

EVALUTATION THE PREY BASE FOR LYNX: SNOWSHOE HARE ABUNDANCE, HABITAT USE, AND POPULATION DYNAMICS IN GLACIER NATIONAL PARK

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Glacier National Park supports a population of the federally Threatened Canada lynx (*Lynx canadensis*). However, little is currently known about their principal prey, snowshoe hares (*Lepus americanus*), in Glacier that makes it difficult to assess which habitats in the Park may be suitable for lynx. Understanding two particular habitat patterns in Glacier would be especially insightful in providing information for management decisions involving lynx. First, snowshoe hare responses to post-fire regeneration are not well known; yet fires are a regular occurrence in parts of West Glacier. Second, many more lynx have been documented in the patchy forest habitats of East Glacier than in the mosaic of mature and post-fire regenerating stands in West Glacier. It is not known whether snowshoe hare populations show a similar distribution in the Park. In summer 2005 we implemented a 3-year study on snowshoe hare abundance, distribution, and habitat use in Glacier, relying in part on a non-invasive genetic sampling approach that could be of general benefit initiating monitoring programs in National Parks. Our preliminary data suggest that snowshoe hare populations in Glacier National Park are highly concentrated in the southern third of the Park and occur in very low densities elsewhere. Park areas affected by the 1988 Red Bench fire and more recent fires show limited forest regeneration and do not appear to support current snowshoe hare populations. A non-invasive genetic sampling approach shows some promise for providing better hare density estimates compared to live-trapping methods in areas of low hare densities (<0.3 hares/ha).