Best Management Practices
Trapping Red Foxes in the United States
Best Management Practices (BMPs) are carefully researched recommendations 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 BMP have been tested and meet performance standards for animal welfare, efficiency, selectivity, practicality, and safety.

Trapping BMPs provide options, allowing for discretion and decision making in the field. It does not present a single choice that can or must be applied in all cases. They are meant to be implemented in a voluntary and educational approach. BMPs are the product of ongoing work that may be updated as additional traps are identified through future scientific testing.

The Red Fox at a Glance

Characteristics
The red fox is a member of the canine family and is similar in form to a small dog (Figure RF1). Adult red fox are typically 39-43 inches in length and weigh from 7-15 lbs. They have a long bushy tail equal to about 70% of their body length. Red fox display three color phases. The red phase is the most common in North America. Silver phase red fox are much less common and are primarily black, except for a white tip on the tail and silver frostings on the guard hair tips. Cross phase red fox are dark in coloration with light patches near the legs, shoulders, and hips, giving them a distinct cross pattern of dark fur across the shoulders and back. Red foxes can be distinguished from gray foxes by their white-tipped tail. Silver and cross phases rarely occur south of Canada. Multiple color phases can occur in the same litter. The scientific name is *Vulpes vulpes*.

Range
Red fox range across most of North America from Alaska and northern Canada south to central Texas. They occur from the east coast westward through the Rocky Mountains, and throughout the Cascade Range in the Pacific Northwest and northern California. They are absent from the southern coastal plain from North Carolina through Florida.

Habitat
Red fox occupy habitats within barren arctic regions, boreal forests, mountainous forest regions as far north as Alaska, agricultural and woodland habitats throughout their range, as well as suburban and urban areas. Habitat quality, particularly prey availability, is a limiting factor for red fox density, but has not limited the distribution of this species.

Food Habits
Red foxes are omnivores, consuming animals ranging from insects to small mammals, rabbits and sometimes pets. They commonly take ground-nesting birds and bird eggs, and turtles, frogs, and snakes. Berries and fruits are eaten when available.
**Reproduction**
Mating occurs from January through March, and generally occurs later in the northern parts of the range. Three to seven pups are born during March through May, about 51-53 days after breeding. Males and females may remain as breeding pairs for several years and work cooperatively to rear offspring. Females may breed prior to one year of age. Pups are weaned at eight weeks of age and typically disperse from their family range during fall. Males typically disperse greater distances than females.

**Populations**
Red fox usually occupy exclusive areas with little overlap of home range boundaries. Population densities range from one fox per three square miles of habitat to almost eight foxes per square mile in the best habitat. Home ranges in North America range from 2-8 square miles, however ranges in excess of 13 square miles have been observed in arctic regions.

**Comments**
The red fox is the most widely distributed carnivore in the world, occurring throughout North America, Europe, Asia, Africa, and Australia. The wide distribution serves as testament to the adaptability of the species, but was also facilitated by introductions in many areas. Red fox distribution in North America is the combined result of introductions of fox from Europe, which occurred in the late 1700s, and natural expansion of native fox populations from the northern latitudes.

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**General Overview of Traps Meeting BMP Criteria for Red Foxes in the United States**

Two basic types of traps were tested for red foxes: foothold restraining traps and cable restraints (Table RF2). Examples, brief descriptions, and mechanical details of the various makes and models that meet BMP criteria are given in the next section.

**Table RF2.** Overview of traps meeting BMP criteria for red foxes in the United States

<table>
<thead>
<tr>
<th>Trap Category</th>
<th>Jaw/Frame Characteristics</th>
<th>Inside Jaw/Frame Spread at Dog*</th>
<th>Inside Width at Jaw/Frame Hinge Posts*</th>
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<td>Padded</td>
<td>4 5/16 - 5 3/16</td>
<td>4 7/16 - 6 7/16</td>
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<td>4 5/8 - 5</td>
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<td></td>
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<td>4 7/16 - 5 1/2</td>
<td>4 9/16 - 5 9/16</td>
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<td>Powered Cable Device</td>
<td>Smooth, round rod, 1/8 inch cable</td>
<td>6 3/8</td>
<td>6</td>
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<td></td>
<td><strong>Cable Characteristics</strong></td>
<td><strong>Loop Diameter</strong></td>
<td><strong>Locks</strong></td>
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<td>Non-powered Cable Device</td>
<td>48 - 60 inches</td>
<td>6-8 inches</td>
<td>Relaxing locks</td>
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<td></td>
<td>3/32 or 1/8 inch diameter stranded cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Inches
General Considerations When Trapping Red Foxes

Jaw-type Traps

- Many currently used trap models meet specifications;
- Pan tension set to two pounds improves selectivity and foot placement in the trap;
- Captures and holds animals alive, allowing for release.

Powered Cable Devices (foot capture)

- Pan-tension set to four pounds improves selectivity;
- Large cable-loop diameter minimizes capture of smaller species;
- Cables require frequent replacement;
- Captures and holds animals alive, allowing for release.

Non-Powered Cable Devices

- The use of loop stops and breakaway devices can improve selectivity;
- Cables require frequent replacement;
- Captures and holds animals alive, allowing for release.

Specifications of Traps Meeting BMP Criteria for Red Foxes 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 RF3). 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. This list is provided for information purposes only, and does not imply an endorsement of any manufacturer.

These are average mechanical measurements which 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.

Padded Jaws (Figures RF4a, RF4b and RF4c)

Average Mechanical Description and Attributes

- Inside jaw spread (at dog): 4 1/2 inches
- Inner width: 4 7/8 inches
- Inside width at jaw hinge posts: 4 7/16 inches
- Jaw width: 9/16 inch padded jaw
- Jaw thickness: 3/8 inch
- Main trap springs: Two 0.130 inch wire-diameter coil springs
- Base plate: Not reinforced
- Padding: Manufacturer supplied rubber pads
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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 Softcatch coil spring.

Additional information

• Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and 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.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 1/2 inches
Inner width: 4 1/8 inches
Inside width at jaw hinge posts: 4 9/16 inches
Jaw width: 9/16 inch padded jaw
Jaw thickness: 3/8 inch
Padding: Manufacturer supplied rubber pads
Main trap springs: Two 0.131 inch wire-diameter coil springs
Additional springs: Two 0.100 inch wire-diameter coil springs
Base plate: Reinforced with D-ring

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 Softcatch modified coil-spring, four-coiled.

Additional information

• Chain attachment used in trap testing: 7 1/2 inch, center mounted with two swivels, one shock spring and anchored with a stake.
• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and 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. This device also meets BMP criteria for Eastern coyotes.
Average Mechanical Description and Attributes
Inside jaw spread (at dog): 4 5/16 inches
Inner width: 4 1/4 inches
Inside width at jaw hinge posts: 4 9/16 inches
Jaw width: 1/2 inch smooth round jaw
Jaw thickness: 1/4 inch
Main trap springs: Two 0.122 inch wire-diameter springs
Base plate: Not reinforced
Padding: Commercially available, post-production rubber pads

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 coil-spring trap with Humane Hold™ pads.

Additional Information
- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and 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.

Average Mechanical Description and Attributes
Inside jaw spread (at dog): 4 1/2 inches
Inner width: 4 5/8 inches
Inside width at jaw hinge posts: 5 inches
Jaw width: 5/8 inch padded jaw
Jaw thickness: 3/8 inch
Main trap springs: Two 0.137 inch wire-diameter coil springs
Base plate: Not reinforced
Padding: Manufacturer supplied rubber pads

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 pp. 4-6) needs to be considered as well. The trap tested was the BMI™ No. 2 padded coil-spring trap.

Additional Information
- Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and 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.
upkeep. Special care should be taken to prevent odor contamination of the rubber jaws. Avoid using petroleum-based dye directly on the rubber pads.

**Average Mechanical Description and Attributes**
- Inside jaw spread (at dog): 5 3/16 inches
- Inner width: 6 1/16 inches
- Inside width at jaw hinge posts: 6 7/16 inches
- Jaw width: 9/16 inch padded jaw
- Jaw thickness: 3/8 inch
- Padding: Manufacturer supplied rubber pads
- Main trap springs: Two 0.145 inch wire-diameter coil springs
- Additional springs: Two 0.115 inch wire-diameter coil springs
- Base plate: Reinforced with D-ring

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 3 Softcatch modified coil-spring, four coiled.

**Additional information**
- Chain attachment used in trap testing: 18 inch center mounted with three swivels, two shock springs and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and 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. This device also meets BMP criteria for Eastern and Western coyotes.

**Unmodified Jaws (Figures RF5a and 5b)**

**Average Mechanical Description and Attributes**
- Inside jaw spread (at dog): 4 1/2 inches
- Inner width: 4 7/16 inches
- Inside width at jaw hinge posts: 4 5/8 inches
- Jaw width: 7/16 inch smooth round jaw
- Jaw thickness: 1/8 inch
- Main trap springs: Two 0.130 inch wire-diameter springs
- Base plate: Not reinforced

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 coilspring.
Additional Information

• Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.

• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/4 inches
Inner width: 4 9/16 inches
Inside width at jaw hinge posts: 5 inches
Jaw width: 1/2 inch smooth round jaw
Jaw thickness: 1/8 inch
Main trap springs: Two 0.145 inch diameter wire coil springs
Base plate: Not reinforced

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring.

Additional Information

• Chain attachment used in trap testing: 9 1/2 inch center mounted with two swivels, one shock spring and anchored with a stake.

• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.

• Special considerations for practicality: This trap also meets BMP criteria for Eastern and Western coyotes.

Offset, Laminated and/or Wide Jaws (Figures RF6a, RF6b and RF6c.)

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 4 7/16 inches
Inner width: 4 1/4 inches
Inside width at jaw hinge posts: 4 9/16 inches
Jaw width: 7/16 inch
Jaw thickness: 1/8 inch
Jaw thickness with lamination: 5/16 inch
Lamination: 3/16, above jaw lamination
Main trap springs: Two 0.130 inch wire-diameter springs
Base plate: Not reinforced

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1 1/2 modified coil-spring trap, laminated (lamination on top of jaws).
Additional Information

• Chain attachment used in trap testing: 6 inch, center mounted with one swivel, one shock spring and anchored with a stake.
• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/16 inches
Inner width: 4 9/16 inches
Width at jaw hinge posts: 5 1/16 inches
Jaw width: 7/16 inch smooth round jaw
Jaw thickness: 5/16 inch
Jaw thickness with lamination: 1/2 inch
Jaw offset: 3/16 inch
Lamination: 3/16, above jaw lamination
Main trap springs: Two 0.135 inch wire-diameter coil springs
Base plate: Not reinforced

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 pp. 4-6) needs to be considered as well. The trap tested was the Woodstream™ Victor No. 1.75 coil-spring, modified with offset jaws, laminated (lamination on top of jaws).

Additional Information

• Chain attachment used in trap testing: 9 1/2 inch center mounted with two swivels, one shock spring and anchored with a stake.
• Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
• Special considerations for practicality: This device also meets BMP criteria for Eastern and Western coyotes.

Average Mechanical Description and Attributes

Inside jaw spread (at dog): 5 1/16 inches
Inner width: 4 9/16 inches
Inside width at jaw hinge posts: 4 3/4 inches
Jaw width: 3/8 inch smooth, oval jaw
Jaw thickness: 1/4 inch
Jaw offset: 3/16 inch
Main trap springs: Two 0.145 inch wire-diameter coil springs
Base plate: Not reinforced

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 pp. 4-6) needs to be considered as well. The trap tested was the Sleepy Creek™ No. 1 3/4 coil-spring, wide jaw, offset.

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Additional Information
- Chain attachment on traps tested: 9 1/2 inch center mounted with two swivels, one shock spring and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern coyotes.

Average Mechanical Description and Attributes
Inside jaw spread (at dog): 5 1/2 inches
Inside jaw spread between below jaw lamination: 5 inches
Inner width: 5 1/16 inches
Inside width at jaw hinge posts: 5 9/16 inches
Jaw width: 7/16 inch hexagonal jaw
Jaw thickness: 3/16 inch
Jaw thickness with lamination: 7/16 inch
Lamination: 1/4 inch below jaw lamination
Jaw offset: 3/16 inch
Main trap springs: Two 0.145 inch wire-diameter springs
Additional springs: Two 0.110 inch wire-diameter springs
Base plate: Reinforced with D-ring

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 pp. 4-6) needs to be considered as well. The trap tested was the Bridger™ No. 2 coil-spring modified with square jaw, offset laminated, four-coiled (lamination on bottom of jaw).

Additional Information
- Chain attachment used in trap testing: 18 inch center mounted with three swivels, two shock springs and anchored with a stake.
- Selectivity features: Brass pan tension machine screw; pan tension was set to two pounds for testing, and checked and readjusted as needed after every capture.
- Special considerations for practicality: This device also meets BMP criteria for Eastern and Western coyotes.
Powered Cable Devices (foot capture) (Figures RF7a and RF7b)

Average Mechanical Description and Attributes

Inside cable retention frame spread (at dog): 6 3/8 inches
Inner width: 5 3/4 inches
Width at jaw 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
Base plate: Not reinforced
Snare loop stop size: 2 inch

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 pp.4-6) needs to be considered as well. The trap tested was the Belisle™ Foot Snare.

Additional Information

• Cable attachment on device tested: Swivel and shock spring with a cable anchor.
• Selectivity features: Pan tension machine screw; large diameter cable and available plastic sleeve often prevents the cable from closing to a small diameter, thus allowing small animals such as squirrels, skunks and some raccoons to escape.
• Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of trap maintenance and upkeep. This device also meets BMP criteria for Eastern and Western coyotes.

Non-Powered Cable Devices (Figures RF8a and RF8b)

Average Mechanical Description and Attributes

Cable diameter: 3/32 inch, 7 x 7 or 7 x 19 stranded cable
Cable length: 48 and 60 inches
Cable loop stop size: 2 1/2 inches
Cable lock: Relaxing locks
Catch loop size: 6 - 8 inches
Stop button: 3/32 inch ferrule

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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 pp.4-6) needs to be considered as well. Relaxing locks used were the Reichart™ washer lock, #4 Gregerson™ lock, and the BMI™ Slide Free lock.

Additional Information
• 3/32 inch diameter cable extensions made of 7 x 7 stranded cable of 12, 14, 16, or 24 inches in length were used for anchoring cable restraint devices, connected by a #9 swivel.
• The bottom of the cable restraint catch loop should be ≥6 inches to ≤8 inches from the surface directly below the set.
• Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal’s foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists*.
• Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. This device also meets BMP criteria for Eastern coyotes.

Average Mechanical Description and Attributes
Cable diameter: 1/8 inch, 7 x 7 or 7 x 19 stranded cable
Cable length: 48 and 60 inches
Cable loop stop size: 2 1/2 inches
Cable lock: Relaxing locks
Catch loop size: 6 - 8 inches
Stop button: 1/8 inch ferrule

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 pp.4-6) needs to be considered as well. Relaxing locks used were the Reichart™ washer lock, #4 Gregerson™ lock, and the BMI™ Slide Free lock.

Additional Information
• 1/8 inch diameter cable extensions made of 7 x 7 stranded cable of 12, 14, 16, or 24 inches in length were used for anchoring cable restraint devices, connected by a #9 swivel.
• The bottom of the cable restraint catch loop should be ≥6 inches to ≤8 inches from the surface directly below the set.
• Special considerations for selectivity: Break-away devices allow escape with sufficient force; the use of a maximum loop stop prevents larger animals from entering the restraint while the minimum loop prevents the restraint from closing around an animal’s foot. Break away amounts may vary based on regional needs where the potential capture of protected mammals and/or livestock exists*.
• Special considerations for practicality: Some damage and kinking of cable should be expected and will require frequent replacement as a normal part of maintenance and upkeep. This device also meets BMP criteria for Eastern coyotes.

* Break-aways (“S” hooks, “J” hooks and ferrules) used with manufacturer ratings of 185 lbs. and 285 lbs.