Snowshoe Hare Abundance, Distribution, and Habitat Use in Glacier National Park

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Glacier National Park supports a population of the federally Threatened Canada lynx (*Lynx canadensis*), but little is currently known about their principal prey in Glacier, snowshoe hares (*Lepus americanus*), that makes it difficult to assess which habitats in the Park may be suitable for lynx. In summer 2005 we implemented a 3-yr study on snowshoe hare abundance, distribution, and habitat use in Glacier with a secondary objective of developing a non-invasive genetic sampling approach that could be of general benefit to National Parks initiating monitoring programs. Our data to-date suggested that snowshoe hare populations are patchily distributed throughout Glacier National Park. There was little or no evidence of hares in >60 percent of the forested sites we surveyed. The highest hare densities we recorded in the Park occurred near the Two Medicine area in the Park's southeast corner, and in the post-burn regeneration from the 1988 Red Bench fire in the Park's northwest corner. Snowshoe hare use of post-fire regeneration from the 1988 burns is highly variable. Although our two highest hare density sites occurred in these burns, half of our study sites in the 1988 burns had little or no evidence of snowshoe hares. A non-invasive genetic sampling approach shows potential for providing reliable hare density estimates in difficult-to-access areas of relatively high hare densities (>1 hare/ha). However, at the lower hare densities found throughout much of Glacier National Park, our current non-invasive sampling methods do not yield sufficient pellets for reliable mark-recapture density estimation.