

## Central Idaho Wolverine - Winter Recreation Research Project: Summary



**Led by the USFS Rocky Mountain Research Station**

**In partnership with:**

**Boise, Payette and Sawtooth National Forests  
Round River Conservation Studies  
Idaho Department of Fish and Game  
Idaho Department of Recreation and Tourism  
Idaho State Snowmobile Association  
Central Idaho Recreation Coalition**

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### **Background Information**

The wolverine is a mid-sized carnivore of legendary reputation as a fearless predator and crafty thief of traplines. It is also a ghost across its range – being rare, shy and elusive. The rugged and remote country that is home to the wolverine is naturally separated from the places people prefer to live. But, these remote areas are no longer truly remote in winter, and some people and scientists are concerned about potential effects of backcountry recreation on wolverine during winter and during their early spring denning season.

The low density of wolverines combined with the remote characteristic of their habitats has contributed to limited scientific research and a lack of systematic population monitoring. Research has consistently shown that wolverines use large home ranges, and that in the winter, they rely primarily upon carrion for food, which they seek using their keen sense of smell and extensive movements across their home ranges.



Female wolverines move to reproductive dens in late February. Dens are always located at high elevation under deep snow, which insulates the offspring (kits) from the cold and hides them from predators (Figure 1). To create the den, the female will dig through as much as 15 feet of snow to reach natural cavities under boulders or downed trees. There she has 2 to 3 kits that remain in the den for 9-10 weeks. Anecdotal and limited research information suggests that during this time, the female is very sensitive to disturbance. It has been shown that in some instances, she may abandon her den if disturbed; but in other instances, she has remained in the den even after significant disturbance.

This anecdotal information combined with limited research efforts provides conflicting information regarding the

sensitivity of wolverines to disturbance. Given the low densities of wolverine and their low reproductive rates, there is increasing concern regarding the potential negative effects of winter recreation in areas potentially used by female wolverine for reproductive denning.

The expanding interest in winter backcountry recreation combined with increasingly powerful snow machine technologies, has resulted in an expanding winter use of previously undisturbed public forest lands. This expansion results in a potential overlap of winter recreation with habitats preferred by wolverines during winter and reproductive denning and kit rearing, but potential effects of this overlap on wolverine populations is unknown. To date, the scientific basis for management continues to rely primarily on anecdotal accounts of the wolverine's response to human-related disturbance.

### Project Description

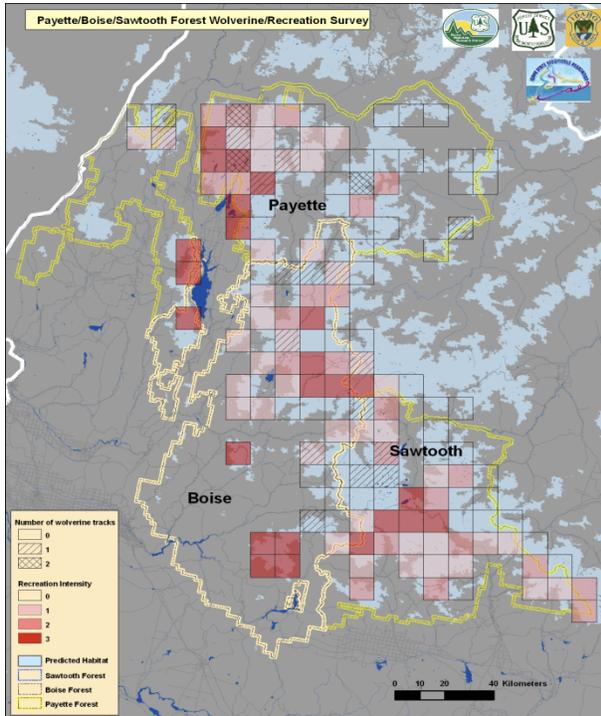
This project will undertake research to increase our understanding of potential interactions between winter recreation and wolverine demography and habitat use. In the first phase of this effort, winter aerial surveys were undertaken in 2008 to provide information on the distribution of wolverine and both motorized and non-motorized winter recreation across the 3 National Forests (Copeland et al. 2009). These surveys indicated that, at a regional scale, there are areas of extensive recreation use within potential wolverine denning habitat, and also that, in some of these areas, wolverine are present (Figure 2).

Phase II of the project will focus on understanding the spatial and temporal interactions between wolverine and recreation within these regions of overlap.



Figure 1. Wolverine dens tend to be at higher elevations and always in deep snows.

This Phase of the study will focus on an area north and east of McCall, Idaho, that was identified during the Phase I surveys as an area of known wolverine presence overlapping both snowmobile and backcountry ski recreational uses (Figure 3). After 2 years of focused effort in this study area, it is anticipated that the project would either move or expand to other suitable areas within the central Idaho region.



**Figure 2. Results of the 2008 aerial surveys show overlap in the presence of wolverines and winter recreation (see full report for details).**

Most importantly, increasing our scientific understanding of the potential effects of winter recreation should provide managers increased flexibility in developing management recommendations and help ensure that both wolverine and winter recreation are healthy and sustained values in the Rocky Mountains.

The over-arching goal of the proposed research project is to:

*Increase our understanding of the spatial and temporal interaction between winter recreation and wolverine habitat use, movements and denning.*

Specific project objectives include:

- 1) Document potential high quality habitats for wolverines across the study area
- 2) Understand the spatial and temporal patterns of recreation use, including the distribution and intensity of use
- 3) Assess the spatial overlap between winter recreation and wolverine potential habitats and known winter home ranges
- 4) Assess the spatial and temporal patterns of wolverine movements and habitat use relative to the distribution and relative intensity of recreation use
- 5) Document denning behaviors and locations, particularly in relation to recreation patterns



The project will focus on understanding the spatial and temporal interactions between wolverine and winter recreation. Intensive GPS tracking of both wolverines and winter recreationists will provide data matched in space and time. This will allow us to examine wolverine responses to varying levels and types of recreation, including spatio-temporal overlap at local scales and monitoring a diversity of wolverine response indicators, such as shifts in habitat use and movement patterns relative to the distribution and intensity of recreation across seasonal, weekly and daily periods.

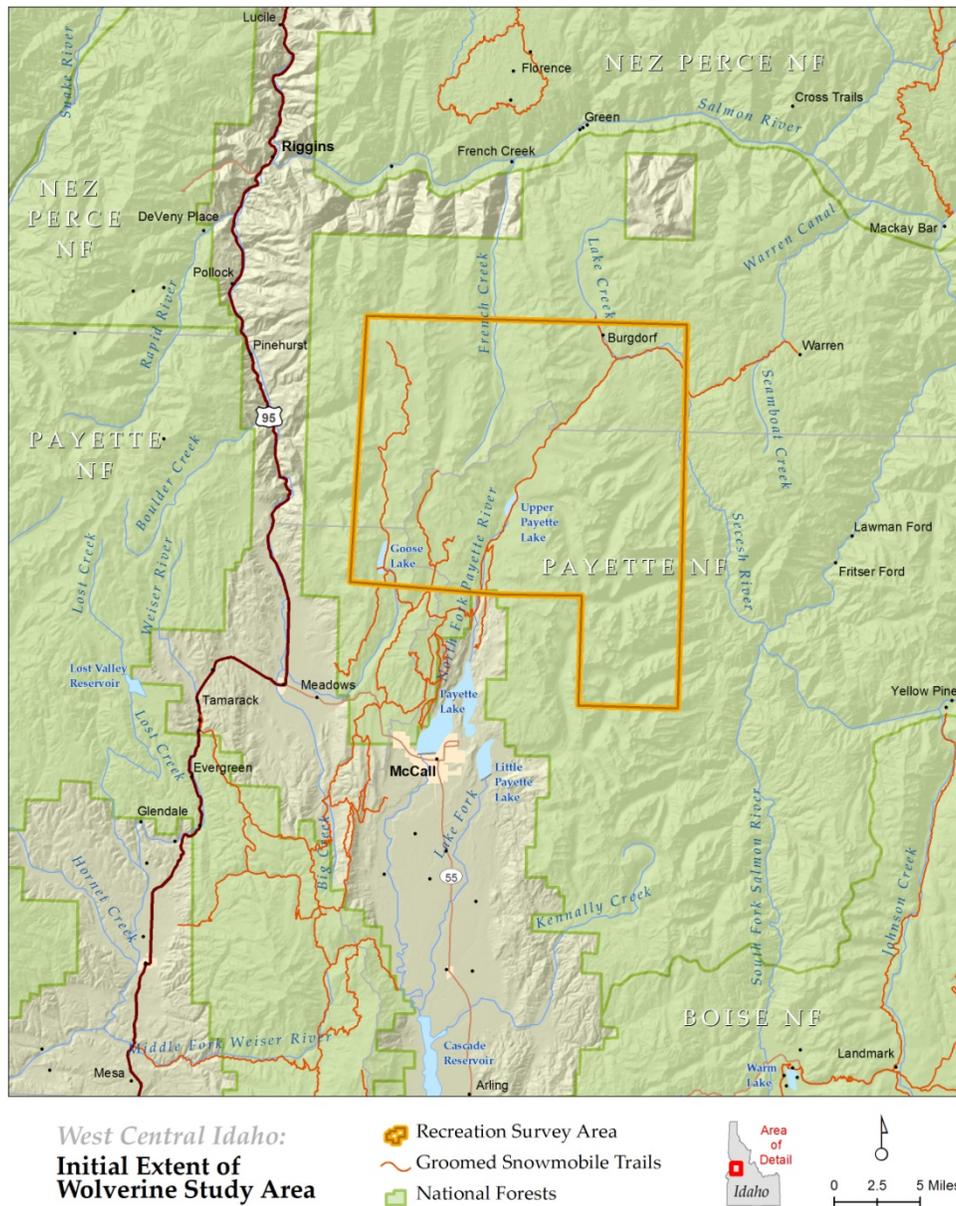


Figure 3. The study area near McCall, Idaho. The orange indicates the area where the focused recreation monitoring will occur. We expect wolverines will be monitored both within this area and in adjacent landscapes that fall within their individual home ranges.