

Marten habitat guidelines in boreal forests of Ontario



Why Ontario Marten Habitat Guidelines?

- EA Board Decision identified marten as being a featured species in the boreal forest
- Term and Condition 94b required development and implementation of timber management guidelines for marten habitat

The Guidelines

- Objectives:
 - to maintain healthy populations of marten across forest landscapes
 - sub populations of 25 animals capable of withstanding moderate trapping pressure and persisting in isolation for 40 years

Landscape configuration and stand structure

- based on core area approach - 30-50 km²
- approximately 10% of an FMU in marten habitat
- minimum size based on area required for 25 adults
- habitat defined as: mature and older conifer and conifer-dominated mixedwoods (boreal)
- In surrounding areas: encourage practices to maintain CWD and standing dead and moribund trees

Key field parameters needed

- Population variability over time and space
- Mean home range size and variability
- Mean adult survival and variability
- Mean juvenile survival and variability
- Territory positioning with respect to habitat (resource selection)
- Mean net recruitment and variability
- Habitat effects on survival and recruitment

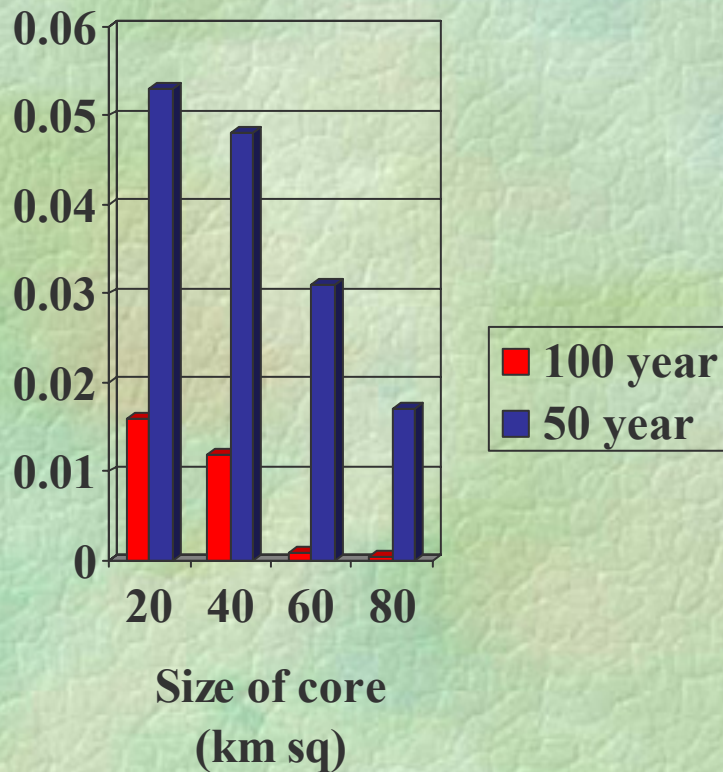
Key parameters (cont'd)

- Probability of successful dispersal
- Spatial distribution of successful dispersal
- Habitat correlates of successful dispersal
- Mean and variance in trapping mortality
- Habitat effects on trapping mortality
- Transition probabilities for forest successional change
- Probability of natural forest disturbance
- Probability of commercial logging

Forest guidelines and marten viability

- Coordinate modules for forest succession, natural disturbance, PVA, and forest harvest optimization
- Use the PVA software as a strategic gaming tool, evaluating alternate MNR guidelines

Probability of marten extinction compared across policy options



- Risk declines with core size
- Risk varies with rotation frequency
- Management policy for shorter rotation requires provision of larger cores

Funding support

- Forest Ecosystem Science Cooperative Inc.
- NSERC/CFS Partnership Program
- Sustainable Forest Management Network
- Ontario Ministry of Natural Resources
- NSERC Discovery Grant
- CFS-NRCan grants

