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IM 2 Responding to Lynx Incidental Captures

Commitment: MDIFW will continue to have biologists respond to lynx incidental captures (anywhere in the state) to release or assist in the release of the animal, to assess the animal for injuries, treat injuries, and to transport the animal if veterinary care is warranted with some exceptional circumstances (i.e., inclement weather, travel time, time of day, etc.).

Effectiveness monitoring: MDIFW will summarize the data tracked in the database to assess whether the goals of the Plan have been met (i.e., that the majority of lynx are released after incidental capture with no more than nine lynx requiring veterinarian care for a severe injury, and no more than three lynx dying from trap related injuries during the 15-year permit period).

Reporting: MDIFW will summarize data on lynx incidental captures in traps in annual reports and will include information on whether the goals were achieved or changed circumstance was triggered.

PI 2 Investigate all lynx incidental captures

Commitment: MDIFW Warden Service will continue to investigate all lynx incidental captures throughout the 15-year permit period to document take levels and compliance with trapping regulations.

PI 3 Cooperate with USFWS on Investigations

Commitment: MDIFW will continue to inform USFWS Special Agents of lynx incidental captures.

Activity this report period: During the 2017-18 trapping season, 11 lynx were incidentally captured in foothold traps set for canids. No lynx were caught in killer-type traps set for marten and fisher, in aquatic sets, or traps set by ADC agents. All 11 lynx were captured by licensed fur-trappers; none were captured by trappers enrolled in MDIFW’s Predator Management Program (See Item 5). All incidental lynx captures in traps were investigated by Maine Game Wardens for compliance with Maine’s trapping regulations and USFWS Special Agents were immediately notified of all lynx captures and any violations.

The USFWS issued an incidental take permit that took effect on November 17, 2014 that covers MDIFW’s trapping program for the incidental capture of up to 195 lynx in legal traps over the 15-year permit period. Of those 195 lynx, the permit allows up to nine lynx to be released after treatment for more severe injuries and up to three to be killed or non-releasable due to severity of capture related injuries. This fall, trappers released three of 11 lynx and reported that there was no visible sign of injury when released. Eight of 11 lynx were sedated and released from traps by MDIFW biologists: seven had no or minor injuries and one lynx had an injury that required veterinarian care and rehabilitation before release (see Item 8, for more information). The trap was legally set, thus this injury counts as our first of nine allowable takes of a lynx with a severe injury that required veterinarian care before release. No lynx were killed or non-releasable. All 11 lynx incidental captures were in legally set traps and no changed circumstance was triggered.
Item 2. Any changes to trapping related regulations that are required by the ITP or that may otherwise affect the ITP or this permit.

RC 1 Restrict placement of killer-type traps set on land in all WMDs that have resident lynx

*Commitment in Original Plan:* Following issuance of the permit, MDIFW will maintain the current regulation that requires killer-type traps that have a jaw spread greater than five inches to be set on leaning poles. Although exclusion devices are currently permitted in WMD 7, 14, 18 and 19, through the rule making process, MDIFW intends to permit killer-type traps with an inside jaw spread ≤ 7 ¼ inches to be set on the ground if placed within a lynx exclusion device in WMD 1-6 and 8-11 (currently not permitted by the Consent Decree). An exclusion device will not be required for blind sets (as described in Section 3) or leaning pole sets.

*Amended Commitment (2015):* Under this amended plan, MDIFW will prohibit the setting of killer-type traps when they are set on or above ground in the lynx zone, unless they are set with an exclusion device or as described in Rule 09-137 Chapter 4.01 K page 29.

*Effectiveness monitoring:* MDIFW will track and report annually on the number of lynx caught in killer-type traps. MDIFW will immediately notify the USFWS if changed circumstance #2 and 3 are triggered (Section 5.4).

*Reporting:* In addition to reporting described in monitoring section, MDIFW will inform the USFWS of any rule changes annually.

RC 4 Restrict foothold traps types and configurations when set on land

*Commitment:* MDIFW will continue to require at least one swivel on the chain of foothold traps in lynx WMDs and will prohibit the upland use of traps with teeth statewide.

*Amended Commitment (2015):* On land in lynx WMDs, MDIFW will require trap chains to be mounted within the central portion of the base of the trap and have at least three swiveling points: one at the base of the trap, one midway in the chain, and one at the anchoring point (except as described in Appendix 2 in Maine’s ITP). Traps will be required to be staked with a catch circle clear of woody vegetation or other obstructions (Appendix 2 in Maine’s ITP). MDIFW will prohibit the upland use of foothold traps with teeth statewide.

*Effectiveness monitoring:* MDIFW will immediately notify the USFWS if changed circumstance #2 (i.e., injury rate increases) is triggered.

*Reporting:* MDIFW will notify the USFWS in annual reports of when regulatory changes occurred.

*Activity this report period:* No regulatory changes this year.
**Item 3. Data on lynx capture reporting rates & evaluation of compliance with reporting requirements.**

**Measure in ITP: RC 2 Mandatory Reporting**

**Commitment:** MDIFW will continue to require any lynx caught incidentally, dead or alive, during any trapping season to be reported to an MDIFW official as soon as possible and prior to releasing the lynx from the trap, unless an MDIFW official cannot be reached in time to prevent injury to the lynx. Any lynx released under this provision must be reported to MDIFW within 24 hours of the time it was discovered.

**Reporting:** Data on reporting rate will be compiled by MDIFW biological staff and reported to the USFWS in an annual report.

**Measure in ITP: IM 1 Trapped Lynx Hotline**

**Compliance monitoring:** MDIFW will track in a database the number of confirmed lynx reports, and whether the report was received prior to the animal’s release. Data from each lynx capture will be entered into a database annually.

**Reporting:** MDIFW will summarize data in annual reports.

**PI 2 Investigate all lynx incidental captures**

**Commitment:** MDIFW Warden Service will continue to investigate all lynx incidental captures throughout the 15-year permit period to document take levels and compliance with trapping regulations.

**PI 3 Cooperate with USFWS on Investigations**

**Commitment:** MDIFW will continue to inform USFWS Special Agents of lynx incidental captures.

**Activity this report period:** During the 2017-18 trapping season, 11 lynx were captured in foothold traps. No lynx were captured in killer-type traps (Table 1). As required by State law, trappers contacted MDIFW prior to or within 24 hours of releasing the lynx. MDIFW biologists or game wardens responded and released eight of 11 lynx. Trappers reported releasing three lynx. MDIFW game wardens investigated all 11 lynx incidental captures. All 11 lynx were captured in legal traps that were legally set. Thus, no warnings or summon were issued. We notified USFWS Special Agents of all captures and investigations. A summary of reporting rates and compliance with reporting are provided in Table 1.
Table 1. Summary of lynx captures reported by trappers as required by Maine’s trapping regulations.

<table>
<thead>
<tr>
<th>Date incident</th>
<th>Date reported</th>
<th>Type of Trap</th>
<th>Reported by trapper</th>
<th>How Released</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>Yes-within 24 hrs of release</td>
<td>Released by trapper</td>
</tr>
<tr>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>Yes-within 24 hrs of release</td>
<td>Released by trapper</td>
</tr>
<tr>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/20/2017</td>
<td>10/20/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/20/2017</td>
<td>10/20/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/22/2017</td>
<td>10/22/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/24/2017</td>
<td>10/24/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>10/30/2017</td>
<td>10/30/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
<tr>
<td>11/10/2017</td>
<td>11/10/2017</td>
<td>Foot-trap</td>
<td>Yes-within 24 hrs of release</td>
<td>Released by trapper</td>
</tr>
<tr>
<td>11/21/2017</td>
<td>11/21/2017</td>
<td>Foot-trap</td>
<td>Yes-prior to release</td>
<td>Biologist sedated lynx</td>
</tr>
</tbody>
</table>
Item 4. Data on compliance with visible bait regulations, compliance based on investigations of lynx incidental capture events.

RC 3 Restrict the Use of Visible Bait

Commitment: MDIFW will continue to restrict the use of visible bait (e.g., meat, bones, feathers, hair) that may attract a lynx to a set.

Effectiveness monitoring: MDIFW will document whether visible bait was used at each lynx incidental capture to ensure compliance with this regulation. Any use of visible bait by trappers will be tracked in a database. Additional information may come from MDIFW’s evaluation of data collected through MDIFW’s Warden Service check commitment in lynx WMDs (see minimization measure PI4).

Reporting: MDIFW biological staff will compile data on use of visible bait, if any, and provide in an annual report to the USFWS.

PI 2 Investigate all lynx incidental captures

Commitment: MDIFW Warden Service will continue to investigate all lynx incidental captures throughout the 15-year permit period to document take levels and compliance with trapping regulations.

PI 3 Cooperate with USFWS on Investigations

Commitment: MDIFW will continue to inform USFWS Special Agents of lynx incidental captures.

Activity this report period: During the 2017-18 trapping season, 11 lynx were captured in foothold traps and were investigated by MDIFW game wardens. All of the traps were legally set and found in compliance with Maine’s visible bait restriction (Table 2). USFWS Special Agents were notified of all lynx captures.

Table 2. For the 2017-18 trapping season 11 of 11 traps that caught lynx were set in compliance with Maine’s visible bait regulations.

<table>
<thead>
<tr>
<th>Report Number</th>
<th>Date reported</th>
<th>Date incident</th>
<th>Type of Trap</th>
<th>summons</th>
<th>Bait visible</th>
<th>WS investigation</th>
<th>Legal Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-TRP001</td>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP002</td>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP003</td>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP004</td>
<td>10/19/2017</td>
<td>10/19/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP005</td>
<td>10/20/2017</td>
<td>10/20/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP006</td>
<td>10/20/2017</td>
<td>10/20/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP007</td>
<td>10/22/2017</td>
<td>10/22/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP008</td>
<td>10/24/2017</td>
<td>10/24/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP009</td>
<td>10/30/2017</td>
<td>10/30/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP010</td>
<td>11/10/2017</td>
<td>11/10/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>2017-TRP011</td>
<td>11/21/2017</td>
<td>11/21/2017</td>
<td>Foot-trap</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Warden Service (WS) investigates all lynx captures for compliance with Maine’s trapping laws, however in this table if WS investigation field equals yes, then the trap was not legal and additional investigation was needed. Conversely when WS investigation column equals no, then the trap was determined to be legally set and no additional investigation was necessary.
Item 5. Summary of updated incidental capture database and evaluation of compliance with ITP objectives.

PI 2 Investigate all lynx incidental captures

Commitment: MDIFW Warden Service will continue to investigate all lynx incidental captures throughout the 15-year permit period to document take levels and compliance with trapping regulations.

PI 3 Cooperate with USFWS on Investigations

Commitment: MDIFW will continue to inform USFWS Special Agents of lynx incidental captures.

Activity this report period: USFWS Special Agents were notified of all lynx incidental captures and investigations. Table 3 provides a summary of compliance with Maine’s minimization measures.

Table 3. Summary of 2017 incidental capture of lynx from MDIFW’s incidental capture database for compliance with ITP objectives.

<table>
<thead>
<tr>
<th>Report Number</th>
<th>Date of incident</th>
<th>Reported by trapper</th>
<th>PMP trapper</th>
<th>Type of Trap</th>
<th>Legal set</th>
<th>Bait visible</th>
<th>Jaw spread</th>
<th># Swivels</th>
<th>Center-mount</th>
<th>Securing method</th>
<th>Disposition</th>
<th>Sex</th>
<th>Injury</th>
<th>Injury score</th>
<th>Degree of injury</th>
<th>Released</th>
<th>How Released</th>
<th>Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-TRP001</td>
<td>10/19/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>4.75</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Female</td>
<td>No</td>
<td>0</td>
<td>n/a</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/19/2017</td>
</tr>
<tr>
<td>2017-TRP002</td>
<td>10/19/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.13</td>
<td>6</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Unknown</td>
<td>No</td>
<td>not sedated</td>
<td>Yes</td>
<td>Trapper</td>
<td>10/19/2017</td>
<td></td>
</tr>
<tr>
<td>2017-TRP003</td>
<td>10/19/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.13</td>
<td>6</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Unknown</td>
<td>No</td>
<td>not sedated</td>
<td>Yes</td>
<td>Trapper</td>
<td>10/19/2017</td>
<td></td>
</tr>
<tr>
<td>2017-TRP004</td>
<td>10/19/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.00</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Female</td>
<td>No</td>
<td>0</td>
<td>n/a</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/19/2017</td>
</tr>
<tr>
<td>2017-TRP005</td>
<td>10/20/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>n/a</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Female</td>
<td>Yes</td>
<td>1</td>
<td>minor</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/20/2017</td>
</tr>
<tr>
<td>2017-TRP006</td>
<td>10/20/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>n/a</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Female</td>
<td>Yes</td>
<td>1</td>
<td>minor</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/20/2017</td>
</tr>
<tr>
<td>2017-TRP007</td>
<td>10/22/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.38</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Male</td>
<td>No</td>
<td>0</td>
<td>n/a</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/22/2017</td>
</tr>
<tr>
<td>2017-TRP008</td>
<td>10/24/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.38</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Male</td>
<td>No</td>
<td>0</td>
<td>n/a</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/24/2017</td>
</tr>
<tr>
<td>2017-TRP009</td>
<td>10/30/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.25</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Male</td>
<td>No</td>
<td>0</td>
<td>n/a</td>
<td>Yes</td>
<td>Biologist</td>
<td>10/30/2017</td>
</tr>
<tr>
<td>2017-TRP010</td>
<td>11/10/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>6.25</td>
<td>3</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Unknown</td>
<td>No</td>
<td>not sedated</td>
<td>Yes</td>
<td>Trapper</td>
<td>11/10/2017</td>
<td></td>
</tr>
<tr>
<td>2017-TRP011</td>
<td>11/21/2017</td>
<td>Yes</td>
<td>No</td>
<td>Foot-trap</td>
<td>Yes</td>
<td>No</td>
<td>5.38</td>
<td>6</td>
<td>Yes</td>
<td>staked</td>
<td>Alive</td>
<td>Male</td>
<td>Yes</td>
<td>3</td>
<td>major</td>
<td>Yes</td>
<td>Biologist</td>
<td>2/23/2017</td>
</tr>
</tbody>
</table>

Note: If jaw-spread is n/a, then the trap was set in a WMD without jaw-spread restrictions. If injury states not sedated, the animal was released by the trapper or a game warden and an injury score could not be assigned. However, trappers reported that none of the 3 lynx had a visible injury when released from traps.
Item 6a. Copy of updated standard operating procedures.

IM 3 Use Standard Operating Procedures

Commitment: MDIFW will continue to implement standard operating procedures for responding to lynx captures (see Appendix 8 of ITP) and will update these procedures in consultation with a veterinarian, every three years or as necessary. Any changes to these protocols will be communicated to the USFWS in annual reports.

Reporting: MDIFW will provide a copy of updated standard operating procedures in annual reports.

Activity this report period: No activity this report period. These procedures were reviewed and updated in 2016 (see 2016 Annual Report to the USFWS).

Note: We will be updating our standard operating procedures prior to the 2018 trapping season to reflect that any lynx with a severe injury (e.g., injury score of 3) that requires that the animal be held before release will be transported to Tuft’s Wildlife Clinic for observation and care.

Item 6b. Copy of injury scoring system.

IM 3 - Develop Injury Score System

Commitment: Within one year of permit issuance, MDIFW, in consultation with a veterinarian, will develop an injury score system that is appropriate for live animals. MDIFW will work with a licensed veterinarian to update the score system every three years or as necessary during the permit period.

Reporting: MDIFW will provide a copy of updated injury scoring system in annual reports.

Activity this report period: No activity this report period. An injury scoring system was developed by Dr. David Cloutier, DVM in consultation with MDIFW in 2015 and the score system was evaluated in 2016, thus the next review is due in 2019.
Item 7. Updated list of cooperating veterinarians.

IM 4 Maintain List of Cooperating Veterinarians

Commitment: MDIFW will continue to maintain a list of cooperating veterinarians who are willing to care for lynx injured by incidental trapping.

Implementation: This list will be updated annually prior to the start of the trapping season.

Reporting: MDIFW will provide the list of cooperating veterinarians in annual reports.

Activity this report period: 2017-2018 List of Cooperating Veterinarians

1. Dr. David Cloutier, DVM and staff – Veazie Veterinarian Clinic, 1522 State Street, Veazie, Maine, (207)941-8840

2. Dr. Ron Miles DVM, Foxcroft Veterinary Services, Dover-Foxcroft, Maine, (207) 564-2144.

3. Dr. Bob Clark, DVM, Lisbon Road Animal Hospital, 1981 Lisbon Road, Lisbon, ME, (207) 784-5421.
Item 8. Summary of any lynx treated for capture related injuries

IM 5 Rehabilitate Injured Lynx

Commitment: MDIFW will transport lynx injured from incidental trapping (when warranted as described in Appendix 8 of Maine’s ITP) to the nearest cooperating veterinarian, cover the costs of rehabilitating the animal, and, if possible, release the animal back into the wild. If a veterinarian determines that a lynx requires special medical attention or rehabilitation, the animal will be transported to a facility that can provide these services. This may include transporting the lynx out-of-state (e.g., Tufts University). As a component of effectiveness monitoring, MDIFW will equip rehabilitated lynx released back to the wild with radio collars to assess whether the treated injury contributes to the mortality of the animal post release.

Effectiveness monitoring: MDIFW will track in a database and report annually on the number of lynx that require veterinarian care, the outcome of the treatment (i.e., released, held in captivity, euthanized), and post-release monitoring. If the number of severe injuries increases and triggers changed circumstances, MDIFW will implement a contingency plan that is described in change circumstance #2 (see Section 5.4 of Maine’s ITP).

Reporting: MDIFW will provide a summary of any lynx treated for capture related injuries in annual reports.

Activity this report period: In late November, we responded to an incidental capture of a healthy adult male lynx. The weather was unusually cold with overnight temperatures between 1 and 10 degrees F. During the injury assessment by staff, several toes on the capture foot appeared stiff from the cold indicating the possibility of frostbite. Following established procedures, the injury was treated in the field before transporting the lynx to Veazie Veterinarian Clinic for examination and treatment by a veterinarian. Dr. Cloutier examined the lynx, palpated the foot to help restore blood flow and reduce swelling, and recommended observation of the lynx before release. The lynx was held for observation and then reassessed by Dr. Cloutier on December 4. Tissue damage from the cold injury was detected and the lynx was transported to Tuft’s Wildlife Clinic. A soft tissue surgeon at Tuft’s Wildlife Clinic examined the lynx and amputated the distal end of three toes on the capture foot. The lynx was held at Tuft’s Wildlife Clinic for observation and care for 11 weeks. The surgeon reexamined the lynx and determined that the injury was healed. On February 22, the lynx was bearing full weight on the capture foot and was cleared for release by the veterinarian in charge of his treatment. The USFWS was notified of the injury and approved all treatment and release plans.

On February 23, 2018, MDIFW biological staff released the lynx with a GPS collar near the capture location. The collar was programmed to obtain a fix every seven hours and transmit these locations via satellites twice a week. However, terrain and vegetation can impact the frequency of transmissions. Based on this program, the collar is anticipated to provide locations for several years. Although we have had issues with GPS collars providing the amount of locations and battery life that we expected, to date this collar has been functioning properly.
As of this report, we have been monitoring the animal’s locations and movement patterns (Figure 1) for nearly five months and his movements and behavior are consistent with other lynx that have been captured and radio collared by biologists in northern Maine. Although movements away from the initial capture location do naturally occur (e.g., dispersal), he has remained near the initial capture location, indicating that he was a resident with an established home range when captured. There is no evidence that the capture event or his injury have affected his movements (i.e., not avoiding the capture area) or feeding behavior. In March, we investigated an area where the lynx was spending considerable time and located the remains of three cached snowshoe hares. Caching of snowshoe hares is common among lynx when they have captured more prey than they immediately need. Telemetry locations and tracks at the sites indicated that he was periodically returning to the site to feed on the cached hares. We will continue to monitor this animal and keep the USFWS Maine Field Office informed of any changes. To date, the lynx has been exhibiting normal movements and behavior. Although not a condition of this permit, 11 lynx captured by trappers have been equipped with radio collars to learn more about their habitat preferences and space use. These lynx have also been behaving similarly to lynx captured and radio collared by biologists in northern Maine.

**Figure 1.** Radio collar locations of a male lynx released after a severe injury indicate that this lynx is a resident with an established home range and normal movement patterns.
Item 9. Summary of staff training on injury assessment and lynx handling procedures.

IM 6 Injury Evaluation Training for Staff

Commitment: MDIFW wildlife biologists will be required to attend this course at least once every three years if their responsibilities include responding to incidentally trapped lynx. Any new biologists will not be permitted to respond to lynx captures until they have received such training, unless they accompany trained biologists.

Reporting: MDIFW will provide summary of trainings in annual reports.

Activity this report period: A formal training was not required this year, since Dr. David Cloutier, DVM provided a full day training course for MDIFW wildlife biological staff in September of 2015. The next formal lynx response training is required prior to the 2018-19 trapping season. Although not a condition of this permit, MDIFW Wildlife Division staff periodically attend a two-day wildlife chemical immobilization workshop. During the summer of 2017, regional and RAS wildlife biologists were required to participate in this training.

Table 4. Summary of staff training on injury assessment and handling procedures for lynx prior to and after permit issuance.

<table>
<thead>
<tr>
<th>Date</th>
<th>Instructor</th>
<th>Number of Staff</th>
<th>Compliance Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/2/2012</td>
<td>Dr. Sherburne, DVM</td>
<td>13 Regional Wildlife Biologists</td>
<td>Prior to Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 RAS Wildlife Biologists</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Administration Biologist</td>
<td></td>
</tr>
<tr>
<td>10/8/2013</td>
<td>Dr. Sherburne, DVM</td>
<td>15 Regional Wildlife Biologists</td>
<td>Prior to Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 RAS Wildlife Biologists</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Administration Biologist</td>
<td></td>
</tr>
<tr>
<td>10/23/2014</td>
<td>Scott McLellan – wildlife biologist¹</td>
<td>17 Regional Wildlife Biologists</td>
<td>Prior to Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Administration Biologist</td>
<td></td>
</tr>
<tr>
<td>9/03/2015</td>
<td>Dr. Cloutier, DVM</td>
<td>13 Regional Wildlife Biologists</td>
<td>Within 1 year of Permit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 RAS Wildlife Biologists</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 Administration Biologist</td>
<td></td>
</tr>
</tbody>
</table>

¹A half-day refresher course provided to regional biological staff at their annual section meeting with review provided by a staff biologist who has received two previous trainings and responded to lynx takes since 2004.
Item 10. Summary of veterinarian oversight at lynx handlings.

IM 7 Veterinary Oversight

Commitment: MDIFW will have a veterinarian accompany staff on at least three lynx incidental captures within each three-year period for a minimum of 15 evaluations of captured lynx during the permit period to ensure injury evaluations by MDIFW staff are assessed correctly.

Reporting: MDIFW will provide summary of veterinarian oversight in annual reports.

Activity this report period: This fall, during the injury assessment of a male lynx, staff noted that several toes on the capture foot appeared stiff from the cold indicating the possibility of frostbite. Following established procedures, biological staff treated the injury in the field before transporting the lynx to Veazie Veterinarian Clinic. Dr. Cloutier examined the lynx and concurred with MDIFW’s decision to treat in the field and transport to a veterinarian (See Item 8 for more details).
**Item 11. Summary of any activities involving orphaned kittens (#, response, outcome).**

**IM 8 Radiocollar orphaned lynx kittens or hold kittens in captivity until their mother is released from rehabilitation facility**

*Commitment:* If an adult female with kittens is killed in a trap or taken by MDIFW for treatment at a rehabilitation center, MDIFW will work to capture the kittens if they are still in vicinity of the capture site (unless as described on page 94 of MDIFW ITP application). Captured kittens will either be equipped with radio collars to document their survival or held in captivity until the female can be released. In the event that rehabilitated females cannot be released back to the wild, kittens that are captured will be equipped with radio collars and released near the capture site.

*Reporting:* MDIFW will continue to immediately notify the USFWS of any incidental lynx captures (see minimization measure PI 3 in Section 5.2 of Maine’s ITP). MDIFW will annually report to USFWS any activities involving orphaned kittens including the number, response, and outcome (e.g., collared, held in captivity).

*Activity this report period:* Eleven lynx were captured this fall and 10 lynx were released on-site immediately after capture. The one lynx that was not released immediately was an adult male. No lynx kittens were orphaned or held in captivity this trapping season.
Item 12. Summary of meetings with Maine Trapping Associations and other significant interactions with licensed or otherwise authorized trappers.

O&E 1 Reinforce Compliance

Commitment: MDIFW wildlife biologists and game wardens will continue to promote compliance with trapping regulations through interactions with trappers at annual Maine Trappers Association (MTA) meetings, at fur rendezvous events, and during casual interactions with trappers (i.e., responding to incidental lynx captures, investigating compliance with trapping laws).

Reporting: MDIFW will notify the USFWS of meetings with the MTA and other significant interactions with licensed or otherwise authorized trappers in annual reports.

Activity this report period:

March 31, 2017. Presented at Spring Furbearer meeting in Augusta. Discussed harvest data, research needs, and trapping regulations.

April 5, 2017. Meet with MTA leadership at Augusta MDIFW office. Discussed season dates, status of lynx, and exclusion devices

April 20 and 21, 2017. Trapping Matter’s Workshop, Brewer Maine. Agency staff with Maine trappers participated in a workshop to discuss trapping demographics, role of trapping in wildlife management, trapping techniques and tools.


September 15 and 16, 2017. Staffed booth at MTA Fall Rendezvous. Discussed exclusion devices and trapping regulations with trapping community.


Regional MDIFW Open House (Fall 2017) – Trapper’s invited to regional MDIFW headquarters to meet with biologists and game wardens to review their exclusion devices for compliance with MDIFW’s conibear regulations.
Item 13. Link to MDIFW’s updated annual regulation booklet and MDIFW’s website providing information on lynx biology, avoiding lynx incidental captures, and current trapping regulations.

O&E 2 Update the Annual Regulation Booklet

Commitment: Each year, MDIFW will update a summary booklet that describes the current laws and regulations that govern hunting and trapping in Maine. This booklet includes a special lynx regulation page that describes all the current regulations to minimize and report lynx captures. MDIFW’s Information and Education Division will annually produce the Regulation Booklet (i.e., State of Maine Hunting and Trapping Laws and Rules). Wildlife biologists will work with the Information and Education Division to annually review and update regulations that may affect the incidental take of lynx. The regulation booklet will be distributed to the public via printed copies at MDIFW offices and on the internet.

O&E 5 Maintain Website Information

Commitment: MDIFW will maintain and update one or more webpages on MDIFW’s website that presents information on lynx biology, avoiding lynx incidental captures, and current trapping regulations during the 15-year permit period.

Reporting: MDIFW will provide a web link to MDIFW’s lynx page in annual reports.

Activity this report period: For the second year, the current laws and regulations that govern trapping in Maine were printed in a stand-alone booklet separate from hunting laws. It also contains the trapper information booklet (see Item 14), thus negating the need for two booklets. The trapping laws booklet is updated annually and remains available in print where trapping licenses are sold, at MDIFW offices, at trapper education classes, and online.


The following pages relevant to lynx ecology and avoiding lynx while trapping remain on MDIFW’s website:

Item 14. Confirmation of the annual trapper mailing and copy of the section of the Trapper Information Booklet mailed to all licensed trappers.

O&E 3 Update Annual Trapper Information Booklet

*Commitment:* MDIFW will annually update the Trapper Information Booklet (Appendix 4 in Maine’s ITP) and will include the section of the booklet (approximately four pages) that pertains to lynx avoidance in its annual trapper mailing (i.e. letter) to all licensed or otherwise authorized trappers. For landowners that trap on their own land, MDIFW will gather contact information through MDIFW’s fur registration system and include these individuals in the annual mailing. The booklet, in its entirety, will be available on MDIFW’s website, emailed through Gov-Delivery, or a printed copy will be mailed upon request.

*Reporting:* MDIFW will confirm that the mailing occurred and provide a copy of the section of the booklet mailed to all licensed or otherwise authorized trappers in annual reports.

*Activity this report period:* This year’s mailing to licensed trappers included a letter and portions of the trapper law summary book relevant to lynx avoidance (Appendix 1). The mailing was prepared by querying the licensing databases for licensed trappers, the ADC database for agents, and internal department databases for warden and biologist addresses. Letters were printed by Central Printing and mailed through State Postal services on October 13, 2017. The numbers of individuals holding trapping licenses included in the mailing is shown in the table below.

| Complimentary Disabled Veteran Lifetime Trapping | 268 |
| Nonresident Infant Lifetime Junior Trapping License | 2 |
| Resident 65 Year Old Lifetime trapping License | 350 |
| Resident 66 Year Old Lifetime Trapping License | 190 |
| Resident 67 Year Old Lifetime Trapping License | 123 |
| Resident 68 Year Old Lifetime Trapping License | 88 |
| Resident 69 Year Old Lifetime Trapping License | 53 |
| Resident Complimentary Lifetime Trapping | 1003 |
| Resident Infant Lifetime Junior Trapping License | 154 |
| Resident Lifetime Junior Trapping License | 74 |
| Nonresident Bear Trapping Permit | 0 |
| Nonresident Trapping | 133 |
| Resident Apprentice Trapping | 26 |
| Resident Bear Trapping Permit | 0 |
| Resident Junior Trapping | 149 |
| Resident Serviceman Trapping | 1 |
| Resident Trapping | 2065 |
| Nonresident Apprentice Trapping | 1 |
| Nonresident Youth Lifetime Junior Trapping | 2 |
| Resident Lifetime Trapping License (Upgrade from Youth) | 22 |
| ADC agents | 0 |
| MDIF&W Wardens and Biologists | 115 |
| Total | 4,704 |

*Note:* Individuals that hold more than one license are mailed one copy of the trapper mailing (e.g., ADC agents and bear trappers are required to have a trapping license to set a trap; to avoid sending duplicate mailings we did not mail bear trapping permit holders or ADC agents a mailing thus in the table these are set to 0. In 2017, there were 221 licensed ADC agents.)
Item 15. Summary of update and distribution of “How to Avoid Incidental Take of Lynx” brochure.

O&E 4 “How to avoid the incidental take of lynx” Brochure

**Commitment:** Within one year after the permit is issued and every five years thereafter, or anytime when trapping regulations change that affect the methods trappers use to avoid incidentally trapping lynx, MDIFW will update, print, and distribute the brochure “How to avoid the incidental take of lynx”, to all license or otherwise authorized trappers. This brochure will include a description of the avoidance and minimization measures described in this Plan and will also be available on MDIFW’s website.

**Reporting:** MDIFW will provide information on any updates and the distribution of brochures to licensed trappers in annual reports.

**Activity this report period:** No activity this report period, since the brochure was updated with new regulations and distributed to all licensed or otherwise authorized trappers prior to the opening of the 2015-2016 trapping season. The brochure remains available on our website and by request. Unless a regulatory change occurs, compliance has been met until the 2020-2021 season.
Item 16. Copy of trapper education course material that addresses lynx avoidance and minimization measures in the initial annual report and any updates in future annual reports.

**O&E 6 Trapper Education Course**

**Commitment:** MDIFW will continue to require trappers that have not previously attended a trapper education course or held a trapping license to attend a trapper education course before being licensed to trap in Maine. MDIFW will provide the materials and oversight needed to keep instructors in MDIFW’s mandatory trapping education course up-to-date on techniques and regulations that minimize or avoid incidental trapping of lynx throughout the permit period as described in O&E8. Maine’s trapper training course will continue to be developed in consultation with professional wildlife biologists and use the national standards developed for trapper training programs by AFWA. All trapping instructors will continue to teach from the same manual.

**Compliance monitoring:** Within one year after the permit is issued and anytime thereafter, MDIFW will notify the USFWS on updates to trapper education course material in annual reports.

**Activity this report period:** No changes were made to the course material this year, since outreach and education materials (YouTube videos, booklets, etc.) have been developed and incorporated into the course. See past annual reports for more information.
**Item 17.** Copy of trapper video demonstrating techniques for reducing incidental captures of lynx and injuries in the second annual report and any updates in future annual reports.

**O&E 7 Trapper video**

*Commitment:* In addition to printed materials, MDIFW will produce and distribute a video to all licensed or otherwise authorized trappers that demonstrates techniques for reducing incidental lynx captures and injuries within two years after a permit is issued. MDIFW will consult with the USFWS on the content of the video in advance of filming and producing. This video will be used in trapper educational courses (by students and instructors). ADC and PM trappers will be required to review this video during their certification/recertification training. Upon completion, this video will remain on MDIFW’s website.

*Reporting:* MDIFW will provide the USFWS with a copy of the trapper DVD in MDIFW’s 2nd annual report.

*Activity this report period:* During the previous report period, all licensed trappers or those otherwise authorized to trap were mailed a copy of the dvd. This video remains available on our website at: [http://www.maine.gov/ifw/hunting_trapping/trapping/index.htm](http://www.maine.gov/ifw/hunting_trapping/trapping/index.htm). Thus, compliance has been met.
Item 18. Summary of MDIFW trainings and communications with trapper education instructors.

O&E 8 Continued Education for Instructors

Commitment: MDIFW will ensure instructors are informed of current regulations and recommendations to minimize lynx captures at MDIFW’s Regional Safety Coordinators staff meetings held before the start of the trapping season each year, volunteer instructors training sessions held every other year, and periodic newsletters to instructors. Wildlife biologists will attend the first staff meeting of MDIFW’s Regional Safety Coordinators following issuance of the permit to review and discuss regulatory changes in Maine’s trapping laws, protocols for reporting incidental captures, and techniques for releasing trapped lynx. Any updates to lynx avoidance and minimization measures will be distributed to volunteer instructors through periodic newsletters or targeted mailings and at biannual trainings. These updates would also be incorporated into the new instructor training program.

Compliance monitoring: Every other year, all trapper education instructors participate in an instructor training update session on changes to MDIFW’s trapping regulations that includes information on lynx avoidance and minimization measures.

Reporting: MDIFW will report trainings and communications with trapper education instructors in annual reports.

Activity this report period: At the Regional Safety Coordinator’s annual meeting (Nov. 16, 2017) Jen Vashon (State lynx biologist) and Cory Mosby (State furbearer biologist) spoke and addressed questions on furbearer and lynx issues relevant to trapper and hunter education classes. Discussions covered federal protection status, lynx population status and distribution in Maine, lynx incidental take and our permit, hunting and trapping regulations related to lynx, outreach materials (video, brochure, law books), and lynx identification.
Item 19. Updated information on areas used by lynx and when regulatory changes to avoid or minimize lynx captures are put into effect.

PI 1 Extend lynx avoidance and minimization measures to new areas occupied by lynx

Commitment: MDIFW will document credible lynx observations to determine changes in the lynx range in Maine including evidence that lynx have become established in a new WMD (e.g., repeated observations, presence of kittens, etc.). To ensure that trapping regulations will offer the same level of protection for lynx in these new areas, MDIFW will adjust trapping regulations by WMD when verified observations are sufficient to indicate a consistent presence.

Compliance monitoring: MDIFW biological staff will document confirmed tracks, sightings, and takes (including road mortality) as described by the survey commitments in Appendix 5 of Maine’s ITP. This information will be used to extend/rescind lynx avoidance and minimization measures by adjust trapping regulations in these areas. MDIFW will notify USFWS of any trapping regulatory changes during the permit period.

Reporting: MDIFW will include in annual reports any new information on areas used by lynx and when regulatory changes to avoid or minimize lynx captures were put in effect.

Activity this report period:

In Appendix 5 of the Amended ITP (pages 239-241), the USFWS and MDIFW identified criteria for determining lynx occupancy of areas outside the current lynx WMDs. These criteria are:

1. A lynx is captured in a trap within an unoccupied WMD, or

2. Verified observation(s) of kitten(s) traveling with a female within an occupied WMD, or

3. MDIFW systematic surveys document the presence of one or more resident lynx within an unoccupied WMD; or

4. Verified anecdotal reports of lynx will be considered if
   
   a. There is more than one independent lynx observation, and is verified by MDIFW, annually within an unoccupied WMD for two or more years; or
   
   b. In one year, there are three or more independent lynx observations within an unoccupied WMD.

This year, we received one lynx observation outside the lynx protection zone. This involved a lynx that was photographed in Waldo, Maine on a game camera. As indicated in our ITP, an observation of a lynx will provide supportive information about potential changes in lynx distribution, but will not by themselves trigger changes to the occupancy status of a WMD (i.e., consistent presence). We updated Maine’s GIS layer of credible lynx observation through 2017 (Figure 2).
Figure 2. The distribution of Canada lynx in Maine from ecoregional snow track surveys, credible sightings of lynx (primarily tracks), and incidental takes from 2000 until 2017. Observations in WMDs 16, 17, and 28 do not meet criteria for extending lynx minimization measures (see Appendix 5 MDIFW Lynx Incidental Take Plan).
Item 20. Summary of compliance with killer-type trap regulations, including such items as how many illegal sets, how many instances of non-reporting, what type of non-compliance, different categories (summons, warnings, etc.) and frequency of events.

PI 4 Conduct targeted compliance monitoring (p. 102-104)

Commitment: During their routine activities, MDIFW Warden Service will check 20% of active trappers setting killer-type traps for fisher and marten in the lynx range each trapping season during the permit period for compliance with current regulations on exclusion devices. MDIFW expects the number of trappers setting killer type traps for fisher and marten to decline based on the expense and difficulty in using exclusion devices. Therefore, MDIFW expects that number of trappers to be checked for compliance to be about one half of the number (40), that MDIFW anticipated checking on for compliance with the regulations governing leaning pole sets. The fur tagging record books used to record harvested fur will be modified prior to the 2015-16 trapping season to gather information from the trapper on whether or not the fur was taken by foot hold traps or killer type traps with exclusion devices. This information will be used to calibrate whether or not MDIFW has met the target for compliance monitoring. MDIFW biologists will analyze these data and use information from compliance monitoring to inform MDIFW’s contingency plans (Section 5.4).

Reporting: MDIFW will track and report annually on compliance with killer-type trap regulations in lynx WMDs. MDIFW will summarize and report trapping compliance data annually to include such items as how many illegal sets, how many instances of non-reporting, what type of non-compliance, different categories (warnings, summons, etc.) and frequencies. MDIFW will summarize trapper effort data from voluntary trapper surveys and generated from license numbers and fur bearer harvest data in annual reports.

Activity this report period: During the 2017 trapping season, wardens checked 24 trappers in WMDs 1-11, 14, 18 and 19 that set killer-type traps for marten and fisher. MDIFW committed to check at least 20% of trappers setting killer-type traps for marten and fisher in the lynx zones. Based on harvest records and voluntary trapper effort cards, we estimated that there were 107 trappers setting marten and fisher traps in WMDs 1-11, 14, 18, and 19. Thus, wardens checked an estimated 22% of the fisher and marten trappers. No instances of non-reporting of lynx captures were found during these checks. The majority of traps (99%) set by 24 trappers were compliant with Maine’s trapping regulations (Table 5). None of 82 traps (0%) were found with an exclusion device violation. One of the traps checked was found with a visible bait violation (insufficient cover). This trapper was issued a warning and advised on how to correct the problem (Table 6). Of the 24 trappers checked, 23 (96%) were found to be in compliance with killer-type trap regulations (See Item 22).
Table 5. Summary of 2017 compliance checks by Maine Game Wardens for exclusion device and visible bait trapping violations for killer-type traps set for marten or fisher on land.

<table>
<thead>
<tr>
<th></th>
<th>Killer-type traps set for marten or fisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of trappers checked</td>
<td>24</td>
</tr>
<tr>
<td>Number of trappers in violation</td>
<td>1</td>
</tr>
<tr>
<td>Number of legal traps</td>
<td>81</td>
</tr>
<tr>
<td>Number of illegal traps</td>
<td>1</td>
</tr>
<tr>
<td>Number of visible bait violations</td>
<td>1</td>
</tr>
<tr>
<td>Number without exclusion device</td>
<td>0</td>
</tr>
<tr>
<td>Number of non-reporting lynx captures</td>
<td>0</td>
</tr>
<tr>
<td>Number of summons</td>
<td>1</td>
</tr>
<tr>
<td>Number of warnings</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 6. Summary of 2017 compliance checks by Maine Game Wardens where one of 24 trappers set one of 82 traps that were not compliant with exclusion device regulations for killer-type traps set for marten or fisher on land.

<table>
<thead>
<tr>
<th>Violation</th>
<th># trappers</th>
<th># sets</th>
<th>Additional details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visible bait</td>
<td>1</td>
<td>1</td>
<td>Bait insufficiently covered - warning</td>
</tr>
</tbody>
</table>
**Item 21. Summary of trapper effort data from voluntary trapper surveys and generated from license numbers and furbearer harvest data.**

Included in reporting of compliance with minimization measure *PI 4 Conduct targeted compliance monitoring (p. 102-104)*

*Activity this report period:* Trapper effort as determined from voluntary trapper effort cards, harvest and license sales.

**Trapper license sales and furbearer harvest data**

This information is collected by fur tagging stations, wildlife biologists, and game wardens. All canids, fisher, and marten pelts that are sold by trappers are required to be tagged.

*Candid trappers:* For the 2017 season, 124 trappers harvested a coyote or fox in WMDs 1-11, 14, 18, and 19. While this is higher the 2015 and 2016 results of 61 and 66 trappers, it is still substantially lower than what has been recorded in the recent past. Before the implementation of the foothold regulation changes for the 2015 season, the previous five-year average (2010-2014) of trappers harvesting a coyote or fox in WMDs 1-11, 14, 18, and 19 was 206 trappers. When comparing this average to the 2017 seasons, we document approximately a 40% decline in canid trappers in these WMD’s.

*Fisher and Marten trappers*:* For the 2017 season, 80 trappers harvested a minimum of one marten and/or fisher in WMDs 1-11, 14, 18, and 19. This is below the 2015 and 2016 seasons of 111 and 117 trappers, and is approximately 72% lower when compared to the five-year average (2010-2014) before the requirement of exclusion devices statewide.

The statewide marten harvest for the 2017 season was approximately 386 with a total of 60 trappers harvesting at least one marten (referred to as marten trappers). Current trapping regulations require that all body gripping traps set on dryland using bait (previously the most popular method to trap marten) be set using a lynx exclusion device statewide. The 10-year average (2005-2014) prior to implementation of exclusion devices being required statewide was 2,428 marten harvested by 284 marten trappers. When comparing this season to the 10-year average, we observed a 84% decline in harvest and a 79% decline in marten trappers.

Unlike marten, fishers are a species that occur statewide in Maine. Current trapping regulations require that all body gripping traps set on dryland using bait (previously the most popular method to trap fisher) be set using a lynx exclusion device statewide. During the 2017 trapping season, the statewide total fisher harvest was approximately 273 with a total of 102 trappers harvesting a minimum of one fisher (referred to as fisher trappers). The 10-year average (2005-2014) prior to implementation of exclusion devices being required statewide was 1,187 fisher harvested by 366 fisher trappers. When comparing this season to the 10-year average, we observed a 77% decline in harvest and 72% decline in fisher trappers.

While less pronounced than the marten and fisher harvest numbers, the harvest of red fox and coyotes, as well as the number of people who pursue these species has also declined steeply in the 2017 season.
This season’s coyote harvest statewide was 1,113 and the red fox harvest was 493. When compared to the 10-year average (2005-2014) prior to implementation of our new foothold regulations of 1,650 coyotes and 898 red fox harvested annually, we observed a 33% decline in the coyote and 45% decline in the red fox harvest. The primary index used to track trapping participation of these species is the number of licensed trappers each year that tagged a minimum of one bobcat, coyote, or fox (referred to as land trappers). This year, the number of land trappers statewide was 375 compared to 365 for the previous 10-year average.

While many factors come into play regarding harvest (fur prices, population fluctuations, and weather) we suggest the primary factor contributing to this season’s low harvest was regulation changes. This is based on feedback from trapper effort reports and public meetings with the trapping community. If the department continues to see dramatically low harvests of these species combined with a lack of participation, the department may identify options to increase harvest through providing additional opportunity and/or making adjustments to our current regulations.

10) Trapper Effort/Harvest/License sales

Voluntary Trapper Effort Forms

Voluntary trapper effort forms were used to estimate the number of trap nights (i.e., the number of traps set multiplied by the number of nights traps were set) trappers spent pursuing fisher/marten\(^1\) or canids in lynx WMDs (i.e., 1-11, 14, 18, and 19). This information was then used to extrapolate both the total number of trap nights trappers spent pursuing fisher/marten or coyotes in lynx WMDs and the total number of trappers pursuing these species in lynx WMDs. Although we can determine the number of trappers that caught at least one marten, fisher, coyote, or fox from pelt tagging records, we need trapper effort data to determine the number of trappers that pursued one of these species but were unsuccessful.

Canid Trappers: From 2017 trapper effort data, 12 trappers that pursued canids in lynx WMDs returned trapper effort forms. These trappers spent a total of 3,313 trap nights pursuing canids. Ten of the 12 trappers harvested at least one canid. From our 2017 fur harvest data, we know that 124 individual trappers tagged at least one canid in the relevant WMD’s. Using these data and a ratio proportion calculation, we estimate that approximately 148 total trappers pursued canids for an estimated total of 36,316 trap nights.

Fisher and Marten trappers: From 2017 trapper effort data, 16 trappers that pursued fisher/marten\(^1\) in lynx WMDs returned trapper effort forms. These trappers spent a total of 8,765 trap nights pursuing fisher/marten. Twelve of the 16 trappers harvested at least one fisher/marten. From our 2017 fur harvest data, we know that 117 individual trappers tagged at least one fisher/marten in the relevant WMD’s. Using these data and a ratio proportion calculation we estimate that approximately 187 total trappers pursued fisher/marten in the relevant WMDs for an estimated total of 38,499 trap nights.

\(^1\) Trappers may target both fisher and marten with the same trap set; therefore, we are reporting these trappers as fisher/marten trappers.
Item 22. Summary of any changed circumstances that are triggered or implemented.

Activity this report period. Last year, changed circumstance # 5 was triggered when trapper compliance with lynx exclusion devices for killer-type trap regulations was less than 90% for two years. During the previous two years, compliance was 88%. This year, we scheduled open houses at each MDIFW headquarter office where trappers were invited to have their exclusion devices checked for compliance prior to the start of the trapping season. This year, compliance increased to 96%.

Changed circumstance #5 in the ITP states that:

Trigger: This changed circumstance will be triggered if less than 90% of the trappers checked are in compliance with the regulations. For the purpose of this commitment, a trapper will be considered to be in compliance if all of their traps are set in compliance with visible bait, and exclusion devices specifications (e.g., size of opening, distance from opening to trap, placement of baffles) for killer-type traps in lynx areas.

This trigger is going to be assessed by the annual monitoring commitments described in Section 5.2 (P.I 4).

Response: If after the initial two years of monitoring, the percentage of trappers checked in compliance is less than 90% as described above then MDIFW will meet with stakeholders (e.g., game wardens and trappers), prior to the next trapping season, to identify and correct the problem through outreach and education. If subsequent years of monitoring do not show improvement, MDIFW will implement measures such as increased law enforcement details or increased penalties before the start of the next trapping season. If after five years of monitoring, trapper compliance with the four lynx avoidance measures listed above has not reached the target levels, MDIFW in consultation with the USFWS will implement additional corrective measures to improve compliance. Measures may include additional outreach, increased penalties for trapping violations, or restricting traps or trap sets that are particularly difficult for trappers to achieve compliance with or restricting the use of these traps in lynx areas.
Item 23. Summary of all activities related to implementation of the mitigation

Mitigation Implementation Plan (see pages 120-121 of MDIFW ITP):

- By July 31, 2015, BPL will finalize the western boundary of the additional mitigation area and insure that the entire 22,046 acre mitigation area can meet the 6,200 acre HQHH requirement. Updated maps will be provided to the USFWS by July 31, 2015.
- BPL will inventory the 22,046 acre HMA and cross-walk the inventory to HQHH within three years of issuance;
- BPL does not currently have forest models for their ownership. However, BPL expects this capability will be available in the next few years and will implement a forest model to assess the trajectory of the existing habitat and demonstrate when, where, and how sufficient HQHH habitat will be maintained and or created when it becomes available.
- BPL will provide an updated table 5.3.3 for the 22,046 acre area demonstrating how the mitigation will achieve the net conservation benefit to compensate for the loss of at least three lynx by July 31, 2015.
- BPL will develop a detailed forest management plan (compartment exam and harvest prescription) for at least the HQHH portion of the HMA with the assistance of MDIFW RAS staff within three years of issuance of an ITP. This plan will include provisions for avoiding take of northern long-eared bats in the event that it is listed under ESA or MESA\(^2\). MDIFW and BPL will meet at least every three years to review the status of the forest management plan for the HMA;
- USFWS (Maine Field Office) will review and comment on the forest management plan within 90 days of receipt of the plan;
- Within 15 years of issuance of an ITP (~2029), BPL will have implemented harvest prescriptions (e.g., overstory removal) to maintain or create forest conditions that will lead to HQHH on the HMA; and
- By the end of the permit period (~2029), BPL will have increased the acreage of HQHH on the HMA to at least 6,200 acres.

Monitoring Plan:

- Each year, for the first five years and every five years thereafter, MDIFW will conduct winter snow track surveys (e.g., MDIFW lynx ecoregional surveys-Vashon et al. 2010) to monitor whether lynx are present and estimate the number of lynx on the HMA. For the first five years, ensure surveys are conducted to estimate hare densities in HMA (e.g., participation in Continental Hare Survey).
- BPL will annually provide an update to MDIFW on the forest management activities conducted on the HMA and every five years provide an estimate of HQHH on the HMA.
- BPL will complete compartment exams (i.e., timber cruises) to update forest maps and management plans every 15 years. This inventory will be used by MDIFW to calculate the acreage of HQHH on the HMA at the end of the permit period to ensure the mitigation objectives are achieved. The MDIFW wildlife biologist assigned to BPL will be the primary contact between BPL and MDIFW, and the

\(^2\) Examples of measures that may be taken to avoid adverse effects include but are not limited to presurvey of harvest areas or time of year restrictions on harvest activities.
person responsible for communicating developments on the HMA to MDIFW’s Research and Assessment Section (RAS).

Activity this report period:

1. Forest management activities on the HMA this report period.
   a. Harvest: Despite challenges caused by equipment breakdowns, 107 acres were harvested to release regeneration for future HQHH. While there were additional harvests completed within the HMA, much of it was in hardwood/mixedwood areas that were not conducive to creating HQHH.
   b. Road work: All work done within the HMA consisted of upgrades to existing roads to provide access to harvest areas. The work consisted of brushing, light ditching, and the placement of culverts as needed. All upgraded roads were seeded with a wildlife mix that will provide a source of forage for hares.

2. BPL completed a detailed forest inventory of the HMA during summer 2017, and developed a forest management plan to guide harvest operations. This plan was submitted to the USFWS Region 5 office on November 17, 2017 per permit conditions. This plan includes provisions for avoiding take of northern long-eared bats. MDIFW and BPL will meet at least every three years to review the status of the forest management plan for the HMA.

3. On March 16, 2018, MDIFW staff conducted a snow-track survey in the Seboomook Unit to document lynx presence along 65 km of unplowed roads. Conditions were not optimal due to increasing winds during the morning of the survey that may have obscured some tracks. However, we detected lynx tracks six times during our survey (Figure 3) and on two occasions we encountered tracks of two lynx. Thus, a total of eight different sets of lynx tracks were detected. All eight track intercepts had a snow track quality (STQ) rating of two due to drifting snow that caused some track details to be lost. STQ of two are considered acceptable and STQ greater than two are considered high quality tracks where identification as lynx is considered definitive. Note these eight intercepts do not represent eight different lynx. Spatial data was imported into GIS shape files for analysis.

4. Dr. Dennis Murray’s graduate student established hare pellet plots in 2014 on the HMA and counted pellets during the summer of 2015 and 2016. MDIFW staff assumed responsibility for these plots in 2017.
Figure 3. Seboomook Unit Lynx Surveys 2015-2018. Note track intercepts (red, green, black, and yellow dots) do not denote number of lynx present as the same lynx may have left more than one track intercept.
Item 24. Provide documentation that the State of Maine Legislature has appropriated sufficient funding to implement the Plan by July 15 each year.

The Maine Legislature approved a biannual budget that covers July 1, 2017 - June 30, 2019 that became law on July 4, 2017. This budget provides adequate funding for MDIFW and BPL to carry out minimization and mitigation measures in the Plan for this and next year’s report periods (See cover letter that accompanied this report for more details).
Appendix 1. Copy of Trapper Information Booklet mailed to all licensed or otherwise authorized trappers as part of MDIFW’s annual mailing to trappers prior to the opening of the 2017 trapping season.
Dear Trapper:

I hope this letter finds you excited for the upcoming trapping season. In this mailing, you will find information regarding the regulations all trappers must follow to avoid the incidental capture of lynx, the fall and spring trapper effort forms, and jaw tags for jaw/tooth samples of harvested bobcat, fisher, marten, and otter. In mid-October, we will additionally be mailing all licensed trappers the 2017-2018 Trapping Law book and post the information on our website (www.mefishwildlife.com/hunting_trapping/trapping).

The early fox and coyote season opens on Sunday, October 15th. In addition to the general trapping rules, the following regulations also apply during this season:

- Traps must be set at or below ground level and checked daily.
- Killer-type traps are not permitted.
- Traps may not be set in the water.
- The use of exposed bait or visible attractors is prohibited.
- You are allowed to keep any incidental opossum, raccoon, or skunk which you catch in your fox and coyote traps. Any other furbearing animal must be immediately released alive (except lynx – see information in this mailing) or, if found dead, must be left in the trap and reported to a game warden as soon as possible.
- Foothold regulations regarding chain attachment, swiveling, and catch circles for traps set on dry land that were implemented in 2015 are still in effect. Please consult the material in this mailing or last year’s trapping law book.

Please be diligent in your efforts to follow the regulations and recommendations to reduce the chance of incidentally capturing a lynx. This information is provided in this mailing, and in the lynx avoidance videos and booklet “How to Avoid Incidental Take of Lynx” available on our website. Please remember that the Department operates a 24 hour hotline (207-592-4734) for reporting incidental captures of lynx. The Department appreciates the continued cooperation of trappers to report incidentally caught lynx and following all trapping regulations.

Last season marked the first year of mandatory submission of a tooth sample for bobcat, fisher, marten, and otter. We received 1,200 total samples representing 33% of bobcat, 71% of fisher, 59% of marten, and 86% of the otter harvest(s). These samples will provide us with the age and sex of the harvested population to further strengthen the furbearer management program in Maine. A description of the rule and how to provide samples is in the lawbook. Please remember that you need to provide a tooth/jaw sample for these four species and a tissue sample for bobcat when you submit the pelts for tagging.
You may remember that last year you did not receive the trapping effort forms. We are still collecting this data and have provided the fall and spring forms for this season. Please fill them out and return to the address provided on the forms. With changes in both regulations and fur prices affecting the harvest of Maine’s furbearers, this data is important in managing furbearer populations.

Remember that regulations regarding exclusion devices and the foothold swiveling, anchoring, catch circles and chain configurations are still in effect. Please review the trapper lawbook or contact the Department if you have any questions. Check out our videos on how to avoid lynx and construct exclusion devices on our website at www.mefishwildlife.com. All skins must be tagged within 10 days of the end of the season for that species, and all bobcats taken by hunting must be tagged within 72 hours. Only Department personnel can tag otter and bobcat. Telephone numbers for Department offices can be found in the trapping law booklet.

In closing, please review the lynx information, save those jaw samples, fill out your trapper effort cards, and have fun out there.

Respectfully,

Cory Mosby
Furbearer and Small Mammal Biologist
650 State St.
Bangor, ME 04401
207-941-4473
Lynx Protection Zone and Trap Restrictions

Canada lynx are a federally listed Threatened Species. There is no open season for the trapping or hunting of lynx in Maine. Department biologists have confirmed the presence of reproducing lynx in northern Maine. To protect lynx and to help Maine trappers avoid accidentally taking lynx, the Department has delineated a lynx protection zone in northern Maine where special regulations are in effect.

**Foothold traps**

- **Statewide:** When set on dry land, traps must have at least three swiveling points (at the base of the trap, midway in the chain, and at the trap’s anchoring point). Foothold traps cannot be set above ground or snow level.

- **WMDs 1-11, 14, 18, and 19:** When set on dry land, the use of drags is prohibited and the catch circle must be cleared of woody vegetation, debris and manmade material that could cause entanglement of a trapped animal.

- **In WMDs 1-6 and 8-11** no foothold trap may be used that has an inside jaw spread of more than 5 3/8 inches unless when set, placed, and tended the trap is fully or partially covered by water.

**Killer-type (conibear) traps:**

Must be set within a lynx exclusion device when set on dry land, except that killer-type traps with an inside jaw spread of 5 inches or less may be set without an exclusion device if the trap is set so as to be partially covered by water at all times, set under an overhanging stream bank, or used at a blind set (without the use of bait, lure or visible attractor).

**What do I do if I catch a lynx?**

Incidental capture of lynx must be reported to a game warden or biologist of the Department as soon as possible and prior to removing the animal from the trap, unless a Department official cannot be reached in time to prevent injury to the lynx. Any lynx released under this provision must be reported to the Department within 24 hours from this time it was discovered. A person who catches a lynx must call the lynx hotline at (207) 592-4734, or a local game warden as soon as possible. The lynx hotline is staffed 24 hours a day, 7 days a week during the trapping season. In most circumstances a biologist will tranquilize, examine, and release the lynx. For more information on lynx biology or the Department's lynx research efforts, please contact Jennifer Vashon at (207) 941-4466. If you catch a cat and are uncertain whether it is a bobcat or a lynx, contact a wildlife biologist or warden immediately.
Regulations for Specific Types of Traps

The statewide foothold trapping regulations when set on dry land are as follows:

- Foothold traps must not be set above ground or snow level.
- It is unlawful to use a trap with teeth on the jaws.
- All foothold traps must have at least three swiveling points and the chain must be centrally mounted at the base of the trap. One swiveling point must be at the base of the trap, one mid-way in the chain, and one at the trap’s anchoring point.

3 SWIVEL POINTS
(on dry-land sets)

Centrally Mounted at the Base of the Trap
Think of this as the central third of the base of the trap anywhere within the circle. This can be a J-hook coming directly from the base of the trap or a swivel attached to the trap with D-ring, lap link or link of chain.

Midway-in the Chain
This is halfway between the base of the trap and the anchoring point. A double swivel (which technically has two swiveling points) is commonly used here, but another swiveling point is still required at the anchoring point and at the base of the trap.

The Anchoring Point
This is where the trap chain attaches to your anchoring device. An anchoring device may be a rebar stake, disposable or cable stake, or a drag. When using a drag, the anchoring point can be considered where the chain associated with the drag attaches to the trap chain. Remember that the use of drags is prohibited in WMDs 1-11, 14, 18, and 19.
The foothold trapping regulations for **WMDs 1-11, 14, 18, and 19** when set on dry land are as follows:

- Foothold traps must be securely anchored to the ground. **The use of drags is prohibited** in these WMDs.
- Foothold traps must have the catch circle cleared of woody vegetation, debris and manmade material that could cause entanglement of a trapped animal. Small sticks and rocks, and rotten/decaying woody material may be used for stepping guides, blocking, and backing for trap sets, if they are not rooted to the ground. A catch circle is defined as the area that can be circumscribed by the outer edge of a trap when the trap and trap chain are fully extended and moved in a circle (360°) around the anchoring point.

- These restrictions do not apply to foothold traps that when set, placed, and tended are fully or partially covered by water, those that are set on a muskrat “float”, or dog-proof raccoon traps.

In **WMDs 1-6 and 8-11** no foothold trap may be used that has an inside jaw spread of more than 5 3/8 inches unless when set, placed, or tended the trap is fully or partially covered by water.
Killer-Type (Conibear) Trap Rules

Killer-type traps must be set within an exclusion device unless if 1) when set, placed, and tended, they are completely underwater, or if 2) the trap has an inside jaw spread 5 inches or less AND is

- either set so as to be partially covered by water at all times, or
- set under overhanging stream banks, or
- used at a blind set (without the use of bait, lure or visible attractor). Bait, lure and visible attractor do not include animal droppings (scat) or urine.

Exclusion Device Rules

For all exclusion devices, the jaws of the killer-type trap must be completely within the exclusion device; however, trap springs can be outside of the device.

Exclusion devices will have the following designs:

(1) For traps with a jaw spread less than or equal to 5 inches (primarily used for marten trapping), the device must have an opening of 4 x 4 inches or less. The entrance hole may be placed on the end or on the side of the device, and the trap must be set a minimum of 18 inches from the closest edge of the entrance hole (Figure 1).

(2) For traps with a jaw spread greater than 5 inches but less than 8 inches, two designs may be constructed. For both devices the trap must be placed no closer than 18 inches from the closest edge of the entrance hole.

a. The first design has an entrance hole on the end of the device that must not exceed 5 x 6 inches. A baffle must be placed no more than 6 inches back from the entrance hole and must not leave an opening greater than 5 x 6 inches. With the baffle in place, the entrance hole and interior opening must not overlap to create an unobstructed view to the interior of the exclusion device (Figure 2a).

b. For the second design the entrance hole must not exceed 6 x 7 inches and must be placed on the side of the device. A baffle must be placed at the edge of the entrance with the baffle opening opposite of the entrance hole, and the interior opening must not exceed 6 x 6 inches (Figure 2b).

Exclusion devices can be constructed of wood, plastic, or wire mesh. If using wire mesh, the mesh cannot exceed 1 ½ by 1 ½ inches, or 1 inch by 2 inch openings (side to side). The wire mesh has to be 16 gauge or less (wire diameter of 0.05 inches or greater). The opening slot in the exclusion device that allows the trap springs to extend outside the device can be no more than 7 ½ inches wide and a height of no more than 1 ½ inches. The back of the device must be secured to withstand heavy pulling; if using wire mesh with a wood or plastic box, the wire mesh must wrap around two opposite sides of the box and be securely fastened. There must be at least 1 attachment point for each side of the device where a joint or panels come together. The trap must be anchored outside of the exclusion device. Bait must not be visible from above. When enclosed in an exclusion device, killer-type traps can be set directly on the ground, or elevated in trees or on poles, with no specific requirements as to the height above ground or diameter of the tree or pole.
1. Flagging in these photos are used to illustrate the location of the entrance and is not a requirement.

Figure 1. A photo showing 3 legal lynx exclusion devices made out of different materials: (from left to right) a) 1x1 inch wire, b) 1x2 inch wire, and c) 1x2 inch wire with a plastic newspaper box. All exclusion devices have a 4 x 4 inch opening and are constructed for a killer-type trap with a jaw spread less than or equal to 5 inches (primarily used for marten trapping).

Figure 2. Legal exclusion devices for killer-type traps having a jaw spread between 5 and 8 inches. 2a. is an example of a device with an entrance hole on the end of the device. The entrance hole must not exceed 5 x 6 inches. A baffle must be placed no more than 6 inches back from the entrance hole and must not leave an opening greater than 5 x 6 inches. With the baffle in place, the entrance hole and interior opening may not overlap to create an unobstructed view to the interior of the exclusion device. 2b. is an example of a device where the entrance hole is placed on the side of the device and must not exceed 6 x 7 inches. A baffle must be placed at the edge of the entrance with the interior opening opposite of the entrance hole, and the interior opening must not exceed 6 x 6 inches.
IDENTIFYING RARE MAMMALS

Lynx vs. Bobcat Know the Difference
The most notable difference between a lynx and a bobcat is paw size. Lynx paws are about twice the size of bobcat paws. Lynx can also be distinguished from bobcats by the tip of their tail, which is completely black (bobcat tail tips are black on the upper side [dorsal side] and white underneath). Lynx have more prominent ear tufts, paler coloration, less spotting, and longer legs than a bobcat. Please know the difference between bobcat, lynx, and fisher tracks.

Note the long ear tufts, large feet, and completely black-tipped tail of the lynx.

If you trap a bobcat that looks like a cross between a lynx and a bobcat, we would like to know about it. We have recovered several lynx-bobcat hybrids in north central Maine and are interesting in documenting other specimens. Remember, if you are uncertain whether you have trapped a lynx or a bobcat call a biologist or warden immediately and before dispatching the animal. If you dispatched a bobcat and upon examination think it has unusual characteristics for a bobcat, please contact Cory Mosby or Jen Vashon at 207-941-4466, as we are interested in learning more about hybridization between these closely related cats.
## Track and Track Patterns for Cougar, Lynx, and Wolf; with Comparisons to More Common Species

<table>
<thead>
<tr>
<th>Species</th>
<th>General Shape</th>
<th>Walking Stride</th>
<th>Print Size (Front Foot)</th>
<th>Track Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobcat</td>
<td>General round appearance. Heel points in slightly different direction than toes. No nail marks, but if present, attached to toe marks.</td>
<td>6&quot; to 14&quot;</td>
<td>Length - 1⅛&quot; to 2½&quot; Width - 1¾&quot; to 2⅝&quot;</td>
<td>Direct or double register walking pattern. Trail pattern zigzags right-left-right-left.</td>
</tr>
<tr>
<td>Lynx</td>
<td>Same as bobcat but tracks show a lot more hair. Smaller pads than a cougar.</td>
<td>11&quot; to 18&quot;</td>
<td>Length - 3¼&quot; to 3¾&quot; Width - 3&quot; to 3½&quot;</td>
<td>Same as bobcat</td>
</tr>
<tr>
<td>Cougar</td>
<td>Same as bobcat</td>
<td>20&quot; to 32&quot;</td>
<td>Length - 3&quot; to 4¾&quot; Width - 3½&quot; to 3⅜&quot;</td>
<td>Walking pattern similar to other cats. Deep snow may show belly and tail drag marks.</td>
</tr>
<tr>
<td>Coyote</td>
<td>4 toes, oval shaped track, Front nails often close together. Side nails often do not register.</td>
<td>Eastern: 17½&quot; to 26&quot;</td>
<td>Eastern: Length - 2½&quot; to 3½&quot; Width - 1⅛&quot; - 2½&quot;</td>
<td>Trail pattern usually is in a straight line. Walking pattern is usually direct registering</td>
</tr>
<tr>
<td>Dog</td>
<td>Similar to wolves and coyotes. Inner toes often splayed outwards.</td>
<td>Varies with breed</td>
<td>Varies with breed</td>
<td>Trail pattern sloppy, wandering, not usually in a straight line. Walking pattern is often double register.</td>
</tr>
<tr>
<td>Wolf</td>
<td>4 toes, symmetrical track, longer than wide, more rounded than a coyote, nail marks not attached to toe mark (same as coyote), 4 nails register.</td>
<td>Algonquin:</td>
<td>Algonquin: Length - 4&quot; - 4½&quot; Width - 2½&quot; - 3¼&quot;</td>
<td>Trail pattern usually is in a straight line. Walking pattern is usually direct registering.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20½&quot; to 28½&quot;</td>
<td>Other: Length - 3½&quot; - 5½&quot; Width - 2½&quot; - 5&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Direct register** - a walking pattern where the animal’s forefoot is overprinted by the hind foot.

![Direct Register Image]

**Double or Indirect register** - a walking pattern where the animal’s hind foot does not fall directly on the front track.

![Indirect Register Image]
Comparisons of canine and cat tracks, and bobcat, lynx, and cougar tracks. Illustrations follow those in Rezendes (1992) and Elbroch (2003).