncturing the animal's skin, but sufficient enough to prevent the animal from being able to slide its foot laterally within the trap OR have jaws padded with rubber; e.g. McBride #7 "EZ" grip.

-Trap type; "EZ" grip traps will be preferred in most situations, especially when there is a higher likelihood of incidentally capturing pups prior to the time when they would be targeted. McBride #7 steel-jawed traps will be used in other situations. Victor #3 Soft-catch traps will be used only in select circumstances.

-Traps should have a heavy-duty swivel center mounted on the base/cross structure and where the drag attaches to the chain.

-Traps should have no less than #1/0 twist chain connecting the trap and the drag.

-Traps should have a minimum of 8 feet of chain between the trap and the drag.

-All lap links should be welded; to prevent links from opening, weld where swivels attach to trap and drag OR the connection of chain to trap and chain to drag should be heavy duty cold shuts.

-Traps should be dipped/dyed; prevents rust, makes trap faster and freeze resistant, and reduces odors on the metal.

-Traps should utilize a drag; to provide a cushioning effect on the animal's appendage when the drag hangs up, as opposed to the sudden stoppage, and potential joint/bone damage, that being staked down creates.

-Traps should have a minimum of 8 lbs. of pan tension when being set for wolves in order to reduce captures of non-target species; this may mean adding a second pan plate tension spring to the trap.

Equipment (Maintenance)

Ensuring that **traps are in good working order** is the first step in a successful capture operation. To that end the Nez Perce Tribe will institute the following measures to guarantee that all traps are suitable for field application at all times.

Protocols:

-Traps will be inventoried and inspected prior to their assignation to the primary wolf trapper/handler, by the field crew supervisor; to ensure the integrity of all components of the trap (welds, swivels, chain) where there is potential for failure that would result in a trapped animal escaping with a trap on its foot.

-Assigned traps will be inventoried and inspected before the field season by the primary wolf trapper/handler that will use them; to ensure the integrity of all components of the trap (welds, swivels, chain) where there is potential for failure that would result in a trapped animal escaping with a trap on its foot.

-Traps will carefully inspected by the primary wolf trapper/handler every time one is set; this includes visually inspecting all components of the trap (welds, swivels, chain) where there is potential for failure that would result in a trapped animal escaping with a trap on its foot. The Nez Perce Tribe realizes that not all flaws with trap components can be detected, i.e. a chain is only as strong as its weakest link, but a thorough check can aid in discovering gross imperfections.

-Traps will be inventoried and inspected after the field season by the primary wolf trapper/handler checking them in and by the field crew supervisor; to ensure the integrity of all components of the trap (welds, swivels, chain) and expedite their preparation for the upcoming field season.

Trap Placement

Trap placement is critical in capturing wolves, and conversely, excluding **non-target species**. Because wolves travel trails and roads that are sometimes used by **humans and their pets**, it is imperative to set traps in spots that minimize the chances of capturing domestic animals. Consequently, the amount and type of human use in an area must be taken into consideration. Trappers must be aware of conditions that could produce unsafe situations for wolves; such as prolonged **exposure to environmental elements**, becoming **entangled in a dangerous location**, and **drowning** when determining where to set traps. Steps must always be taken to **warn the public** that wolf trapping is being conducted in an area.

Protocols:

-Signing; brightly colored signs will be posted conspicuously at both ends of a trap line on roads and trails to inform the public of capture activities.

-Human activity in the area; if it is judged to be too great, then traps will not be set.

-Topography; slope steepness too severe may cause a trapped animal to become suspended by the trapped foot, so traps must not be set where there is a risk of this occurring.

-Vegetative cover; must be sufficient enough to allow for the drag to become entangled in a relatively short distance, minimize the potential of an animal being suspended by the trapped foot, and provide shade to minimize the risks of exposure to the elements (hyperthermia).

-Proximity to water; trapped animals can drown or suffer hypothermia, therefore traps will not be set nearer than 25 yards from a significant body of water (lake, pond, stream/creek/river, etc. that has a depth of 4" or more), provided there is adequate vegetative cover at a potential trap site this close to water, to allow for the drag to become entangled OR any other setting that may pose as a drowning hazard.

-Security; to insure that trapping operations are not disrupted by humans and that captured wolves are not harassed while in a trap, whenever possible traps should be set on roads with controlled access (gates, tank traps, seasonal use restrictions, etc.). This will require cooperation and coordination with the proper land managing agency in order to obtain permission, permits, keys, etc. If trapping cannot be conducted in a controlled access situation, traps should be checked earlier in the day, more frequently, or not set at all. See Trap Checking.

-Proximity to wolf home sites; prevents the capture of small pups that may be injured by the trap. When pups are not targeted for capture, from May - the first two weeks of August, traps will typically be set no nearer than 1/2 mile of a home site.

-Distance set is made from road/trail; to minimize traps being sprung inadvertently by humans, traps will be set far enough off of the edge of a road/trail so that a reasonable person walking that road/trail could not inadvertently step on it while within the bounds of the defined road/trail.

-Type of set; blind (trail) sets have a high potential to capture non-target species, so should be used only on trails where there is no known human use, no current evidence of trail use by non-target species, and current and abundant trail use by wolves.

Trap Checking

Whether trapping is being conducted for routine radio-collaring or depredation control that may entail lethal removal of wolves, **humane standards** must be followed. Based on experience, the Nez Perce Tribe and wolf recovery personnel in Montana, have found that wolves move about at all times of the day and are subject to capture at any hour, though they are most frequently active at night (nocturnal) and at dawn/dusk (crepuscular). Checking traps at daybreak is considered too early, as wolves may still be traveling, leaving the possibility that a wolf could be caught after the traps were checked and then spending greater than 24 hours in the trap. The capture of an animal(s) delays the checking of subsequent traps. It is preferable to have a minimum of two people working a trap line to deal with the possibility of multiple captures and medical emergencies, e.g. cardiac or respiratory arrest of the animal that may arise as the result of a capture. It is advisable to minimize the amount of time an animal is restrained in the trap in order to **reduce the potential for trap-related injuries**. Certain situations and/or conditions, e.g. extreme temperatures/precipitation, increased human presence, and high trap accessibility, could lead to an increased frequency in checking traps. Although trap-checking strategy will depend on several variables, the overall goal is to reduce the amount of time that a wolf is restrained in a trap, thereby minimizing trap-related injuries.

Protocols:

-Weather; extremely high or low ambient temperatures and precipitation mandate either not setting traps at all, checking them earlier, or checking them a second time during the day. Traps will be checked a minimum of twice per day when the temperature is below freezing but higher

than 20 degrees Farenheit. Trapping will be discontinued if overnight temperatures fall below 20 degrees.

-Frequency; traps must be checked at least one time per day.

-Timing; all traps should be checked by no later than 12:00pm (noon) each day, provided there are no extreme and/or extenuating circumstances.

-Length of trap line; trap lines where the final trap cannot be checked before 12:00pm (noon) will be shortened so that all traps will be inspected by 12:00pm (noon).

-Human activity; traps set along busy roads and/or trails should be checked earlier than typical to reduce the possibility of a captured animal being harassed, but this mandates a second check during the day should an animal be caught following the first check.

-Animal capture; if an animal is captured and needs to be processed, it is advisable, if there is not a medical emergency, for the second person to continue checking traps while one person stays with the animal being handled.

-Trapper access; if the trap line is accessible only by hiking then the distance to be covered must be taken into consideration, as well as the amount of human scent/sign that is being left by the trapping crew. In areas with high vehicle/human use and vehicle access, traps should be checked at least twice per day.

Ground Darting

Calling wolves into range to be ground darted has potential to be a useful capture technique. The Nez Perce Tribe successfully radio-collared its first wolf using this method in 2003 after 2 years of effort. Special equipment is required, in the form of dart gun and transmitter dart, in order to implement this method. Also, some degree of competency at imitating a wolf howl, or in using a voice-activated or electronic predator calling device, is beneficial.

Ground darting may be employed when 1) the wolves are unreachable with traps, 2) the wolves seem to have an aversion to the lure/set types used on a trap line, 3) the capture operation is targeting a documented, but un-collared, pack using a traditional den/rendezvous site in which either or both 1) and 2) above apply, 4) targeting a specific wolf for capture, and 5) the work period is ending and other capture methods have been ineffective.

Potential benefits of ground darting are;

1. May be less labor intensive than trapping.
2. May reduce injuries associated with trapping.
3. May be less intrusive to the wolves- animals can be called away from den and rendezvous sites.
4. Specific animals may be targeted for capture.
5. Offers the possibility of capturing wolves when trapping is not feasible, i.e. when snow is on the ground OR in remote, backcountry situations.

Some of the potential drawbacks to ground darting are;

1. Results in increased usage of immobilizing drugs- drug is "wasted" if no animals present themselves for a shot.
2. Potential for injury to the animal from a poorly placed shot.

3. May be more intrusive to the wolves- better opportunity for success if calling occurs near den and rendezvous sites, resulting in the abandonment of those areas.
4. Dart flight may be affected by temperature for those systems utilizing CO2 as the dart propulsion mechanism.

Training

In addition to the mandatory training, a primary wolf trapper/handler that will be utilizing ground darting must be approved by the Project Coordinator after demonstrating knowledge of and proficiency with the various types of systems, and specifically the system that will be employed.

Equipment

Palmer Cap-chur makes several styles of projector (gun) [short, mid, long, and extra long ranges] variously powered by 0.22 blanks or CO2, and multiple styles and sizes of darts, needles, and other accessories. Dan-Inject produces two models of rifle (CO2 powered) and two models of pistol (one CO2 powered and one air powered). The Nez Perce Tribe has three Palmer Cap-chur short range and one long range projectors, and two Dan-Inject air pistols and one CO2 pistol. There are distinct transmitter darts for each system; Pneu-darts for the Dan-Inject gear and a Palmer produced dart for its Cap-chur line. **Familiarity and practice** with the particular dart system to be used is undeniably essential. Because these dart systems are somewhat fragile they should be inspected and have routine **maintenance** performed regularly, i.e. be cleaned.

Protocols:

-Familiarity with systems; all biologists using this equipment will read the user manuals and be instructed by someone who has experience with it.

-Practice; dart trajectory, distance, and impact should be assessed through a minimum of 5 hours of practice shooting with the projector system to be used.

-Darting equipment will be inventoried and inspected before the field season by the field crew supervisor; to ensure the integrity of all components.

-Darting equipment will be inventoried and inspected before the field season by the biologist that will use it; to ensure the integrity of all components.

-Darting equipment will be carefully inspected every time prior to its immediate use; this includes visually inspecting all components, test firing the projector the day before an anticipated capture attempt, and checking to see that the transmitter for the dart is functional.

-Darting equipment will be inventoried and inspected after the field season by the biologist checking it in and by the field crew supervisor; to ensure the integrity of all components and expedite their preparation for the upcoming field season.

Implementation

It may be productive to have two people involved in this type of capture effort, one to serve as a "caller" and another designated as the "shooter," though both should have dart guns ready. In this scenario the caller would be set apart from the shooter so that the attention of any approaching wolves would not be focused on the primary darter. Because the direction of approach of wolves will mostly be unknown, the caller and shooter must be constantly **prepared and vigilant**, have predetermined shooting lanes identified, and be aware of what constitutes an acceptable shot. In that regard, **practice** is a must. Practice will also improve the ability to **place the dart** in the wolf once an opportunity arises.

Protocols:

-Practice; dart trajectory, distance, and impact should be assessed through 3 sessions totaling a minimum of 5 hours of practice shooting with the projector system to be used.

-Shot selection and placement; broad-side shots will not be taken and all shots will be aimed for the hindquarters to minimize the chance of hitting the animal in the head or abdomen when making a front shoulder shot.

-Minimize detection; camouflage clothing, and possibly something to mask human scent, should be worn.

-Wind direction; caller/shooter should be down-wind in order to prevent their scent being detected by the wolves.

-Preparedness; each shooter should have 2 transmitter darts ready in the event a second shot opportunity arises.

-Vegetation; must be dense enough to provide hiding cover for the caller/shooter, but also permit an open firing lane.

Neck-snaring

Neck-snaring is widely used to capture wolves for commercial harvest and for wildlife control purposes. Generally the Nez Perce Tribe believes that this technique is most applicable in winter, when trapping and ground darting are impractical because of snow conditions and increased pack mobility, i.e. wide-ranging movements once the pups reach 5+ months of age (September), respectively.

Training

In addition to the mandatory training, a primary wolf trapper/handler that will be utilizing neck-snaring must be approved by the Project Coordinator following demonstration of the biologist's aptitude at setting neck-snares.

Equipment

Neck-snaring can be **adapted to live capture wolves**.

Protocols:

-Snare modification; must have a modified #3 Thompson lock set at 16"-17" to prevent snare loop from closing down to a lethal circumference and have a break-away system set to 800 lbs. (this allows large ungulates to escape), be constructed of 7/64" 1 x 19 galvanized wire cable (60"-72" long) that is attached to a 7' length of #9 tie wire by 3/32" and 1/8" connectors. Nez Perce Tribe snares were manufactured by Jim Walthers of Alaska and meet these specifications.

Implementation

To be most effective, neck-snaring typically requires the presence of an attractant (wolf-killed prey carcass or **draw bait**), although heavily used wolf trails lacking an attractant can also be set with snares. **Site selection** for placement of draw baits is critical.

Protocols:

-Draw bait; road-killed ungulate carcasses, provided by IDFG or Dept. of Transportation in conjunction with the proper permits, should be utilized whenever possible to attract wolves to a suitable snaring site.

-Site selection; sites conducive to successful neck-snaring should have relatively dense vegetation, which provides suitable visual cover for the snare, with tree boles of sufficient size (minimum 6" diameter or multiple smaller live trees) for anchoring the snare.

-Snare setting; #9 tie wire should be wrapped around the anchoring structure at a height of approx. 5' and be overlapped on itself to prevent an animal from pulling on it and straightening it enough to escape with the entire snare. When set the bottom of the snare loop should be approx. 20" above the substrate (bottom of the knees).

Snare checking

Same as for **Trap checking** section

Handling

Once a wolf has been captured, the handling (or processing) phase begins. During this time the wolf's immediate and future health are the direct responsibilities of the primary wolf trapper/handler. It is crucial that every precaution be made to insure that the wolf receives the attention, care, and treatment required. The Nez Perce Tribe will provide all of its Wolf Recovery Project biologists with at least one wildlife capture/handling training course prior to their becoming a primary trapper/handler. In addition, they will be involved in wolf processing as frequently as possible, under the supervision of primary trapper/handler, as opportunities are available.

Processing

Safety, for the animal and the people processing it, is of the utmost importance. Some of the chemical agents are classified as scheduled substances subject to the control of the Drug Enforcement Administration, and as such, their possession and use are strictly controlled. The Food and Drug Administration has rules and regulations that apply to the consumption of animals that have been given some of the drugs used in handling wolves and other animals. The drugs used to immobilize/anesthetize wildlife can pose **significant human health risks** and should be handled accordingly. The Nez Perce Tribe mandates that all personnel that will be involved in the capture and handling of wolves receive training in animal capture and handling. This training will allow animal handlers to recognize when **medical emergencies** are occurring and what steps to take to restore an animal to a normal, healthy state. In addition, all personnel should be trained in the normal procedures, and potential exigencies of wolf processing. This allows for hands-on experience while being supervised by someone with previous wolf handling experience. All capture/processing situations are unique, therefore every situation must be assessed as such pertaining to type of drugs administered, drug dosages, and post-handling monitoring.

Protocols:

-Training; attendance of at least one course in animal handling from an accredited source which includes the legal implications of the drugs to be used, the proper safety procedures in working with those drugs, the proper tools and techniques in administering drugs, and the effects of those drugs on the animals (and humans). Also, Nez Perce Tribe personnel will attend the session given by Dr. Binninger at the pre-field season orientation.

-Experience; all personnel must meet the standard training and experience requirements given above.

-Animal's condition; the length of time the animal has been in the trap, ambient weather conditions (extreme temperatures/precipitation), animal health (typically not known), and human activity around the capture site can stress or otherwise influence what type of drugs and/or dosages should be given. Assess these before approaching to noose or jab the animal.

-Drug dosages; all Recovery Project personnel will familiarize themselves with, and have available, the drug dosage chart when conducting a capture operation. A sufficient dosage of drug should be administered, including to pups, to adequately anesthetize the animal in order to minimize capture-related stresses.

-Animal's TPR (temperature, pulse, respiration); the trend in the rates of these vital signs indicate when a medical emergency is occurring, so they must be monitored throughout the processing [proper equipment is mandatory]. A minimum of 3 TPRs will be conducted, and recorded on the data sheet, during processing; more frequently if there are abnormal conditions. Handlers should remain with an animal that has undergone a crisis until it has fully recovered.

-External stimuli; excessive external stimuli can cause the animal to arouse prematurely, so it is critical to minimize movement and noise when processing.

-Eye protection; drugs used to immobilize wolves can inhibit the blinking reflex, so an eye cover/hood will be used to shield the eyes from sunlight. The use of an eye cover also has a positive value for situations when members of the public or media have access to an anesthetized wolf. Opthalmic ointment (artificial tears) will be put in the wolf's eyes as well.

-Data collection procedures; conduct the most painful procedures when the animal is in the deepest state of anesthesia (1. ear-tagging, 2. blood collection [1 purple top, 1 red top, 3 purple tops, 1 red top]).

-Selection of post-handling recovery site; place the animal in a secluded spot where it can recover without being stressed and is protected from exposure to environmental elements (direct sun, water hazards, eye-damaging protrusions).

Radio-collaring

In most instances the **attachment of a radio-collar** is the primary purpose of capturing and processing a wolf. If a situation arises where no other handling procedures can be performed (ear-tagging, blood sampling), every effort should be made to put the collar on. It is important that the handler has all of the **necessary equipment** on hand to accomplish this. **Sizing** the fit of the radio-collar is key to assuring that it stays on the animal without potentially causing harmful physical problems. It is better that the radio-collar be too loose, as opposed to too tight. The proper fit is ascertained for each individual adult wolf, and is based on "feel" acquired through experience. Sizing radio-collars for pups of the year and subadults may require padding the radio-collar with foam so that the wolf can grow into it. Wolf Recovery Project radio-collars are supplied by Telonics; they are equipped with mortality sensors. Radio-collars may be modified with colored electrical or duct tape to enhance the identification of the animal. Radio-collars will be supplied to cooperating agencies through the Nez Perce Tribe.

Protocols:

-Equipment; minimal requirements include 1. radio-collar, 2. nut driver, 3. extra nuts, 4. implement for removing excess collar band material, 5. receiver, 6. capture data form.

-Handler vigilance; remove the magnet and test to make sure the radio-collar is transmitting.

-Collar sizing; pups are not targeted for capture until late August/early September when they are at least 40 lbs., in these instances radio-collars should be set at a minimum of 18" for females

and a minimum of 20.5" for males and be lined with foam. The foam will be taped to the collar with a minimum of 3 wraps of electrical tape in 5 locations around the collar. A section of the foam may be removed from the throat area to alleviate concerns about restricting the animal's breathing Fitting radio-collars on adult-sized wolves is on an individual wolf basis; the radio-collar should be snug enough that it cannot be pulled over the wolf's head, but can be rotated around its neck (males tend to range from 19 - 21 inches, females tend to range from 17.5 - 19.5 inches). Be aware that subadult-sized wolves can grow significantly between summer and winter, which may necessitate a more liberal fit than would be indicated if the wolf is in hand during the spring or summer. Foam may be required in these cases.