

Because Wisconsin always has had a limited amount of boreal forest habitat, marginal snow conditions for lynx, and no evidence of reproduction, we concur with Thiel (1987) that, historically, Wisconsin has not supported a permanent, self-sustaining lynx population; rather, lynx presence is associated with cyclic lynx population fluctuations in Canada. We conclude that any lynx found in Wisconsin are dispersers, not residents.

Michigan—Michigan's Upper Peninsula supports boreal forest, and lynx habitat has been mapped on U.S. Forest Service lands in the Upper Peninsula (Great Lakes Ecological Assessment no date; J. Trick, U.S. Fish and Wildlife Service, pers. comm. 2003). Beyer *et al.* (2001) suggested habitat in the Upper Peninsula is limited. Additionally, Lake Superior nearly isolates the Upper Peninsula from source lynx populations in Canada, limiting the number of animals available to successfully establish a population. The majority of occurrences are on the eastern part of the Upper Peninsula where the largest patch of boreal forest historically occurs (Great Lakes Ecological Assessment no date) and which is the shortest distance (lynx can cross the St. Mary's River) from lynx populations in Ontario, Canada. Beyer *et al.* (2001) documented 39 verified records of lynx from Michigan's Upper Peninsula between 1940 and 1997. Twenty-seven of these records correlate with an extreme cyclic high in Canada in the early 1960s (Beyer *et al.* 2001). McKelvey *et al.* (2000b) found 44 verified records Statewide from the mid 1800s until 1983 (Harger 1965; McKelvey *et al.* 2000b). The Lower Peninsula naturally had very little boreal habitat (Great Lakes Ecological Assessment no date) and was even more isolated from source lynx populations in Canada by Lakes Huron and Michigan. Six records exist for Michigan's lower peninsula, all from 1917 or earlier (Harger 1965; McKelvey *et al.* 2000b). There is no evidence of lynx reproduction in Michigan (Beyer *et al.* 2001). Beyer *et al.* (2001) concluded a resident lynx population does not occur in the Upper Peninsula and that dispersers occur only occasionally.

We include Michigan's Upper Peninsula within the range of lynx because it supports some boreal forest and periodically lynx have been present but we conclude that limited number of lynx occurrences did not constitute a resident population but were dispersers. We do not include Michigan's Lower Peninsula because the few historic reports of lynx were in non-lynx habitat.

Great Lakes Summary—We conclude that northeastern Minnesota has historically supported and currently supports a resident lynx population, based on the number of lynx records, evidence of reproduction, and the presence of boreal forest contiguous with occupied habitat in Ontario. Currently, there are many more lynx in northeastern Minnesota than we knew of at the time of the final rule in 2000. We conclude records of lynx in Wisconsin and Michigan constitute dispersing animals, rather than individuals from resident populations, based on the lack of evidence of reproduction, lack of connectivity with suitable habitat, and limited amount of habitat.

Northern Rocky Mountains/Cascades

In this region, the majority of lynx occurrences are associated with the "Rocky Mountain Conifer Forest" in the Rocky Mountains of Montana, Idaho, eastern Washington, and Utah, and the Cascade Mountains in Washington and Oregon. The boreal forest of northern Washington, northern Montana, and northern Idaho is directly contiguous with that in adjacent British Columbia and Alberta, Canada. In this mountainous area, lynx habitat occurs at higher elevations and, therefore, is naturally fragmented by topography into island-like patches (McKelvey *et al.* 2000b). Lynx cross intervening landscapes, made up of shrub-steppe, grassland, low-elevation forested or unforested valleys, and in some cases, desert, to reach these habitat "islands." We combine the Northern Rocky Mountains and Cascades together for our analysis because the Cascades and Northern Rocky Mountains regions are only separated by the Okanogan River Valley in northern Washington and because of similar conditions in both regions. Additionally, the Cascades alone supports the smallest amount of lynx habitat in the contiguous United States. Approximately 99 percent of the lynx habitat in the Cascades was estimated to occur on National Forest lands (U.S. Forest Service and Bureau of Land Management 1999); based on current mapping there are nearly 6,000 km² (2,300 mi²) of lynx habitat on National Forest lands in the Cascades (Table 1). By contrast, the Northern Rocky Mountains alone support the largest amount of lynx habitat in the contiguous United States. Approximately 67 percent of the lynx habitat in the Northern Rocky Mountains was estimated to occur on National Forest lands (U.S. Forest Service and Bureau of Land Management 1999), and based on

current mapping there are nearly 96,000 km² (37,000 mi²) of lynx habitat just on National Forest lands in the Northern Rocky Mountains (Table 1). The relatively small size and close proximity of the lynx habitat in the Cascades to that in the Northern Rocky Mountains further supports considering both areas as one.

The majority of lands within the mountain ranges in this region are under Federal ownership, predominantly as National Forest lands. As a result, within this region a large amount of lynx habitat is found on Federal lands; as currently mapped, there are approximately 89,841 km² (34,688 mi²) of lynx habitat on National Forest land in the Northern Rockies and 5,949 km² (2,297 mi²) of lynx habitat on National Forest lands in the Cascades; approximately 1,300 km² (490 mi²) on BLM lands; approximately 2,900 km² (1,100 mi²) in Yellowstone National Park; and approximately 1,100 km² (430 mi²) in Glacier National Park (Table 1). Estimates of the quantity of lynx habitat were not available for all National Park Service units in this region.

Washington—Washington has a long record of verified lynx occurrences over the past century. Resident lynx populations were historically found in the northeast and north-central regions and along the east slope of the Cascade Mountains (McKelvey *et al.* 2000b, Stinson 2001). There are a few historic records of lynx in the southern part of the Cascades in Washington near Mt. Adams (Stinson 2001). Trapping data kept since 1961 reflect cyclic patterns (McKelvey *et al.* 2000b). The largest harvests were taken in 1969–1970 (31 lynx) and 1976–1977 (39 lynx) (Washington Department of Wildlife 1993). Results of snow track surveys, remote cameras, and DNA surveys show that lynx continue to occupy north-central and northeast Washington (Base and Zender 2001; Stinson 2001; Aubry *et al.* 2002; B. Maletzke, Okanagon National Forest, in litt. 2003; K. McKelvey, in litt. 2003). Recent records of lynx reproduction also exist for Washington (Stinson 2001; B. Maletzke, in litt. 2003). We conclude resident lynx populations continue to exist in Washington.

Oregon—There is no evidence that a resident lynx population ever occurred in Oregon (Verts and Carraway 1998; K. McKelvey and K. Aubry, Rocky Mountain Research Station, in litt. 2001). Only 12 verified records of lynx exist for Oregon for the past century (Verts and Carraway 1998, McKelvey *et al.* 2000b). The majority of these records are from marginal or non-lynx habitats and correlate with cyclic highs in