

A GIS TOOL FOR CONDUCTING LANDSCAPE-SCALE HABITAT QUALITY ASSESSMENTS

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Evaluating and quantifying human impacts and improvements to wildlife habitat at large scales is a continuing challenge for wildlife managers. To help such evaluations, we have developed a GIS-based habitat modeling tool that quantifies the number and quality of home ranges for species of interest in existing, historical, or potential future landscape conditions. We used this tool in a 1.5-million ac landscape in northern Idaho to model habitat-based species viability for eight species of concern. This presentation will focus on the results for Canada lynx, northern goshawk, and flammulated owl. We developed habitat potential maps at the scale of the home range for each species. Models were created for existing, historical, and predicted future habitat conditions. Future habitat conditions were projected based on an objective of maintaining or restoring 20 percent representation of historical conditions. Model runs were used to produce an estimate of the number of high, moderate, low, and very low quality home ranges, with implications from this for likely persistence of each species. Improvements in future habitat quality varied among the species, but improved the most for those species dependent upon drier forest types where greater restoration efforts are needed and planned. The ability to model habitat-based species viability allows land managers to estimate the impacts or improvements to wildlife species of concern that are likely to result from development, management or restoration activities.