

Persistence of a Reintroduced Fisher, *Martes pennanti*, Population in Cooking Lake-Blackfoot Provincial Recreation Area, Central Alberta

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In order to confirm the persistence of a Fisher (*Martes pennanti*) population reintroduced in 1990 in Cooking Lake-Blackfoot Provincial Recreation Area, central Alberta, we inventoried trails in the winters of 2006 and 2007. We recorded the presence of Fishers in 16 locations, and we confirmed the presence of at least two animals. We believe that the presence of Fishers 17 years after their release in the recreation area indicates that there is a self-sustaining population.

Key Words: Fisher, *Martes pennanti*, Parklands, reintroduction, Alberta.

Habitat loss, unregulated trapping, and predator control significantly reduced or eliminated Fisher (*Martes pennanti*) populations in south-central Alberta by the mid-1980s (Douglas and Strickland 1987; Alberta Fish and Wildlife Division 1989*). In an effort to re-establish Fisher populations in the central parklands of Alberta, Proulx et al. (1994) reintroduced 20 Fishers in 1990 and monitored them using radio-telemetry until 1992 (Badry et al. 1997). The success of a reintroduction program should be measured not only by the successful release of individuals but also by the ability of those animals to reproduce successfully and create a self-sustaining population post-reintroduction. Some authors suggest that a reintroduced population should persist for 10 years for the program to be termed a success (Hayward et al. 2007; Muths and Dreitz 2008). In the early 1990s, the reintroduced Fishers settled in the vicinity of their release sites (Proulx et al. 1994) and reproduced (Proulx et al. 2004). However, no inventory occurred in the release area since 1993 to confirm the persistence of the reintroduced Fisher population. The objective of this study was to document the winter distribution of Fishers in the Cooking Lake-Blackfoot Provincial Recreation Area in central Alberta.

Study Area and Methods

The Cooking Lake-Blackfoot Provincial Recreation Area (53°32'N, 112°47'W) is a 97 km² natural area located south of Elk Island National Park, approximately 40 km east of the city of Edmonton, Alberta (Figure 1). The region is part of the central parklands that consist of open grassland alternating with groves. The groves were composed of mainly Quaking Aspen (*Populus tremuloides*) with Balsam Poplar (*Populus balsamifera*), willows (*Salix* spp.), Paper Birch (*Betula papyrifera*), and White Spruce (*Picea glauca*) (Hardy Associates Ltd. 1986*; Looman and Best 1987).

In the winters of 2006 and 2007 from January to March 2006 and November 2006 to February 2007 we repeatedly inventoried 20 trails by snowshoe (a total of 136 km over two years) that crossed areas where the Fishers had been released in the 1990s. We recorded only well-defined tracks, those not melted or deformed,

and not filled with snow. We used the combination of footprint (pattern and size, presence/absence of toe pad prints) and trail (gait, distance between jumps, and dragging of the feet) characteristics to identify all tracks (Murie 1975; Rezendes 1992; Halfpenny et al. 1995). Fishers' foot pads have sparse hair, and they show well in clear prints (Halfpenny et al. 1995). Fishers tend to create a trough when walking in soft snow, drag their feet, and leave tail drag-marks in the snow (de Vos 1951; Raine 1983).

Results and Discussion

Fisher tracks were recorded at 16 locations along trails (Figures 1 and 2). We were not able to determine whether tracks found during different inventories within the same portion of the study area belonged to the same animal because home ranges may overlap (Badry et al. 1997; Weir 2003*) and winter dispersal movements are known to occur (Arthur et al. 1993). On the other hand, under ideal snow conditions on the same day, we were able to identify two different series of Fisher tracks that were 2 km apart: one with 5-cm-wide tracks, and another with ≥ 6.5 -cm-wide tracks. Fishers appeared to use the north-central portion of the study area. All tracks were found in deciduous forests, as has been reported by Badry et al. (1997).

This study confirmed the presence of Fishers 17 years after their release in the study area. The Fisher population in the Cooking Lake-Blackfoot Provincial Recreation Area is well removed (> 150 km) from Fisher populations inhabiting boreal forests (Figure 1; Proulx et al. 2004), and immigration is very unlikely (Badry et al. 1997). The area is surrounded by agricultural fields, and the survival of animals dispersing from northern forests through open fields would be low (Proulx et al. 1994). In the last 17 years, Fisher sightings and signs have been reported in the vicinity of the Cooking Lake-Blackfoot Provincial Recreation Area (Dekker 2005; Proulx, unpublished data). A young Fisher was captured in a Beaver (*Castor canadensis*) trap within the recreation area in 1993. This study confirmed the presence of Fishers in habitats where animals had been released in the early 1990s. All this

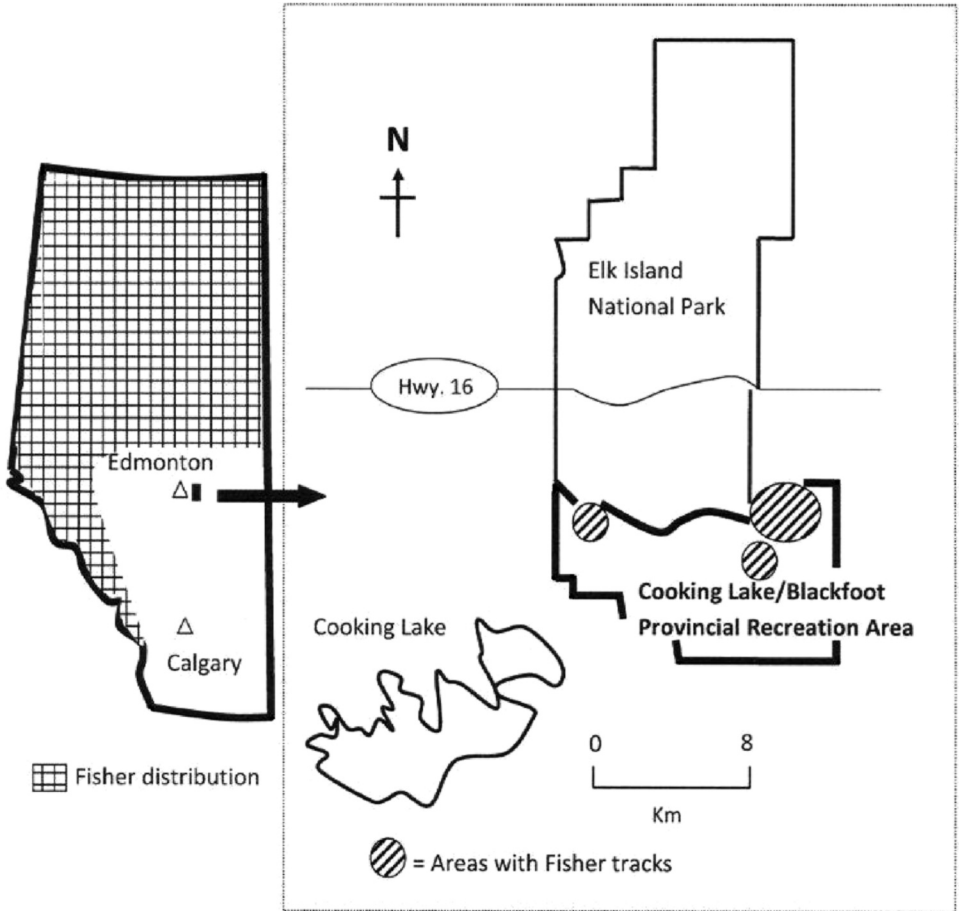


FIGURE 1. Distribution of Fisher in Alberta (after Proulx et al. 2004) and in Cooking Lake-Blackfoot Provincial Recreation Area, winters of 2006 and 2007.

evidence leads us to believe that the presence of Fishers in the Cooking Lake-Blackfoot Provincial Recreation Area is the result of reproduction, which suggests that the population is self-sustaining.

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FIGURE 2. Fisher tracks recorded in Cooking Lake-Blackfoot Provincial Recreation Area: (a) footprint, and (b) 2-2 running pattern.

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