

Caribou PVA

John Fryxell et al.

Objectives

- ◆ Summarize existing data on caribou demographic rates, movement patterns, range use
- ◆ Develop a spatially-explicit computer model for population viability of caribou.
- ◆ Compare potential policy alternatives to determine which have highest probability of sustaining caribou
- ◆ Assist in design of field study to evaluate hypotheses concerning energy balance, **apparent competition**, predator road use, prey escape, cumulative effects

Progress

- ◆ Most of the available collaring data acquired from NE region (Brown & Gauthier)
- ◆ PVA model and results for previously acquired NW data by Ph.D. student Jen Shuter for Northwestern Ontario
- ◆ Jen and Post Doc (Luca Borger) beginning analysis of data

Funding

- ◆ \$20K from 10th Year Anniversary Fund
- ◆ \$31K from:
 - Abitibi-Bowater
 - Domtar
 - MNR
 - Wagner

PVA Example

Apparent Competition
Hypothesis

Spatial caribou- moose-wolf model



NW Ontario radio-telemetry data

- **Collection period:**

Mar. '95 – Apr. '00

- **34 individuals**

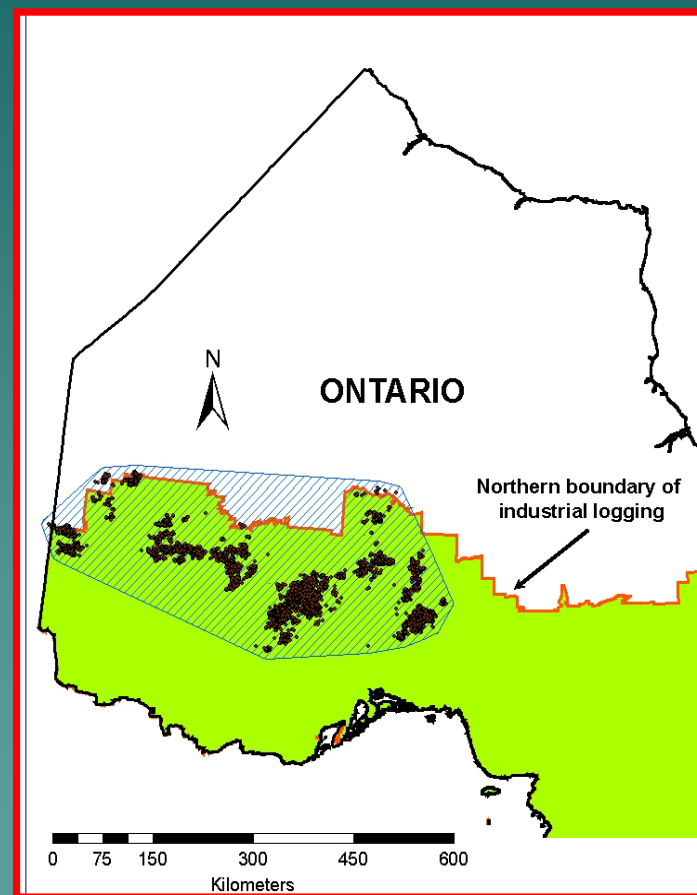
27 females, 7 males

31 adults, 3 yearlings

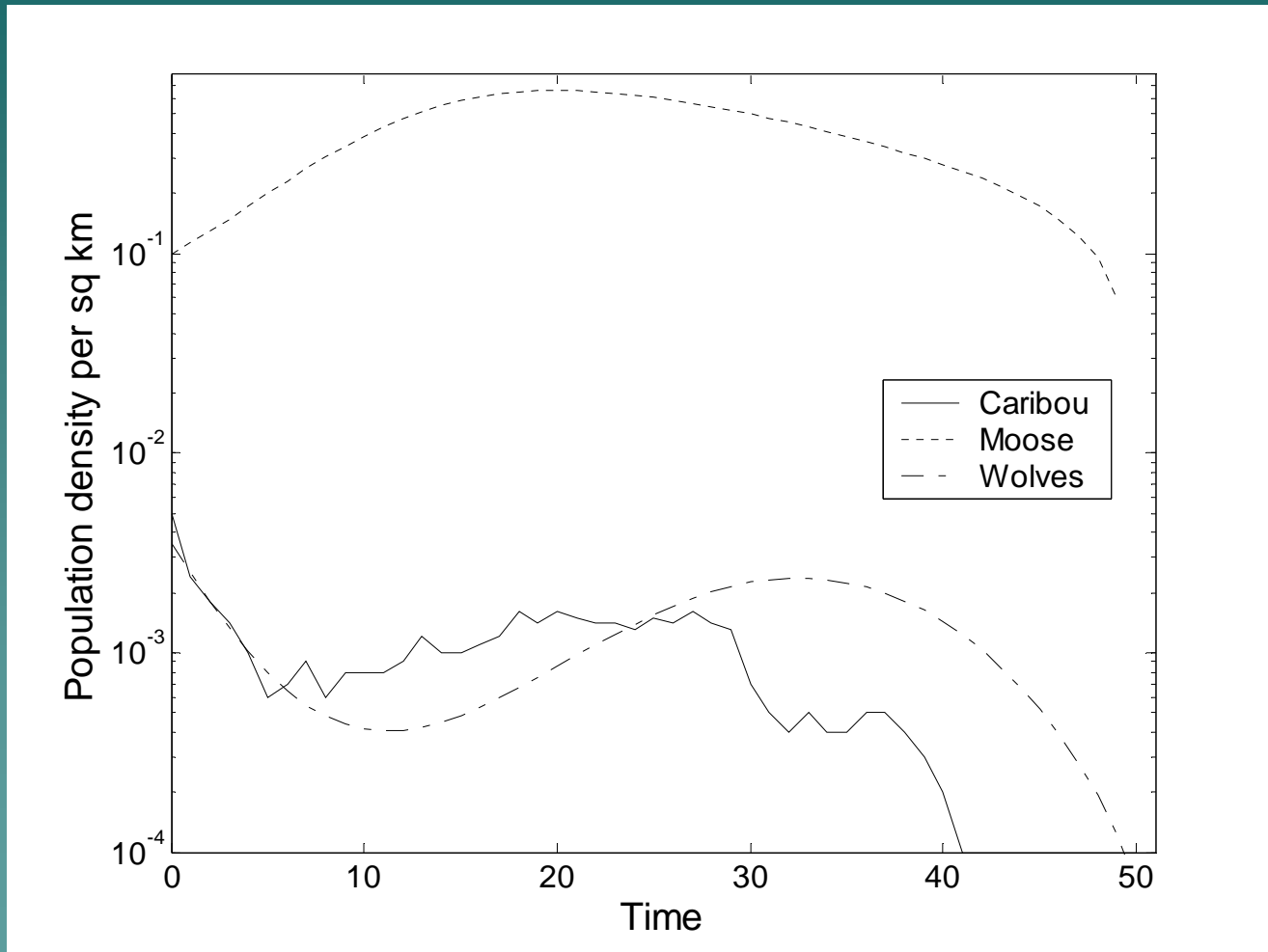
- **Satellite (UHF) & VHF transmitters**

2-7 day location interval

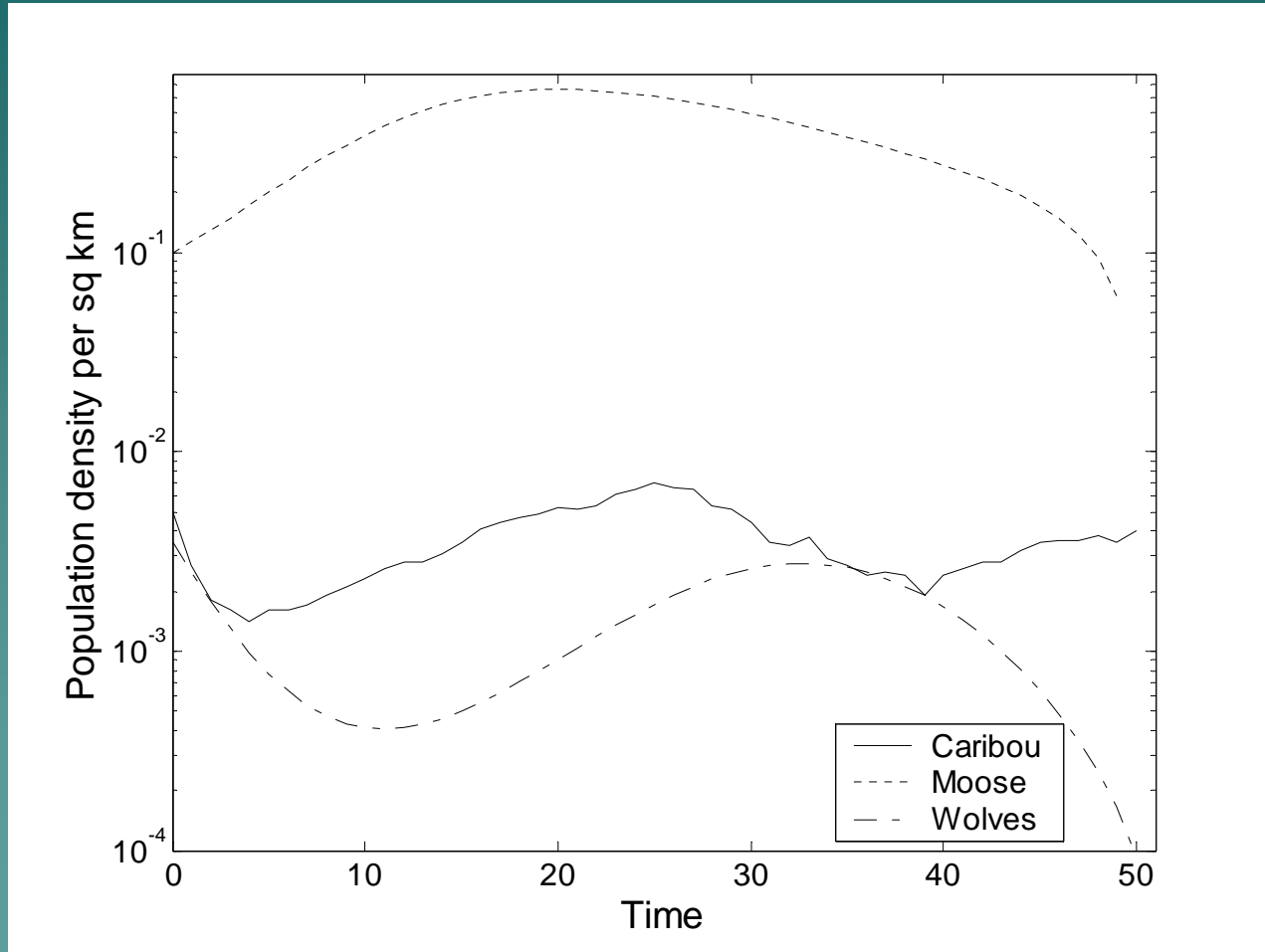
- **160 000 km² study area,**



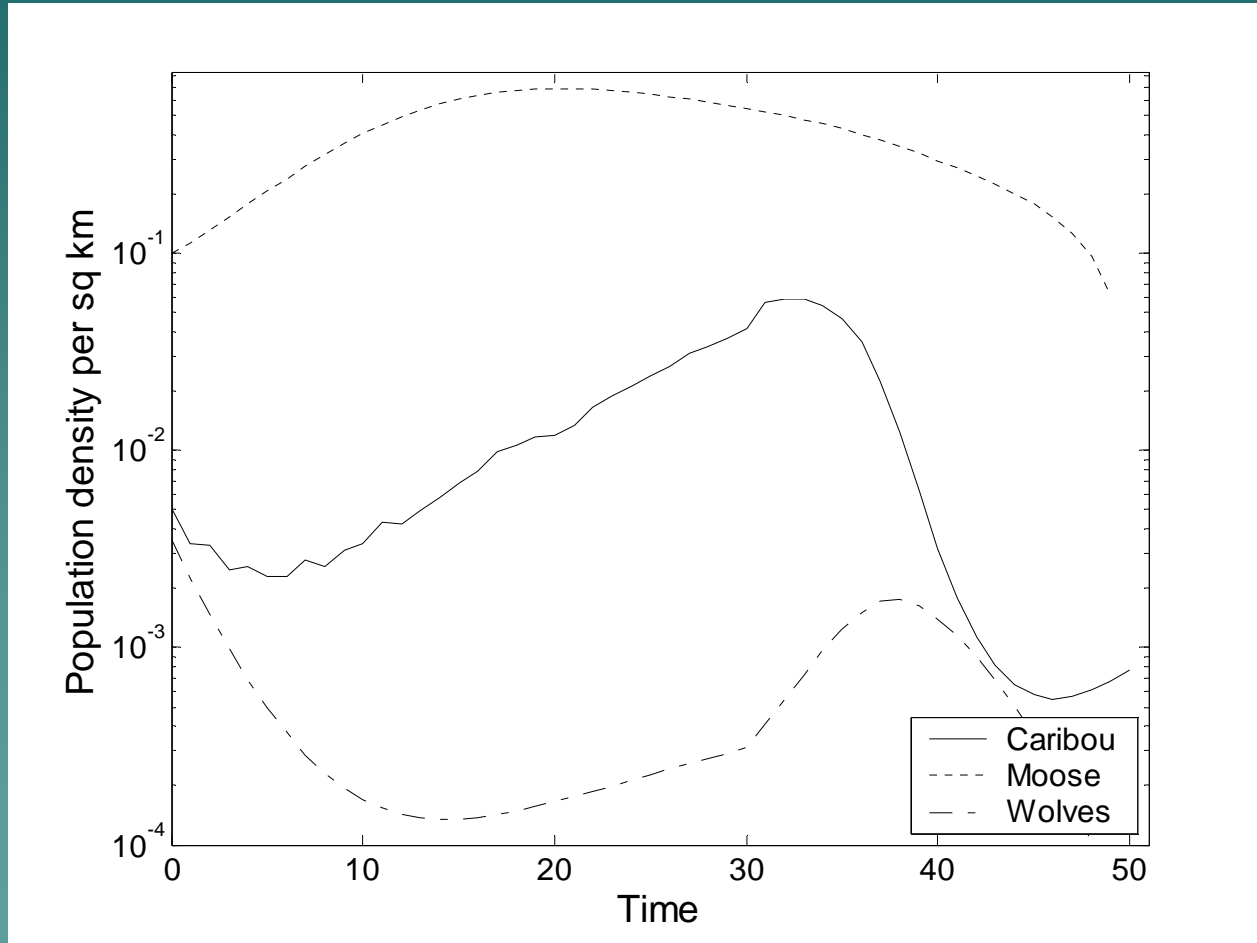
Simulated population dynamics (40% mature stands)



Simulated population dynamics (60% mature stands)



Simulated population dynamics (40% mature stands) + 10% annual wolf harvest.



Simulated population dynamics (40% mature stands) + 10% annual moose harvest.

