

allows a better understanding and description of lynx habitat (E. Johnston, in litt. 2003). Finally, rough estimates of

the amount of lynx habitat on all ownerships in the Northeast based on models of the probability of lynx

occurrence also are included in Table 1 (Hoving 2001, Hoving, University of Maine, pers. comm. 2003).

TABLE 1.—ESTIMATES OF LYNX HABITAT<sup>1</sup> WITHIN THE CONTIGUOUS UNITED STATES USED BY THE FISH AND WILDLIFE SERVICE IN THIS ANALYSIS

Land ownership	Northeast	Great Lakes	Southern Rockies	Northern Rockies/Cascades
<b>Federal Lands</b>				
U.S. Forest Service <sup>2</sup>	2,104 km <sup>2</sup> (813 mi <sup>2</sup> ) .....	17,685 km <sup>2</sup> (6,828 mi <sup>2</sup> ).	30,311 km <sup>2</sup> (11,703 mi <sup>2</sup> ).	N. Rockies: 89,841 km <sup>2</sup> (34,688 mi <sup>2</sup> ) Cascades: 5,949 km <sup>2</sup> (2,297 mi <sup>2</sup> ).
Bureau of Land Management <sup>3</sup> .	No BLM lands .....	No BLM lands .....	716 km <sup>2</sup> (277 mi <sup>2</sup> ) ....	1,236 km <sup>2</sup> (477 mi <sup>2</sup> ).
National Park Service <sup>4</sup> .	No NPS lands .....	Not available .....	Not available .....	Yellowstone: 2,784 km <sup>2</sup> (1,075 mi <sup>2</sup> ) Glacier: 1,103 km <sup>2</sup> (426 mi <sup>2</sup> ).
<b>Non-Federal Lands</b>				
	Not available .....	Not available .....	Not available .....	Not available.
<b>All Ownerships Combined</b>				
Hoving, pers. comm. 2003 <sup>5</sup> .	13,511 km <sup>2</sup> (5,217 mi <sup>2</sup> ) ..... Maine: 12,300 km <sup>2</sup> (4,700 mi <sup>2</sup> ) New Hampshire: 1,000 km <sup>2</sup> (400 mi <sup>2</sup> ) Vermont: 12 km <sup>2</sup> (4 mi <sup>2</sup> ) New York: 190 km <sup>2</sup> (73 mi <sup>2</sup> )	Not included in study	Not included in study	Not included in study.

<sup>1</sup> Each of these estimates is qualified (e.g., Yellowstone is likely an overestimate because vegetation mapping has not been refined; therefore, this estimate broadly includes all areas of potential habitat).

<sup>2</sup> E. Johnston (in litt. 2003).

<sup>3</sup> BLM acreages provided by management unit (J. Whitney, BLM, in litt. 2003); therefore, Northern Rocky Mountains and Cascades are not individually identified. BLM acreages not available for Wyoming.

<sup>4</sup> Not all NPS units provided lynx habitat estimates. Acreages from Murphy *et al.* (2003) and S. Gniadek (in litt. 2003).

<sup>5</sup> Fifty percent or greater probability of lynx occurrence in this area based on Hoving (2001).

## Northeast

Northeastern United States lynx and snowshoe hare habitat and populations are directly contiguous with those of Canada, south of the St. Lawrence River, in southeastern Quebec and western New Brunswick. Movement of lynx across the St. Lawrence River between populations in northern Quebec and those south of the St. Lawrence is believed to occur infrequently (R. Lafond, Quebec Ministry of the Environment, pers. comm. 1999). However, a substantial lynx population resides south of the St. Lawrence River on Quebec's Gaspé Peninsula, where lynx densities are estimated to be 10 lynx per 100 km<sup>2</sup> (26 per 100 mi<sup>2</sup>) during periods of high hare populations (C. Fortin, unpubl. data, in Ray *et al.* 2002). Lynx probably encounter little difficulty moving between southeastern Quebec and northern Maine because habitat is continuous.

Based on an analysis of cover types containing most of the lynx occurrences, McKelvey *et al.* (2000b) determined that, at the broad scale, most lynx occurrence records in the Northeast were found within the broadly

described "Mixed Forest-Coniferous Forest-Tundra" cover type. This habitat type occurs along the northern Appalachian Mountain range from southeastern Quebec, western New Brunswick, and western Maine, south through northern New Hampshire. This habitat type becomes naturally fragmented and begins to diminish to the south and west, with a disjunct segment running north-south through Vermont, and a patch of habitat in the Adirondacks of northern New York (McKelvey *et al.* 2000b).

Hoving (2001) modeled lynx habitat across all ownerships for the Northeast region, including Canada south of the St. Lawrence River. Hoving (2001) found that lynx are most likely to occur in areas with deep snow (greater than 268 cm (105 in) mean annual snowfall) and relatively little deciduous cover. Based on this model, potential lynx habitat is concentrated on Quebec's Gaspé Peninsula and northwestern New Brunswick extending into northern Maine. The majority of lynx habitat in this region is found in Canada; only sixteen percent of this area is in the United States. Based on this analysis,

there is little lynx habitat in the northeastern United States outside of Maine (Hoving 2001). In the United States, the amount of potential lynx habitat where there is a 50 percent or greater probability of lynx occurrence in this region is roughly 13,501 km<sup>2</sup> (5,177 mi<sup>2</sup>) (Table 1) (C. Hoving, University of Maine, pers. comm. 2003). Maine has approximately 12,300 km<sup>2</sup> (4,700 mi<sup>2</sup>) of potential lynx habitat, New Hampshire has 1,000 km<sup>2</sup> (400 mi<sup>2</sup>), Vermont has 11 km<sup>2</sup> (4 mi<sup>2</sup>), and New York has 190 km<sup>2</sup> (73 mi<sup>2</sup>) (C. Hoving, pers. comm. 2003).

Maine-Lynx have been documented in Maine since the 1800s, although accounts are irregular and anecdotal for some time periods (Hoving 2001; R. Joseph, U.S. Fish and Wildlife Service, in litt. 1999). Lynx occurrences have been fairly consistent since the 1950s (Hoving 2001; R. Joseph, in litt. 1999). Historical accounts provide evidence of the reproduction and persistence of lynx in several northern and western townships (Hoving 2001; R. Joseph, in litt. 1999). Since 1999, intensive lynx research in northern Maine has resulted in 30 different lynx radio-collared, and