INLAND MARITIME INITIATIVE: FOREST CARNIVORES

Winter 2011 Update

Idaho Department of Fish and Game
Idaho Panhandle National Forest
U.S. Forest Service Rocky Mountain Research Station

INTRODUCTION

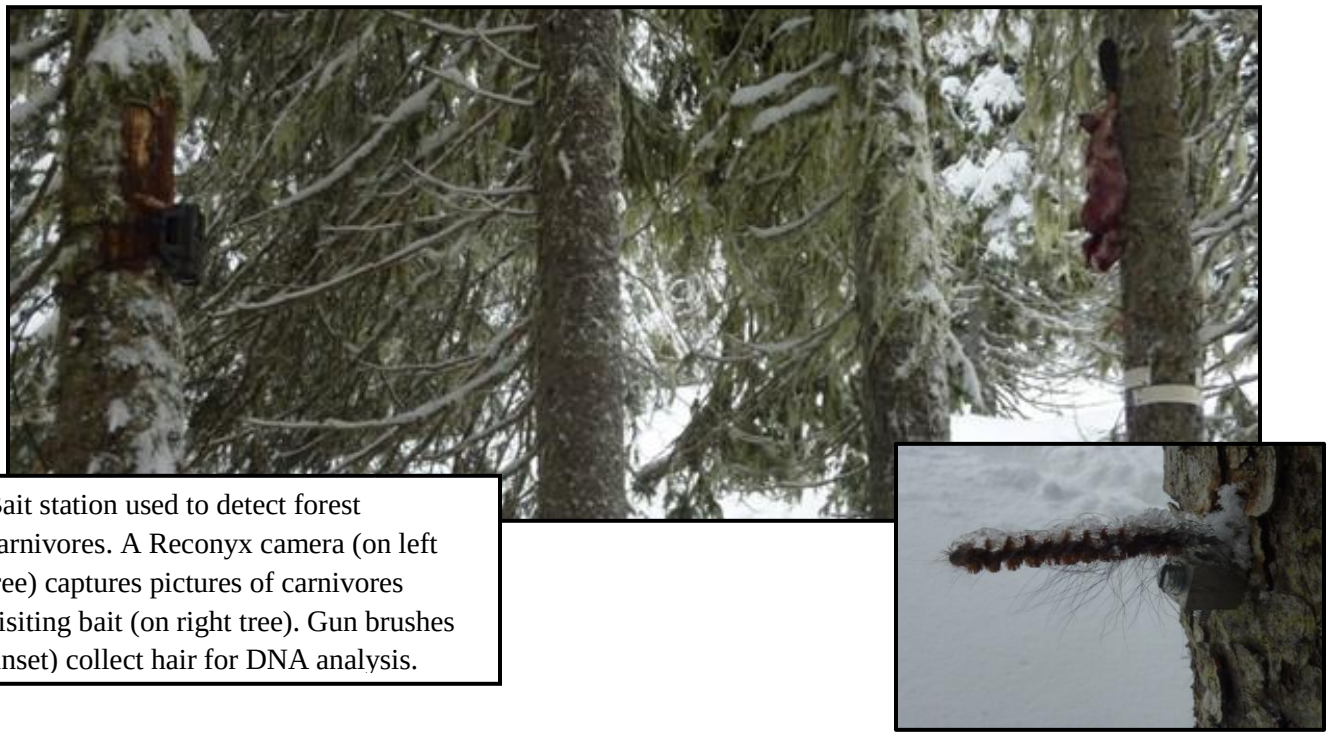
From January through April 2011, we used three techniques to survey forest carnivores in the West Cabinet and Selkirk Mountains: bait stations, live trapping, and incidental observations (Figures 1-4).

BAIT STATIONS

We surveyed 15 grids with 17 bait stations from January 22 through April 24, 2011 (Figure 1). Bait stations were located in the West Cabinet (n = 12), Selkirk (n = 4,) and Purcell Mountains (n = 1). We used a 10km x 10km grid system to maximize dispersal of cameras across the study area.

Stations were visited 2-3 times: once for set up, once to collect samples/re-bait, and once to take down the set. Camera stations were baited with a whole, skinned beaver nailed and wired to a tree. Beginning approximately 1-2 feet below the bottom of the beaver, 2 concentric rings of 6 gun brushes (about 6 inches apart) were attached to the tree. A ring of glue strips was nailed to the tree approximately 6-12 inches below the gun brushes. A Reconyx RM45 or RC55 camera was placed on a tree approximately 10 feet away from the bait tree. At some sites, we used a film camera in place of the digital Reconyx camera.

We attempted to re-bait all stations within 2-3 weeks of deployment, although in some cases, snow conditions prevented us from reaching the site. When a re-bait occurred, all gun brushes were collected in envelopes and replaced, glue strips were removed, camera memory cards were replaced, and a fresh beaver was hung in the tree.



Bait station used to detect forest carnivores. A Reconyx camera (on left tree) captures pictures of carnivores visiting bait (on right tree). Gun brushes (inset) collect hair for DNA analysis.

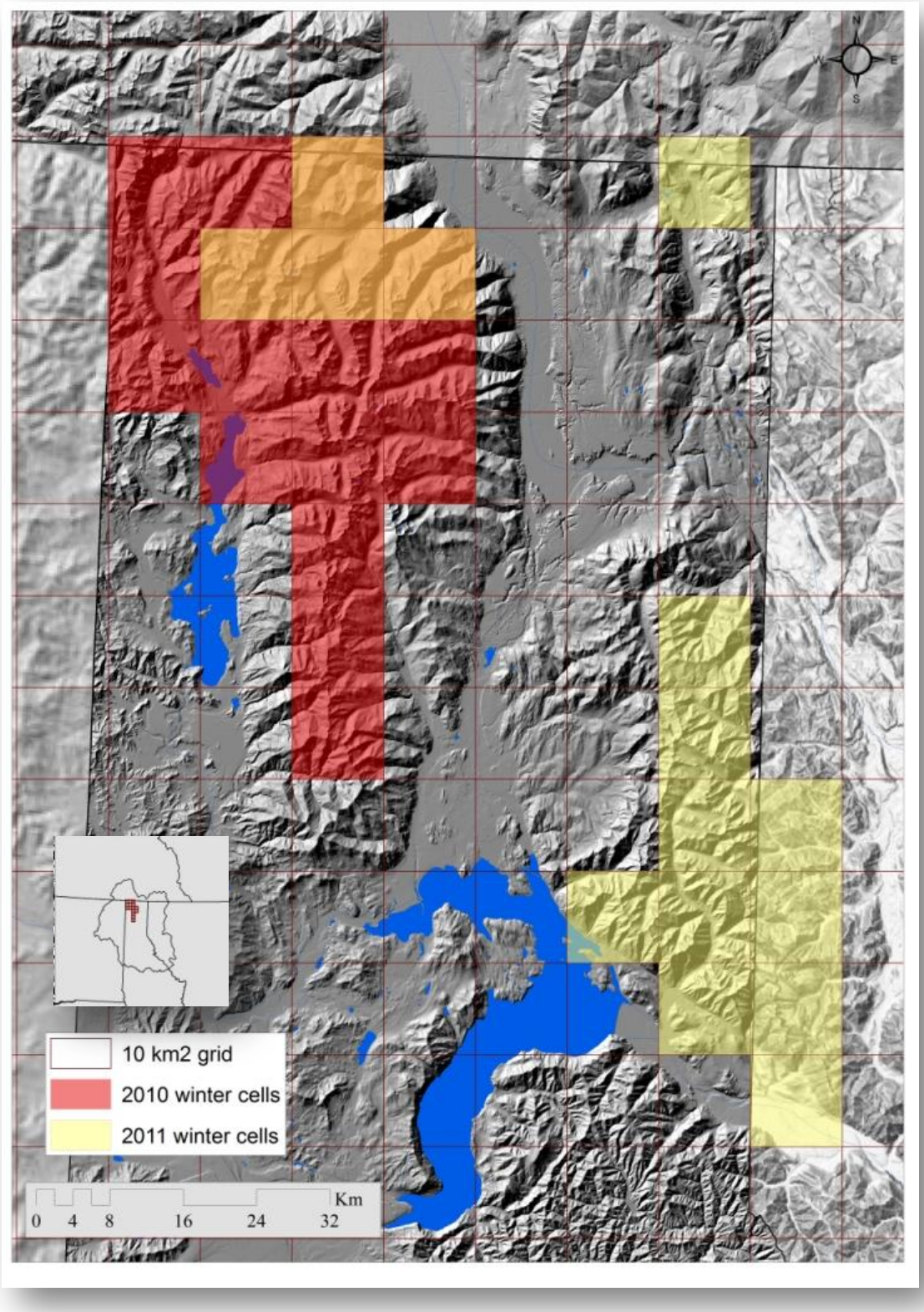


Figure 1. 10km x 10km survey cells for 2010 (red), 2011 (yellow), and 2010-11 (orange)

Samples were allowed to dry after collection to minimize degradation of DNA. 355 total samples were collected. 187 were sent to the laboratory for genetic analysis.

Cameras at all stations detected at least one species of carnivore including marten at 12 sites, fisher at 8 sites, ermine at 2 sites, and grizzly bear at 1 site (Figure 2). The film camera at one set captured a picture of two fisher kits, showing that reproducing adults are present in this population.

Species detected with cameras during winter 2011. Clockwise from upper left: marten, fisher, 2 fisher kits, and ermine.

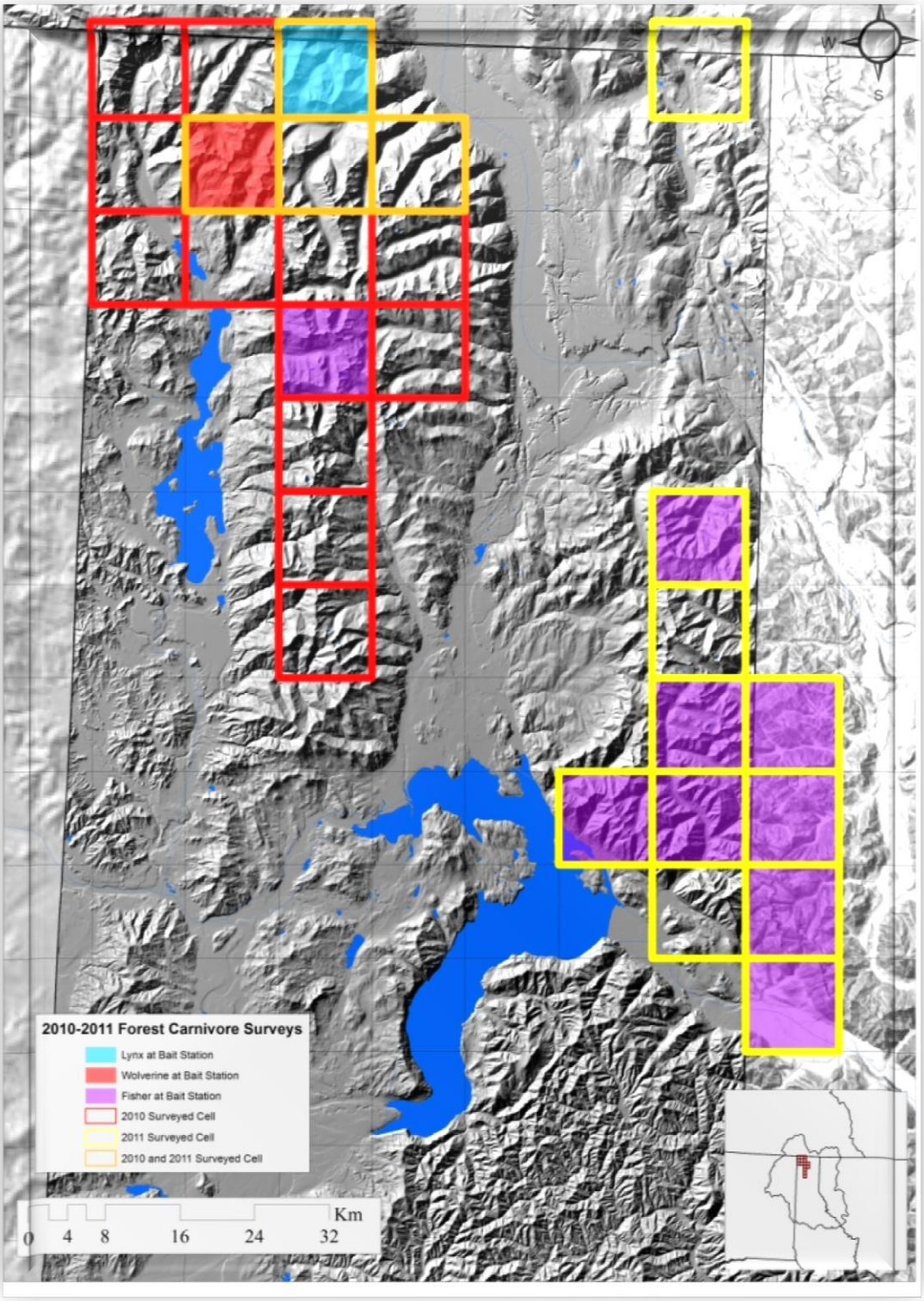


Figure 2. 10km x 10km cells surveyed (yellow outline) during winter of 2010 and 2011 where fisher (purple), wolverine (red, detected 2010), and lynx (blue, detected 2010) were detected.

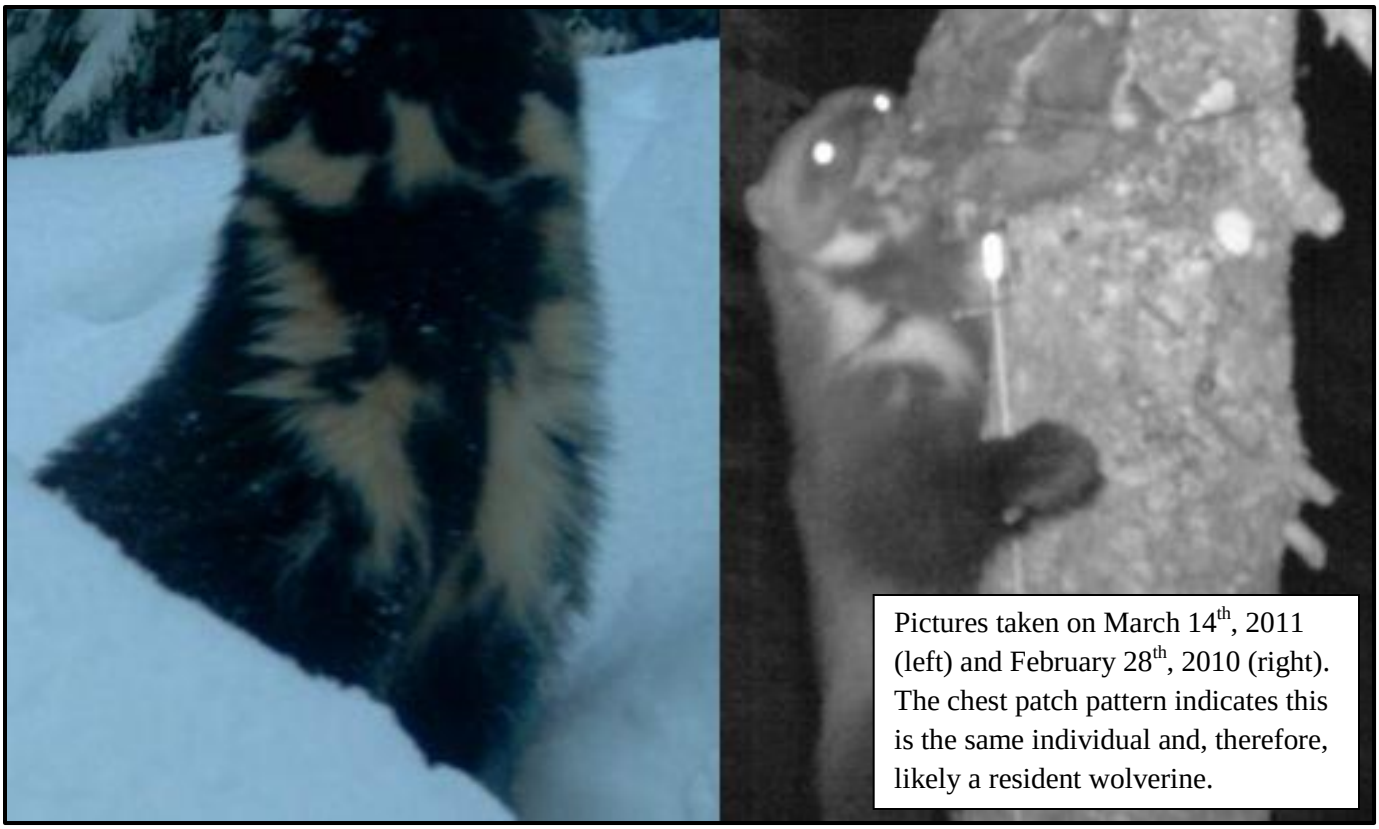
WOLVERINE TRAPS

We constructed two log traps in the Selkirk Mountains. We chose trap locations in areas we knew to be used by wolverine and lynx from the 2010 survey. Trap dimensions are approximately 4 ft x 6 ft x 8 ft. Traps were baited with skinned beaver. VHF trap transmitters were placed on each trap to monitor the status of the trap (open or closed) remotely. Signals were monitored at least twice a day and we visited the traps in person every three days to re-bait and make sure that trap transmitters were functioning properly. A Reconyx RC55 was placed at each trap to monitor the trap. Traps were run from January 19th—February 16th 2011, left open but not set from February 17th –March 16th to avoid capturing females with newborn kits, then opened again from March 17th to March 29th 2011, resulting in 82 total trap nights.

Wolverine traps (left) were constructed from lodgepole pine and subalpine fir and were equipped with VHF transmitters (right) for remote monitoring.

No wolverines were captured in 2011, however, one trap was visited twice by a wolverine. The first visit occurred on March 14th when the traps were not set. The wolverine entered the trap and removed the bait. Chest patch markings identify this individual as likely the same wolverine that visited a bait station on February 28th, 2010 (see photos below). This suggests that this is a resident wolverine and not a transient animal. The second visit was March 20th when traps were open and set. The wolverine investigated, but did not enter, the trap (see photo below). We compared pictures of wolverines that visited the trap March 14th and March 20th and cannot determine if it is the same individual.

Two non-target animals were captured this season. A marten was trapped on March 23rd and a fisher was trapped on March 29th. Hair samples were taken from the fisher for genetic analysis. Both animals were released unharmed.



Pictures taken on March 14th, 2011 (left) and February 28th, 2010 (right). The chest patch pattern indicates this is the same individual and, therefore, likely a resident wolverine.

A wolverine visited the trap on March 20th, but was not captured.

INCIDENTAL OBSERVATIONS

Over the course of the season, we documented tracks of wolverines and lynx detected by ourselves or by volunteers with photo corroboration. Two DNA samples were obtained by backtracking a wolverine and a lynx. These samples have been sent to the lab for genetic analysis.

Wolverine tracks observed by volunteers. Note the five toes characteristic of mustelids.

Wolverine tracks observed January 27th, 2011. The animal detoured to scent mark the sapling and then returned to the road, which is typical wolverine behavior.

Wolverine tracks documented during the April 2010 aerial survey. The animal appears to have made a detour, possibly to scent mark a tree.

SUMMARY

The three targeted forest carnivore species of greatest conservation need (wolverine, fisher, and lynx) were detected during both the 2010 and 2011 winter surveys.

Results of the last two winters' surveys lead us to conclude there is at least one resident wolverine using the Idaho Selkirk Mountains. The gender and reproductive status of this individual remains unknown. The DNA sample collected in January, 2011 should yield gender and individual identification for this wolverine. Three sets of wolverine tracks were detected in the West Cabinets in 2011. However, we have not yet detected a pattern of landscape use.

Lynx were detected once in 2010 (Selkirks) and once in 2011 (Purcells). A genetic gender test indicated the 2010 lynx is most likely a male. Lynx were not detected in the Selkirks in 2011, despite a baited wolverine trap being located near the 2010 detection site. A scat was collected from a lynx in 2011, which was backtracked in the Purcells. This scat sample was sent to the lab for analysis and genetic results are pending.

Fishers were detected at 67% (8 of 12) of bait stations in the West Cabinets in 2011. This is greater than the 2010 survey where fishers were detected at 6% (1 of 16) bait stations in the Selkirks. A set of 2 fisher kits were photographed in the West Cabinets in 2011, indicating the presence of reproductive adults.

PARTNERSHIPS

This project is a collaborative effort between the Idaho Department of Fish and Game, Idaho Panhandle National Forest, and U.S. Forest Service Rocky Mountain Research Station. Community volunteers and volunteers from Friends of Scotchman Peak Wilderness, Selkirk Conservation Alliance, and Selkirk Outdoor Leadership Experience have provided tremendous support in conducting field work. The Oregon Zoo Conservation Fund provided a grant to conduct the 2010 aerial survey.