

Best Management Practices for

Use of relaxing cable restraints in Ontario



Ontario Ministry of Natural Resources and Forestry

January 2016

Acknowledgements

This work is the result of valuable contributions from Ministry of Natural Resources and Forestry (MNRF) staff, Ontario Fur Managers Federation, Leeds and Grenville Coyote Working Group, Ontario Federation of Agriculture, Ontario Ministry of Agriculture Foods and Rural Affairs, the Ontario Sheep Marketers Association, licenced trappers, and interested farmers. It is the result of a collaborative research effort that provided valuable insight in establishing the appropriate rules and regulations around designing and setting relaxing cable restraints in Ontario. Useful input was also provided by the Wisconsin Department of Natural Resources, as well as materials and images borrowed with permission from “Cable Restraints in Wisconsin: A Guide to Responsible Use”.

Cover photo credit: Michael Runtz

62933
ISBN 978-1-4606-7287-7 PDF

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Relaxing cable restraints as an effective human-wildlife conflict tool

Live-capture trapping devices are sometimes used by licensed trappers and farmers as an alternative to kill traps in areas where there are risks of capturing non-target animals (e.g. domestic dogs, livestock). To be effective and efficient, these live-capture trapping devices should be selective to the target species, have high capture rates for that species, and minimize injury to both target and non-target species. Research on this subject has continued to evolve as improvements are made to live-capture trapping devices.

A relaxing cable restraint (RCR) is a live-capture cable device that is designed to hold an animal in place without causing death (Figure 1). Relaxing cable restraints are used in several areas of North America to capture problem wildlife in multi-use areas where there is a risk of incidental capture of non-target animals. Properly set RCRs allow for the release of non-target animals unharmed, while target animals may be humanely dispatched by a licensed trapper or farmer.

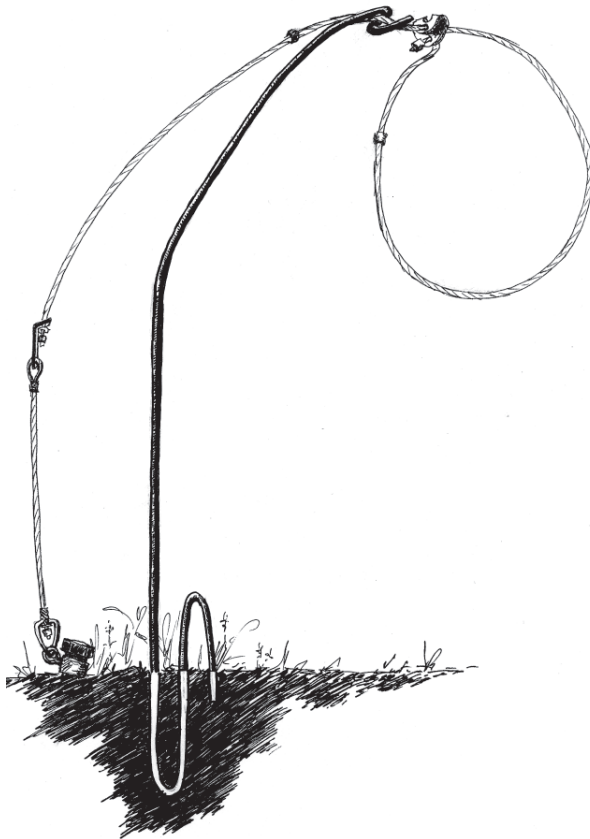


Figure 1. Illustration of a relaxing cable restraint anchored and set with a support wire.

Furbearer Management in Ontario

The fur trade in Ontario traces its roots back to the 16th century when early explorers and settlers moved west through Canada in search of farmland opportunities and furbearers. In 1670 the British government granted the Hudson's Bay Company exclusive fur trading rights for all land draining into Hudson and James Bays to reduce intense competition for fur and to help manage furbearer population declines.

By 1945, Ontario introduced new legislation, licensing, restricted harvests and controlled seasons, royalty payments and habitat protection to improve management and reverse declining populations of furbearers. These control measures allowed furbearer populations to recover. Today, furbearer populations are sustainably managed to ensure that the benefits of furbearers and heritage trapping activities are maintained for future generations. Trapping is an important tool for managing furbearer populations and humanely removing animals that may impact crops, livestock or communities.

Suspended snares were not traditionally used in Southern Ontario due to risks of potentially capturing domestic animals. Relaxing cable restraints provide farmers and trappers with an additional tool for addressing human wildlife conflict in areas where there are risks of capturing domestic animals. Relaxing cable restraints allow trappers and farmers to live-capture problem animals while avoiding causing harm to incidental captures, such as domestic animals.

An RCR differs from other types of cable restraints in several ways. For example, it is constructed with a relaxing lock mechanism that allows the cable to loosen when pressure is released, it is fitted with cable stops that prevent it from tightening smaller than a determined diameter, and it has a breakaway device that dismantles the RCR if a larger, non-target species is captured.

Several different types of RCRs have been examined for capture efficiency, selectivity, and animal welfare in North America. Relaxing cable restraints designed with a minimum loop diameter of ≥ 8.9 cm (Figure 2) have a higher selectivity, capture success, and animal welfare for coyotes than compared to other live-capture devices (e.g., foot-hold traps and foot-snares).

In southern Ontario, a collaborative study was conducted to explore potential implications of using RCRs to capture livestock depredating coyotes. Ministry of Natural Resources and Forestry (MNRF) researchers utilized the expertise of local licensed trappers, trained in the use of RCRs, to target problem coyotes on farms with livestock predation concerns. They confirmed other research and found that RCRs were more selective than other types of live-capture trapping devices (e.g., foot-hold traps and foot-snares) and also resulted in lower rates of injury. They attribute low rates of injury to appropriately designed trapping devices and good trap-setting protocols, such as avoiding setting RCRs near entanglement hazards (e.g., rooted woody vegetation or fence posts) and frequent RCR checks.

The purpose of this document is to provide an overview of the regulations associated with the use of RCRs in Ontario and outline management practices based on the best available information. This document may be updated from time to time to reflect new and emerging information.

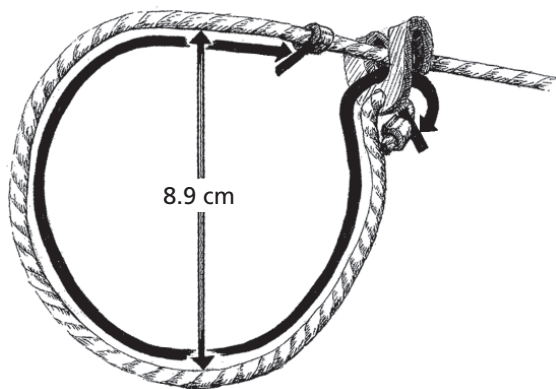


Figure 2. Diagram of relaxing cable restraint minimum loop diameter used for targeting coyote.

Regulations guiding the use of RCRs in Ontario

The regulations associated with the use of RCRs are established under Ontario Regulation 667/98 of the *Fish and Wildlife Conservation Act, 1997*. The rules are intended to support the use of RCRs by licensed trappers and farmers to address livestock predation concerns from coyote and wolf, while reducing incidental capture of non-target species and improving animal welfare of animals captured in RCRs.

The regulations for use of relaxing cable restraints include:

- RCRs may only be used by licensed trappers and farmers;
- RCRs may only be used to target coyote and wolf;
- RCRs are permitted for use by farmers in protection of their property on a year-round-basis across Ontario for coyote/wolf;
- RCRs are permitted for use by licensed trappers in protection of property situations, or during the open trapping season (except during deer seasons in southern, central and parts of northern Ontario where dogs are generally permitted for use while hunting deer) (Figure 3);
- RCRs must be set on land and not be set in a manner that allows a captured animal to reach a waterbody, or to reach any part of a fence, rooted woody vegetation, or other object in which an animal may become entangled;
- RCRs must not be set in a manner such that a captured animal would be suspended with its feet off the ground;
- Springs, counter-balanced weights, powered mechanisms or other similar devices may not be used to operate the RCR;
- RCRs must be checked on a daily basis;
- Trappers must have written permission from the landowner when trapping on private property; and
- All coyotes or wolves killed in protection of property in Wildlife Management Units 1 to 42, 46 to 50, and 53 to 58 must be immediately reported to the local MNRF office or by submitting a Notice of Possession form through the MNRF Registry if the person intends to keep the carcass for personal use.

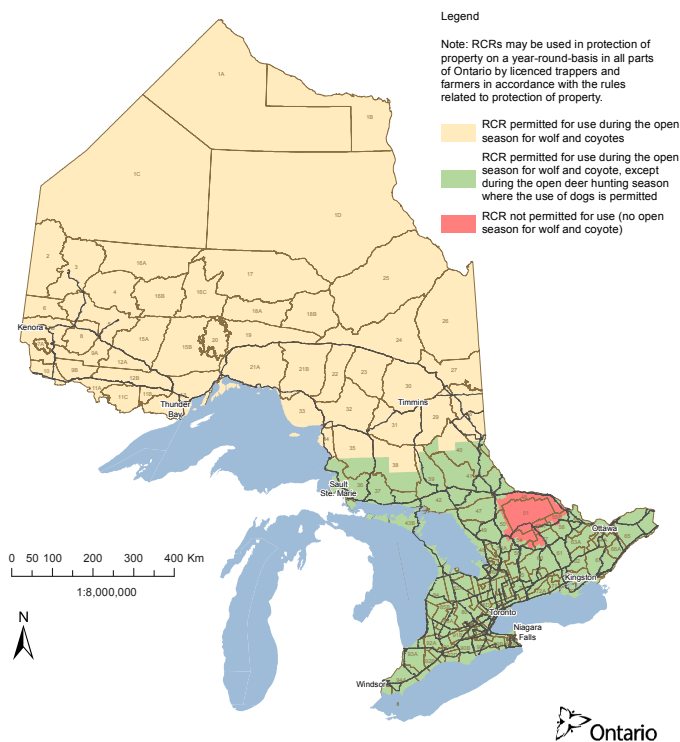


Figure 3. Areas for relaxing cable restraint use in Ontario

The regulations for constructing a relaxing cable restraint include:

- RCRs must have a relaxing lock mechanism that allows the cable loop to loosen when pressure is released (Figure 4);
- RCRs must be made of a cable consisting of galvanized multi-strand steel which is 3/32 inch or larger in diameter (Figure 5);
- RCRs must have two cable stops set in a manner such that the cable loop cannot expand to be larger than 30 centimetres in diameter and cannot restrict to be smaller than 8.9 centimetres in diameter (Figure 2 & 6);
- The cable must not exceed 1.5 metres in length from the anchor point to the relaxing lock, when the cable loop is fully closed at its minimum position;
- RCRs must have at least two swivel devices which allow for 360° rotation between the loop and the anchor, with one swivel device located at the anchor point (Figure 7); and
- RCRs must have a breakaway device affixed at the relaxing lock that is rated at 122.5 kilograms or less (Figure 7).

Components of an RCR

An RCR is made up of the following components:

Relaxing Lock

Relaxing locks are designed to allow the cable loop to loosen when pressure is released. A relaxing lock mechanism is a key feature of RCRs that allow for the live release of captured animals. The relaxing lock must be constructed in such a way that it allows for the cable loop to loosen slightly when pressure is released. A recommended relaxing lock is a reverse-bend washer lock (Reichart lock) that is 1¼ inches (32 mm) or larger in size (Figure 4) with a hole drilled twice the diameter of the cable to ensure that it relaxes as intended.

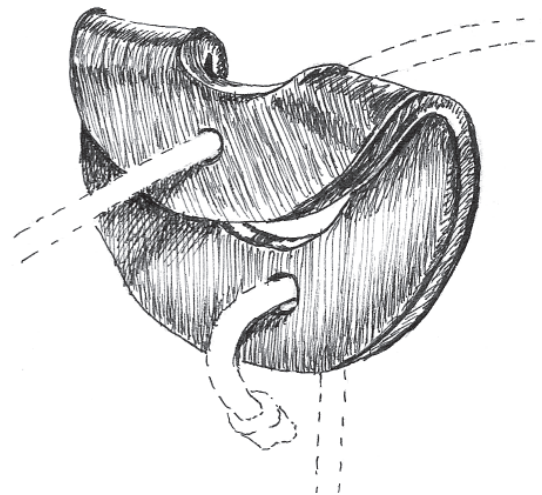


Figure 4. A relaxing type washer lock used on relaxing cable restraints slides along the cable in both directions, allowing the cable loop to loosen when pressure is released.

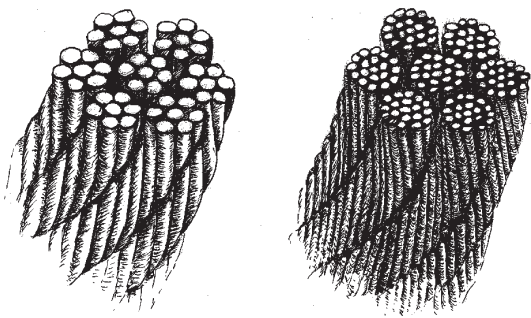


Figure 5. Illustration of a cross-section of a multi-strand cable used in cable restraint devices. Two commonly used patterns are a 7 by 7 design with 7 bundles of 7 wire strands and a 7 by 19 design with 7 bundles of 19 wire strands.

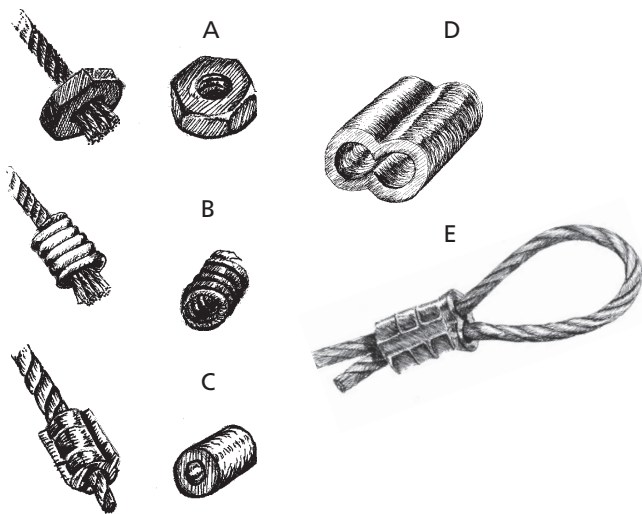


Figure 6. The diagram illustrates different types of cable stops, annealed steel nuts (A), coiled steel wire (B), aluminum ferrules (C), double end aluminum ferrules (D), and an end loop created with a double end ferrule (E) often used to attach the cable restraint to an anchor.

Cable

The cable must be made of galvanized multi-strand steel cable at least 3/32 inches in diameter and must not exceed 1.5 meters in length. Multi-strand cables are comprised of bundles of braided wires strands. Commonly available wire bundle patterns are 7 by 7 cable and 7 by 19 cable (Figure 5). The different wire bundle patterns behave differently in different situations and can be used according to the trapper's preference.

Cable stops and ferrules

Cable stops and ferrules are hammered or crimped onto the cable to prevent the lock and swivel from moving. Cable stops are also used to set the maximum and minimum loop diameters along a restraint. In Ontario, cable stops must be set in a manner so that the cable loop cannot expand larger than 30 cm in diameter and cannot restrict to be smaller than 8.9 cm in diameter (Figure 2 & 6). Maximum and minimum loop diameters are established to prevent non-target animals from being captured and prevent animals from being captured by their leg. There are several styles of cable stops made from various materials suiting different purposes. Three basic types of cable stops are annealed steel nuts (Figure 6A), coiled steel wire (Figure 6B), and aluminum ferrules (Figure 6C) all of which are hammered or crimped onto the cable. Double end ferrules (Figure 6D) also function as cable stops but are more often used to create loops at the end of steel cables for securing the RCR to anchor devices or to in-line swivels (Figure 6E).

Swivels

There must be at least two swivel devices which allow for 360° rotation between the loop and the anchor, with one swivel device located at the anchor point (Figure 7A and B). Swivels help to prevent the cable from kinking and twisting which could lead to entanglement, causing the cable to break, or impact the functionality of the relaxing lock. In some studies, two swivels located near the anchor point had improved functionality and lower rates of injury compared to sets with one swivel at the anchor point and the other, an in-line swivel, located partway along the cable length.

Breakaway devices

Breakaway devices allow the cable loop to open and release animals that exert enough pressure on the restraint. In Ontario, breakaway devices must be affixed at the relaxing lock (Figure 7A & 7B). The two recommended breakaway devices are a ferrule breakaway which slips off the end of the cable with sufficient force (Figure 7A) or a "J" hook breakaway which opens with sufficient force (Figure 7B). The breakaway devices must be rated at 122.5 kilograms (270 lbs) or less.

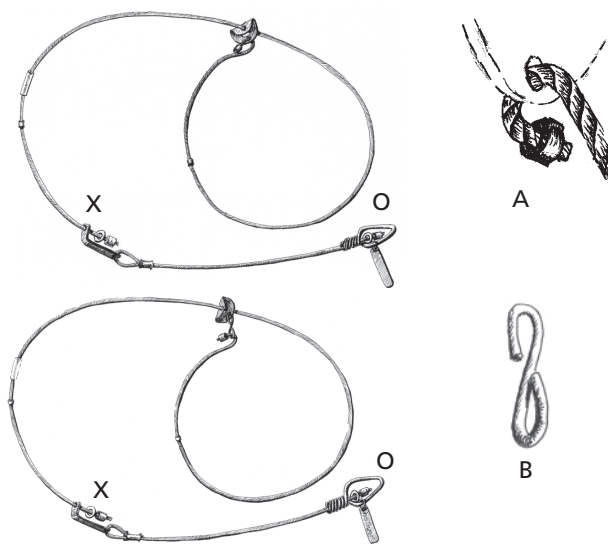


Figure 7. Two examples of breakaway devices used on relaxing cable restraints; a breakaway device at the end of the cable (A) and a j-hook breakaway device between the relaxing lock and the cable (B). The X and O symbols indicate the location of an in-line and end-swivels, respectively.

Considerations for setting an RCR

Cables and other trapping equipment are often coated with oil or grease from the manufacturer and carry smells that the target animal may detect. There are several techniques for removing oil and grease from cables and trapping equipment. A common method is to boil cables in a mixture of water and baking soda or to rub the device with vinegar. It is also sometimes beneficial to dye RCRs so that they blend into the surrounding vegetation and are less visible to the target animals.

Successfully capturing coyotes or wolves requires an understanding of the animal’s behaviour (e.g. predation occurrences, travel routes, tracks or other sign). Licensed trappers and farmers should consider the surroundings and choose locations that minimize risks of capturing non-target animals such as avoiding areas where dogs or livestock may be present. Set locations must also avoid entanglement hazards, such as fence posts and rooted woody vegetation. To increase the likelihood of capturing wolves and coyotes, the bottom of the RCR loop should not exceed 30 cm above the ground or other hard surfaces such as ice or compacted snow. Chin lifts

and other techniques to direct the target animal towards the RCR loop can increase the chances of capturing a coyote. Avoid setting RCRs in areas with a high likelihood of being encountered by non-target animals, such as setting the RCR along a deer trail or setting beneath overhead obstacles that may encourage a large animal to duck into the trap.

Fastening and anchoring

There are several methods for setting an RCR at a desired position and height. One way this can be achieved is by loosely attaching the restraint to a heavy gauge support wire. Another method is to use a support collar, which is a tubular device made from plastic tubing or coiled wire that slides onto the cable during their construction and functions as a brace on the support wire (Figure 8A). The end of the support wire can also be bent into an “N” shape to wrap around the cable and support the loop at the desired height and location in situations when a support collar is not used (Figure 8B).

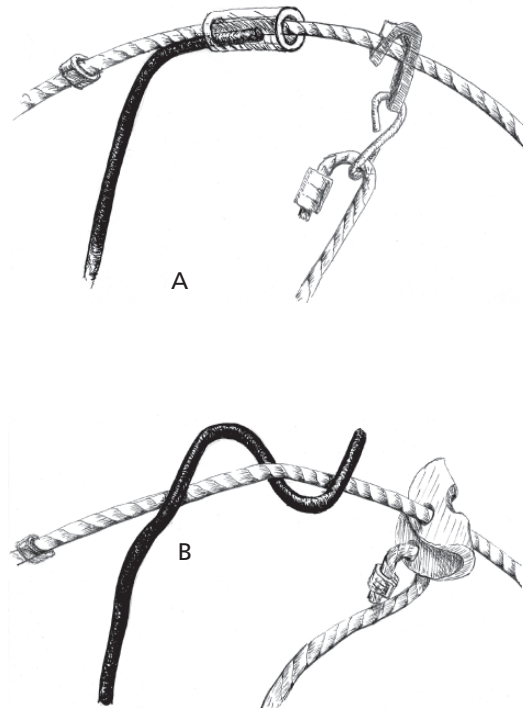


Figure 8. A plastic support collar bracing the loop of the RCR onto the heavy gauge support wire (A) and a heavy gauge support wire with a “N” shape bent into the end of the wire to support the RCR cable loop at the desired height and position (B).

Proper anchoring is a critical component of a functioning RCR. Improperly anchored RCRs may be pulled loose by the animal and become entangled. Relaxing cable restraints can be anchored to the ground using stakes or earth anchors. In loose or wet substrate, it is recommended that two 30 inch metal stakes be driven crosswise into the ground to ensure the RCR is secure (Figure 9). Earth anchors are small tubular or flat metal devices (Figure 10) attached to the anchor cable and driven into the ground or inserted beneath the ice using a drill. When pressure is exerted on the anchor, the device tilts beneath the earth or ice and anchors the RCR securely in place. When setting RCRs near ice, it is important to be aware of potential entanglement hazards (Figure 11), shallow/weak ice, and the potential for the RCR to accelerate ice thaw.

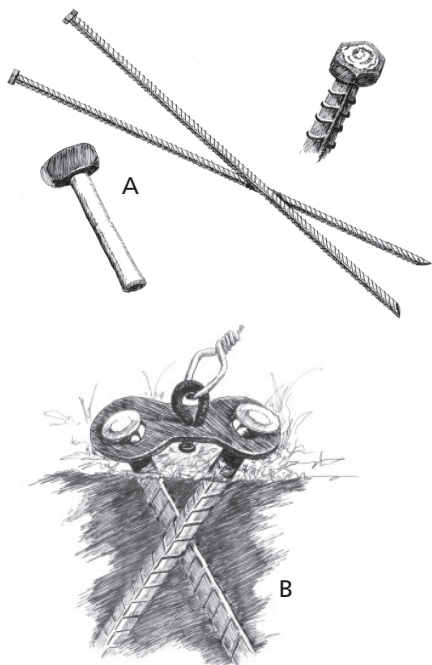


Figure 9. Metal stakes used to secure relaxing cable restraints into the earth. In poor substrate, it is recommended that two 30 inch (75cm) round metal stakes (e.g. re-rod; A) be hammered into the earth in a crosswise pattern (B).

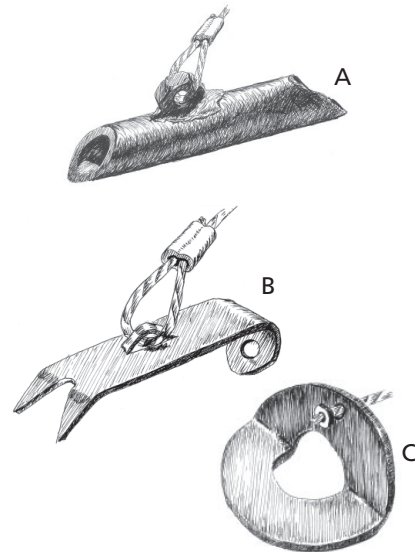
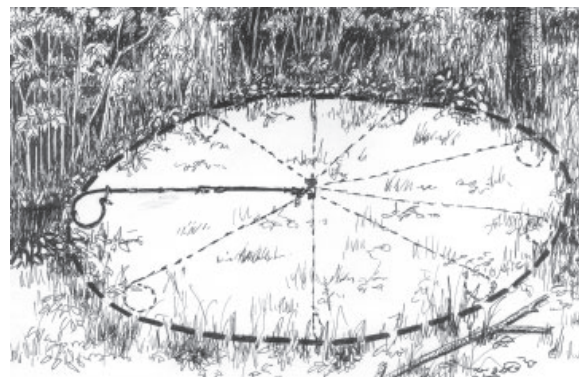


Figure 10. Earth anchors are used to secure relaxing cable restraints to the ground. Three commonly used earth anchors are anchor tubes (A), flat metal anchors (B), and bent washers (C).



A



B

Figure 11. It is important to be aware of potential entanglement hazards in the area around the trapping site. Entanglement hazards can include fence posts, fence wires, trees and other rooted woody debris (A). When selecting a trapping site, it may be helpful to envision a circular area around the anchor point and ensure that area is free of hazards (B).

Releasing non-target animals

The licensed trapper or farmer should take precautions when releasing any non-target animals that are captured. Noose poles or catchpoles are highly recommended for the safe release of non-target animals. All non-target animals must be immediately released in a manner that causes the least harm. Any dogs captured can be returned to the owner or transferred to a local animal control/shelter. Any injured animals should be promptly taken to a local veterinarian or ministry authorized wildlife custodian.

Summary

Relaxing cable restraints are an additional tool available for licensed trappers and farmers to address problem coyotes and wolves. The rules guiding the use and construction of RCRs are in place to support efficient and effective capture of target animals while ensuring that non-target animals can be released unharmed. Ultimately, the success of RCRs as tools for managing conflict with coyotes and wolves in Ontario depends on their responsible use by licensed trappers and farmers.

For additional information

- Preventing and managing conflicts with coyotes, wolves and foxes
www.ontario.ca/page/preventing-and-managing-conflicts-coyotes-wolves-and-foxes
- How to hire a wildlife Agent (e.g. a licensed trapper)
www.ontario.ca/page/hire-wildlife-agent
- Prevent conflicts with wildlife
www.ontario.ca/livingwithwildlife
- Trapping in Ontario
www.ontario.ca/page/trapping-ontario
- Ontario Wildlife Damage Compensation Program
www.omafra.gov.on.ca/english/livestock/predation.htm

Other resources

Garvey M.E. and B.R. Patterson. 2014. Evaluation of Cable Restraints to Live-capture Coyotes (*Canis latrans*) in Southern Ontario, Canada. *Canadian Wildlife Biology & Management* 3(1): 22-29.

Olson, J.F., and R. Tischafer. 2004. Cable restraints in Wisconsin: A guide to responsible use. Wisconsin Department of Natural Resources, Madison, Wisconsin, USA.

