EXSYS Case Study

Lynx Management in Alaska

Alaska Department of Fish and Game

Lynx populations in Alaska and much of Canada fluctuate greatly over a 9-11 year period, responding mainly to the abundance of showhares. Managers of lynx harvest (trapping) must be able to respond with appropriate regulations to ensure sustainable harvest limits are not exceeded. To provide more response management options during the lynx population cycle, lynx managers in Alaska use a tracking strategy (THS). This strategy applies to the road-connected areas of South central and Interior Alaska, which have high trapper use. It modifies trapping season lengths, as lynx and prey populations vary, to ensure that sustainable harvest limits are not exceeded. A lack of quantitative data restricted the ability of managers to make important management decisions.

An interactive knowledge automation system, LynxTrak, was developed to help managers determine the most appropriate management action to take The knowledge base incorporates a wide network of quantitative and qualitative information regarding lynx across their range, including available literature, in-house databases, and the collective observations and experiences of field biologists and trappers.

The system utilizes four modules: (1) Population potential (lynx abundance, food availability, production, survival, (2) Target harvest index (estimated density, population estimate, estimated optimal yield, (3) Harvest pressure (Lynx harvest, trapping), and (4) Risk factors. Each question and variable in LynxTrak was evaluated in terms of its usefulness in helping current population status and harvest to reach the appropriate goal of a new lynx season. The system remains a work in progress, changing as new data and new management challenges arise. The efficacy of LynxTrak will be tested in its application over time, but should result in more appropriate and accountable decisions by lynx harvest managers in Alaska.

LynxTrak is available in a runtime version that may be downloaded from this web site:

http://www.wildlife.alaska.gov/hunt_trap/trapping/lynxtrak.cfm