Best Management Practices

for Trapping Canada Lynx in the United States

ASSOCIATION *of* FISH & WILDLIFE AGENCIES

This BMP document applies to the contiguous U.S. only.

Best Management Practices (BMPs) are carefully researched educational guides designed to address animal welfare and increase trappers' efficiency and selectivity. The extensive research and field-testing used to develop BMPs are described in the Introduction of this manual. The evaluation methods used to develop BMPs have been standardized, enabling BMPs to be easily updated and revised as new traps and techniques become available. All traps listed in the BMPs have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options that allow for discretion and decision-making in the field. Best Management Practices are meant to be implemented in a voluntary and educational approach, and do not present a single choice that can or must be applied in all cases. BMPs are the product of on-going work that may be updated as additional traps are identified through future scientific testing.

The Canada Lynx at a Glance

Figure 1. Canada lynx *(Lynx canadensis)*

Characteristics

The Canada lynx *(Lynx canadensis)* (Figure 1) is a member of the Felidae family. It is similar in appearance to the bobcat *(Lynx rufus)*, and though lynx typically appear larger, most body dimensions are similar. This medium-sized cat has large furry paws and long legs; good adaptations for life in deep snow. The ears are tipped with long tufts and the bobbed tail is short (~4 inches) with the tip of the tail being black all the way around (bobcat tail tips are typically white on the underside and the tail is slightly longer). The pointed tufts of fur on the lower cheeks take on the appearance of a beard. The pelage of the Lynx is variable in color and density throughout the year. During winter, the fur is dense and has a grizzled appearance. The back is silvery brown with tones of pale brown and buff. The fur on the belly, legs and feet is buffy white or grayish white. In summer, the pelage is more reddish to gray-brown. Adult males on average weigh 22 pounds and average about 33.5 inches in length (head to tip of tail). Females are smaller and average 19 pounds and measure about 32 inches. Lynx stand 19-22 inches at the shoulder, on average.

Range

The Canada lynx is found in northern boreal forests (sometimes called taiga) across almost all of Canada and Alaska. Within the contiguous United States, there are scattered populations of lynx in the west including the states of Idaho, Montana, Utah and Washington. A resident population exists in Wyoming in the Yellowstone National Park and a reintroduced population exists in Colorado. Lynx also occur in several locales in the eastern U.S., primarily Minnesota and Maine.

Habitat

Canada Lynx habitat consists of moist boreal forests dominated by various species of spruce and fir trees. The subalpine forest of the western United States, and the boreal/hardwood forests in the western Great Lakes and northeastern U.S. also provide some suitable habitat. Within these forest types, lynx are most likely to occur in areas that receive deep snow and that have snowshoe hare. Dense vegetation and downed woody materials serve as important cover for denning.

Food Habits

Lynx are specialist predators and their diet is comprised primarily of snowshoe hares. Lynx are unable to sustain their populations without high densities of snowshoe hares despite utilizing a multitude of other prey when snowshoe hare numbers are low. While over 60% of the diet consists of snowshoe hares, lynx also eat rodents (squirrels, mice, voles), birds, porcupines and sometimes deer. Lynx are excellent hunters but like most cats they will eat carrion when it is available. When a lynx kills a larger animal or finds carrion that it cannot consume at one feeding, the lynx will cache the remains by dragging it to a hiding area such as a bush. It will then cover the cached prey item with leaves and return to consume it later. Lynx take prey species by ambush or by chasing, though chases are generally short-lived. If the capture is not made quickly, the lynx will abandon the chase to conserve valuable energy.

Reproduction

Canada Lynx breed between March and April depending on the local climate. A female will come into estrus for three to five days during the breeding season and typically mate with only one male. Females not bred during their first estrus, or who lose a litter, my enter a second or even third estrus cycle. An individual male may mate with several females but males do not help with the rearing of young. Females reach sexual maturity at ten months, although they often delay breeding for another year, while males reach maturity at two or three years of age. After a 64 day gestation period, a litter of one to eight altricial (blind and essentially helpless) kittens is born between May and June. Kittens weigh 6 to 8 ounces at birth and are weaned by the time they are 12 weeks old. They do not begin hunting until they are at least seven months of age. Prior to this, the female catches prey for them and often brings live prey items back to the den for them to play with and kill before eating, to hone their predatory skills. Kittens disperse at around ten months, as the breeding season begins, but do not reach full adult size until around two years.

Populations

Though Canada lynx populations, particularly those in the southern portion of their range, have declined in many areas due to habitat loss, the International Union for Conservation of Nature (IUCN) lists them as a species of Least Concern. Most populations in Canada and Alaska remain abundant. Many lynx populations are cyclical, with cyclic peaks and troughs that typically lag 1-2 years after the peaks/troughs of the 8-10 year cycle of their primary prey, the snowshoe hare. Factors such as weather, forest conditions, and competitor abundance may also affect population variation. Climate change also poses a serious threat to the Canada lynx in the southern portion of its range and will likely cause that range to recede and move north.

Legal Status

Within the contiguous United States, Canada lynx are listed by the U.S. Fish and Wildlife Service (FWS) as a Threatened species in 14 states (Colorado, Idaho, Maine, Michigan, Minnesota, Montana, New Hampshire, New York, Oregon, Utah, Vermont, Washington, Wisconsin, Wyoming), with the addition of New Mexico pending (2011). Harvest of lynx remains legal in Alaska, and the use of trapping devices to capture lynx for scientific research or relocation may still occur elsewhere under permit from the FWS and the appropriate state agency.

General Overview of Traps Meeting BMP Criteria for Canada Lynx in the United States

Foothold restraining traps were used to capture lynx (Table 1) and examples, brief descriptions, and mechanical details of the various devices are given in the next section.[1]

Table 1. Overview of traps meeting BMP criteria for Canada lynx in the United States.

Trap Category	Jaw/Frame Characteristics	Inside Jaw/Frame Spread at Dog*	Inside Width at Jaw/ Frame Hinge Posts*
Foothold	Unmodified	5 1/4	5 7/16
	Padded	5	5 3/4
	Offset, laminated and/or wide	5 1/4	5 7/16
Power Assisted Foot Snare	Smooth, round rod, 1/8 inch cable	6 3/8	6

*inches

General Considerations When Trapping Lynx

Foothold Traps

- Many currently-used trap models meet specifications;
- Pan-tension set between two and four pounds may improve selectivity and foot placement in the trap;
- Can be used to capture several furbearer species;
- Captures and holds animals alive, allowing for release.

Powered Assisted Foot Snare

- Pan-tension set to four pounds may improve selectivity;
- Can be used to capture several furbearer species;
- Use of a minimum loop stop (plastic sleeve) and large diameter cable minimizes capture of smaller species;
- Cables often require replacement after capture;
- Captures and holds animals alive, allowing for release.

[1] Certain bodygrip traps have been shown to be humane lethal traps for harvesting lynx. A list of bodygrip traps that meet internationally accepted welfare standards may be seen at www.fur.ca/TRS_certified_traps.php. However, the capture efficiency data generally required for BMP inclusion are not currently available for these traps.

Specifications of Traps Meeting BMP Criteria for Canada Lynx in the United States

As more capture devices are tested and new information becomes available, they will be added to an updated list. Mechanical descriptions of tested traps are given as an aid to trappers or manufacturers who may wish to measure, build or modify traps to meet these specifications (Figure 2). Also, other commercially available traps, modified traps, or other capture devices not yet tested may perform as well as, or better than the listed BMP traps. References to trap names are provided to identify the specific traps tested. The following list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

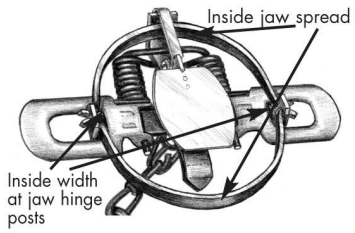

Figure 2.

Average mechanical measurements are rounded to the nearest 1/16 inch. There may be up to 1/8 inch variation in specifications on the part of the manufacturer. Manufacturers use recognizable names, such as "No. 2" coil-spring, to identify certain traps. However, there is no standardized system linking mechanical design features with trap names. The mechanical features of these traps are listed so that similar traps may be identified. The performance of anchoring systems was not specifically evaluated, however, methods of attachment are described for informational purposes.

Unmodified jaw traps (Figure 3)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/4 inches
Inner width: 6 1/4 inches
Inside width at jaw hinge posts: 5 7/16 inches
Jaw width: 5/8 inch
Jaw thickness: 3/16 inch
Main trap springs: Two 0.160 inch diameter wire coil-springs
Base plate: Reinforced, D-ring chain attachment.

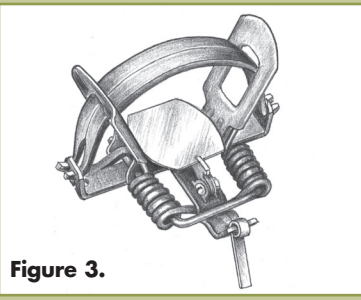
Figure 3.

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4–6) needs to be considered as well. The trap tested was the Oneida-Victor™ No. 3 coil-spring.

Additional Information

- Chain attachment used in trap testing: 30 inch center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two–four pounds of pressure triggered the trap, and was checked and readjusted as needed after every capture.

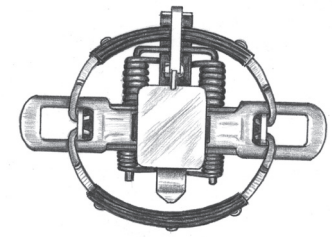

Figure 4.

Padded jaw traps (Figure 4)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 inches
Inner width: 6 inches
Inside width at jaw hinge posts: 5 3/4 inches
Jaw width: 9/16 inch round padded jaw
Jaw thickness: 3/8 inch
Padding: Manufacturer supplied rubber pads
Main trap springs: Two 0.145 inch diameter wire coil-springs
Additional springs: Two 0.115 inch diameter wire coil-springs
Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4-6) needs to be considered as well. The trap tested was the Oneida-Victor™ No. 3 Softcatch™ modified coil-spring, four-coiled.

Additional Information

- Chain attachment used in trap testing: 30 inch center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two–four pounds of pressure triggered the trap, and was checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based trap dye directly on the rubber pads. This device also meets BMP criteria for badgers, bobcats, red foxes, Eastern coyotes and Western coyotes.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 inches
Inner width: 6 inches
Inside width at jaw hinge posts: 5 3/4 inches
Jaw width: 9/16 inch round padded jaw
Jaw thickness: 3/8 inch
Padding: Manufacturer supplied rubber pads
Trap springs: Two 0.145 inch diameter wire coil-springs
Base plate: Reinforced, D-ring chain attachment

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4–6) needs to be considered as well. The trap tested was the Oneida-Victor™ No. 3 Softcatch™.

Additional Information

- Chain attachment used in trap testing: 18 inch center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two–four pounds of pressure triggered the trap, and was checked and readjusted as needed after every capture.
- Special considerations for practicality: Some damage to trap pads should be expected and will require occasional replacement as a normal part of trap maintenance and upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads.

Offset, Laminated or Wide jaw traps (Figure 5)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/4 inches
Inner width: 6 1/4 inches
Inside width at jaw hinge posts: 5 7/16 inches
Jaw width: 5/8 inch
Jaw thickness: 3/16 inch
Jaw thickness with lamination: 5/16 inch
Main trap springs: Two 0.145 inch diameter wire coil-springs
Additional springs: Two 0.115 inch diameter wire coil-springs
Base plate: Reinforced, D-ring chain attachment.

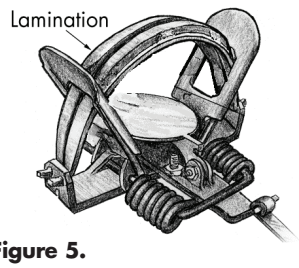

Figure 5.

Any trap that has similar specifications may be considered a BMP trap regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4–6) needs to be considered as well. The trap tested was the Oneida-Victor™ No. 3 coil-spring with above–jaw lamination, four coiled.

Additional Information

- Chain attachment used in trap testing: 30 inch center-mounted with three swivels, one in-line shock spring, and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension set so two–four pounds of pressure triggered the trap, and was checked and readjusted as needed after every capture.

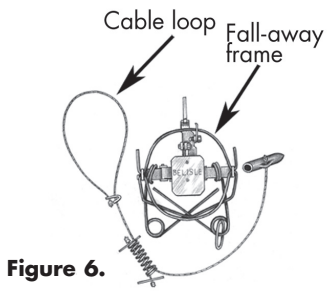

Figure 6.

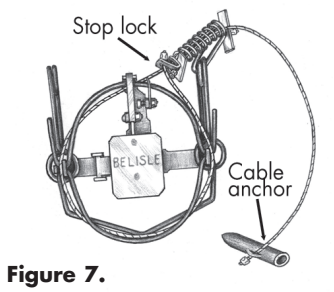

Figure 7.

Power Assisted Foot Snare (Figure 6, Figure 7)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 6 3/8 inches
Inner width: 5 3/4 inches
Inside width at frame hinge posts: 6 inches
Cable retention frame width: 1/8 inch, smooth round rod
Cable retention frame thickness: 1/8 inch rod
Main trap springs: Two 0.188 inch diameter rod quick release springs
Cable diameter: 1/8 inch cable
Minimum loop diameter: 2 inches
Base plate: Not reinforced

Any cable device that has similar specifications may be considered a BMP device regardless of brand or source of modification, although performance information on all other BMP criteria (see "Criteria for Evaluation of Trapping Devices": Introduction pages 4–6) needs to be considered as well. The trap tested was the Belisle™ No. 6.

Additional Information

- Cable attachment on device tested: Swivel and shock spring with a cable anchor.
- Selectivity features: Pan tension machine screw; pan tension was set so two pounds of pressure triggered the trap, and was checked and readjusted as needed after every capture; large cable diameter and available plastic sleeve work to prevent the cable from closing to a small diameter, thus eliminating the incidental take of small mammals such as squirrels, skunks, etc.
- Special considerations for practicality: Some damage and kinking of cables should be expected following capture and will require frequent replacement as a normal part of trap maintenance and upkeep. This device also meets BMP criteria for red foxes, gray foxes, bobcats, Eastern coyotes and Western coyotes.