Rationale

Flying squirrels may be sensitive to fragmentation and good indicators of landscape connectivity because they need mature trees to climb for gliding and to sleep in during the day. To understand the connectivity requirements of flying squirrels in Nova Scotia, local life history data are required to determine how long they live, how many young they have and how they disperse. With this project, live-trapping, passive integrated transponder (PIT) tags and nest boxes were used to collect life history data for flying squirrels. PIT tags are small glass microchips that are inserted under an animal's skin and that provide the time, date and unique code for the animal when they pass through a circular antenna.

A.Belliveau, MTRI

Flying squirrel in a tree

Monitoring

MONITORING FLYING SQUIRREL SURVIVORSHIP

OBJECTIVES

- To determine survivorship of flying squirrels.
- To determine fecundity (ability to produce young) of flying squirrels.

METHODS

- Study grids were installed at six sites in the Mersey and Medway watersheds with wooden brackets placed on the south side of trees at chest height.
- Live traps were placed on the brackets and baited with peanut butter and apples.
- Captured flying squirrels were measured, implanted with PIT tags and released where they were caught.
- PIT tag receiving stations were placed within the grid to monitor survivorship.
- Squirrel boxes placed in 2007 were searched for nest material and food.

A.Belliveau, MTRI

Flying squirrel being gently and carefully handled for measurements and PIT-tagging

RESULTS

- Between January and May of 2009, 37 flying squirrels (16 Southern and 21 Northern) were live-trapped near Donnellan Lake, Hemlock Hill, and Grafton Lake.
- Seven flying squirrels were recaptured from previous years. Four of these had been PIT-tagged last year, three had been tagged two years ago and none remained from three years ago.
- Interestingly, two squirrels were catured simultaneously in a trap on two separate occations, once with a Southern and a Northern together.
- Thirty-one flying squirrels visited recording stations, nineteen were recently PIT-tagged, five were originally tagged the previous year, and two had been tagged two years before.
- Another unusual result this year was that 10 squirrels visited the same reader during a one week period at Grafton.
- Incidentally, five captures were made of the rare American marten.

RESULTS
Continued

- One study site for future live-trapping and monitoring has been installed near MTRI's field station in Kempt Provincial Park Reserve but no animals were captured during 105 trap nights.
- Four of fourty-nine squirrel boxes contained nesting material, three of them contained food, and the entrance on four boxes had been chewed.

NEXT STEPS

- Determine priorities for field work and analysis including prioritization based on available funds and collaboration with other agencies such as those conducting flying squirrel research in New Brunswick.
- Increase study sites within the landscape and determine statistical power required for long-term monitoring if funding is available.
- Work with land managers and other researchers to build a habitat suitability model and test forest management scenarios in terms of flying squirrel survivorship.
- Communicate project results to small woodland owners and large forest companies to promote forest management for a diversity of tree species and the retention of large old trees and cavity trees.

YEARS OF DATA

- Ongoing project since 2005

PARTNERS

- Mersey Tobeatic Research Institute
- NSDNR Habitat Conservation Fund
- Cégep de La Pocatière
- Cégep de Sherbrooke
- Natural Resources Canada

R.Goss, MTRI

Releasing a flying squirrel

A.Belliveau, MTRI

American marten captured in squirrel trapping

A.Belliveau, MTRI

Hugo and Noemi download data from a squirrel station

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