

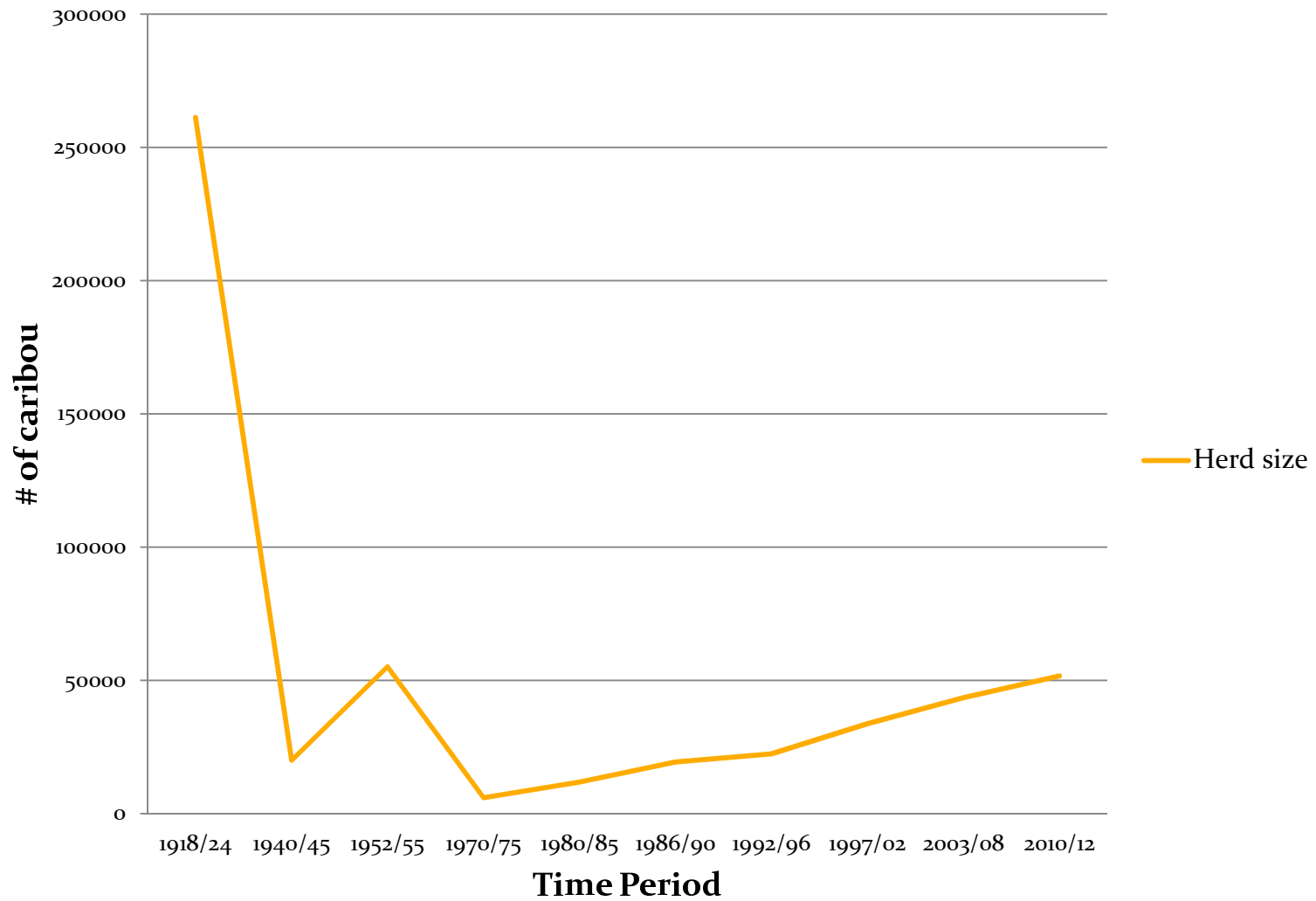


# **Management and Research Conducted During Fortymile Caribou Herd Recovery**

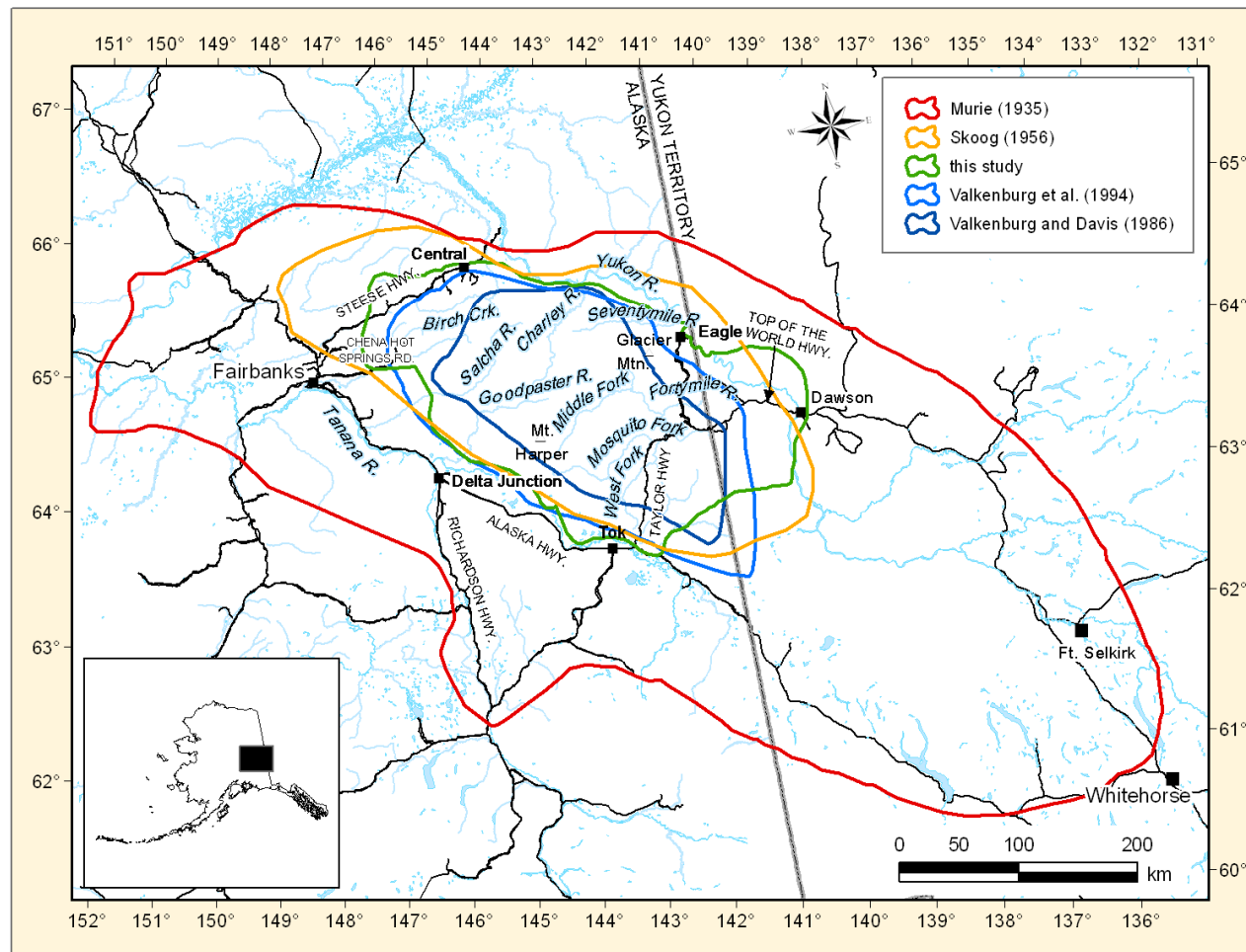
Craig Gardner and  
Rod Boertje



## Fortymile Caribou Herd Size



# Distribution of the Fortymile Caribou Herd, 1920-2010





# FCH Management History

- Mid-1970s-present: Restricted Harvest
- 1990: Representatives from Alaska and Yukon agencies met to draft 40mile management goals and objectives
  - Reestablish herd to its historic range in Alaska and Yukon
    - Harvest management, predation if necessary, habitat protection
- 1991-94: Conflict, Confusion, and Chaos
  - Subsistence
  - Wolf Management
  - Political Decisions
- 1993: Letter from T'rondek Hwëchîn First Nation
  - Need to become more involved in 40mile management
- 1994: T'rondek Hwëchîn First Nation, local Alaskan groups and representatives of Yukon and Alaskan agencies met:
  - Created a 40 mile caribou management team



# Fortymile Caribou Management Plan 1994-2000

- 18 then 20 members: T'rondëk Hwëchîn First Nation, Alaska Native groups, State and Federal agencies, sportsman and environmental/animal welfare groups
- Common Belief: Recovery of the 40mile herd to historic ranges in Alaska and Yukon was worthwhile
- Initial Goal: Develop a recovery plan that would **withstand political changes**



# Team Decisions

- Primary limiting factor to herd recovery was predation
  - Calf mortality had to decline for the herd to increase
  - Harvest was not limiting herd growth
- Predator control was controversial
  - Compromises were necessary including harvest reductions and habitat protection
- Plan had to be accepted as a whole
  - Interesting because the plan was designed as a stepwise process requiring periodic agency decisions
- Management Actions had to be studied
- Public awareness



# Harvest

- Game changing concession
  - Reduce harvest to 150 bull caribou in Alaska
    - Legally complicated
  - The Yukon Board stopped harvest of 40mile caribou by all non-First Nation people
  - T'rondëk Hwëchîn First Nation voluntarily stopped harvest
- Result:
  - Harvest was reduced to  $< 0.6\%$  during 1996-2000-bulls only



# Reduce Predation

- Predator Control Requirements:
  - Governor approval based on sound science, economic sense, and public approval following results of the National Academy of Sciences review
    - Approved
- Political realities required new methods
  - Conservative approach; not expectant of high growth
  - Non-lethal control and maintenance
    - Translocation combined with sterilization
      - 15 packs within the herd's calving and summer ranges



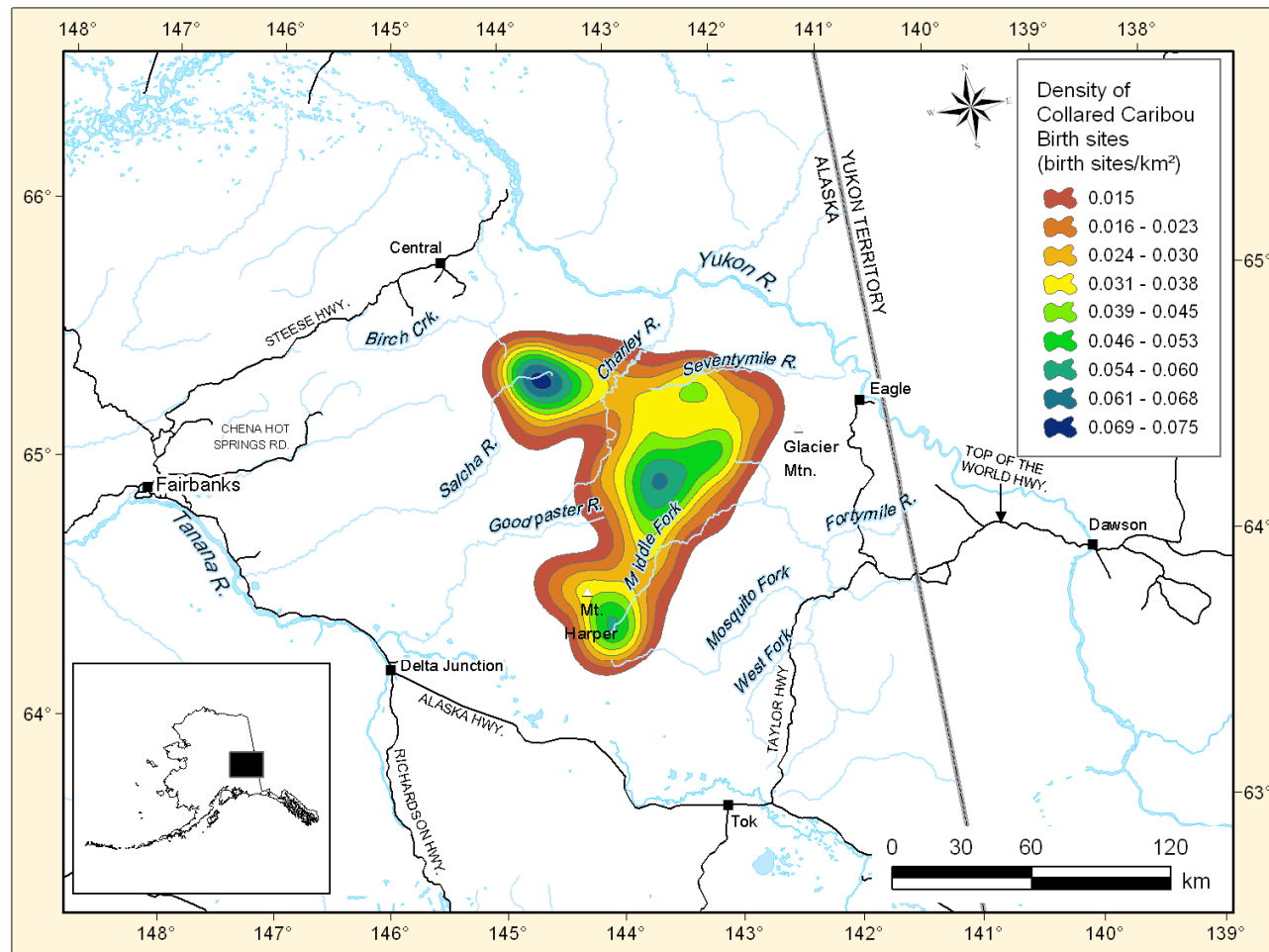








# FCH Calving Site Density: 1992-2000





# Monitoring Plan's Effectiveness: Management and Research Programs

- Calf mortality studies (10 years > 70 collars/yr)
- Annual herd photocensus
- Annual fall composition surveys
- Herd and winter range condition monitoring and sampling
  - Determine seasonal ranges
  - Calf weights
  - Pregnancy rates, age of 1<sup>st</sup> reproduction, median calving date
  - % lichen in winter diet
  - Disease
- Annual wolf surveys
  - Radiocollared pairs and track surveys
- Annual moose and sheep population surveys to evaluate additional effects of wolf control

# **Wolf Treatment: Translocate and Sterilization**

**110 wolves pre-treatment in 18,700 km<sup>2</sup> October 1997 (15 packs):**

**59 in May 1998 (46% reduction)**

**41 in May 1999 (63% reduction)**

**27 in May 2000 (75% reduction)**

**24 in May 2001 (78% reduction)**

**30 in May 2002 (73% reduction)**

**60 in May 2003 (55% reduction)**

**Treated pairs decreased territory size, defended territories, and long lived**



# Results

- Summer wolf caused mortality of calves decreased
  - Wolves killed 20% of summer calves prior to treating wolves, 1994-1996
  - Wolves killed 14% of summer calves post-treatment, 1999-2002
- Herd size increased at a greater rate compared to adjacent herds (7-19%/yr)
  - Herd 51,675 caribou (2010 census); about doubled since 1997
- Began expanding range
  - Eastward expansion began in 2002: Crossed the Yukon River
  - Western expansion began in 2007



# Habitat

- Over 90% of the herd's historic range is still intact
- Concerns: Calving and postcalving ranges
  - Mining
    - Created a website to minimize conflicts during calving and postcalving
  - Military overflights
    - Also used website and made concessions to timing of major exercises and airspace needs
- Volunteer program
- Produced Habitat Needs Assessment





# Maintaining Public Awareness and Approval

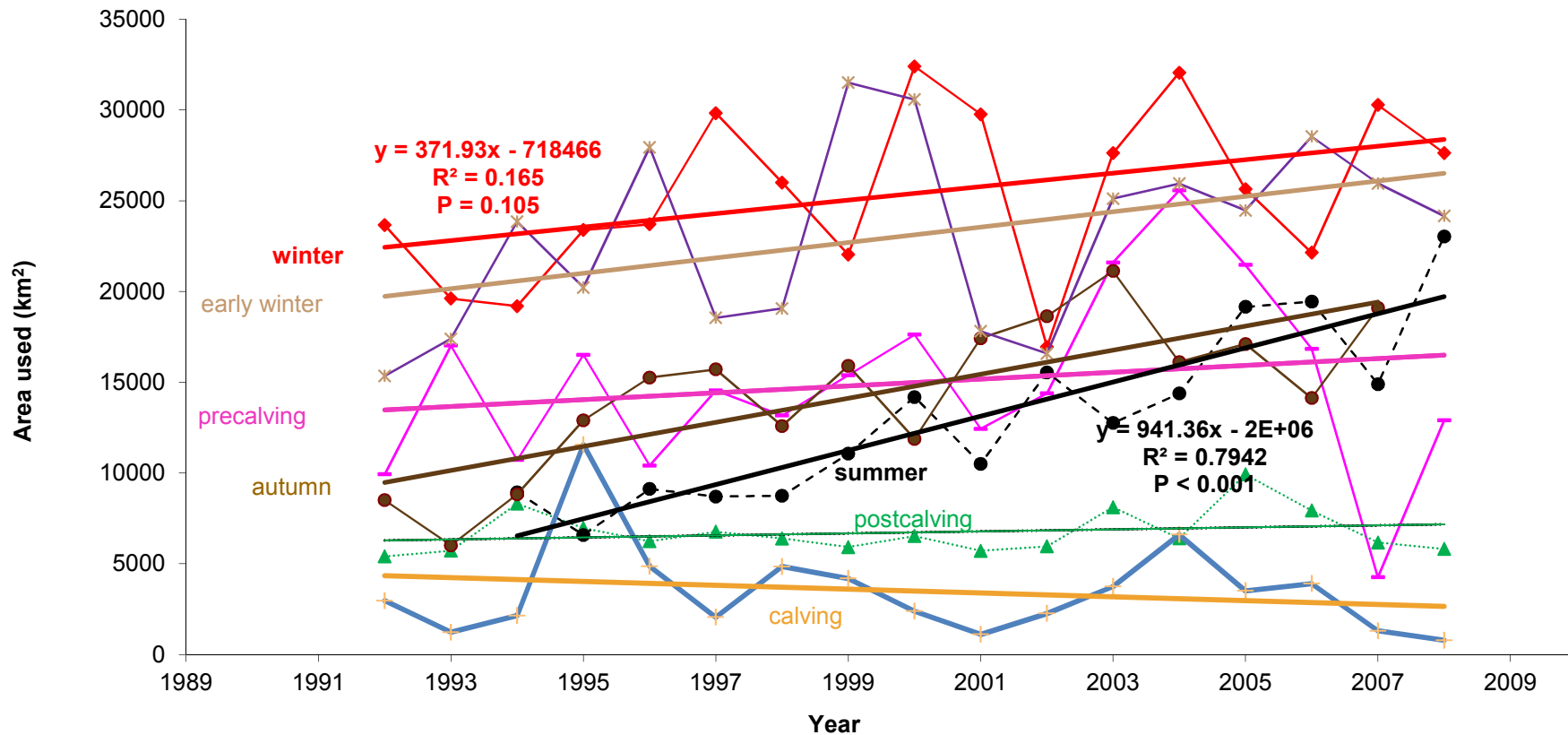
- Primarily through “The Comeback Trail”
- Thousands of recipients
- Presentations
- Maintained acceptance
  - Management direction supported by the past 4 governors
  - Endorsed by Fairbanks Daily News Miner, Anchorage Daily News, and Juneau Empire
  - Recipient of the Governor’s Award



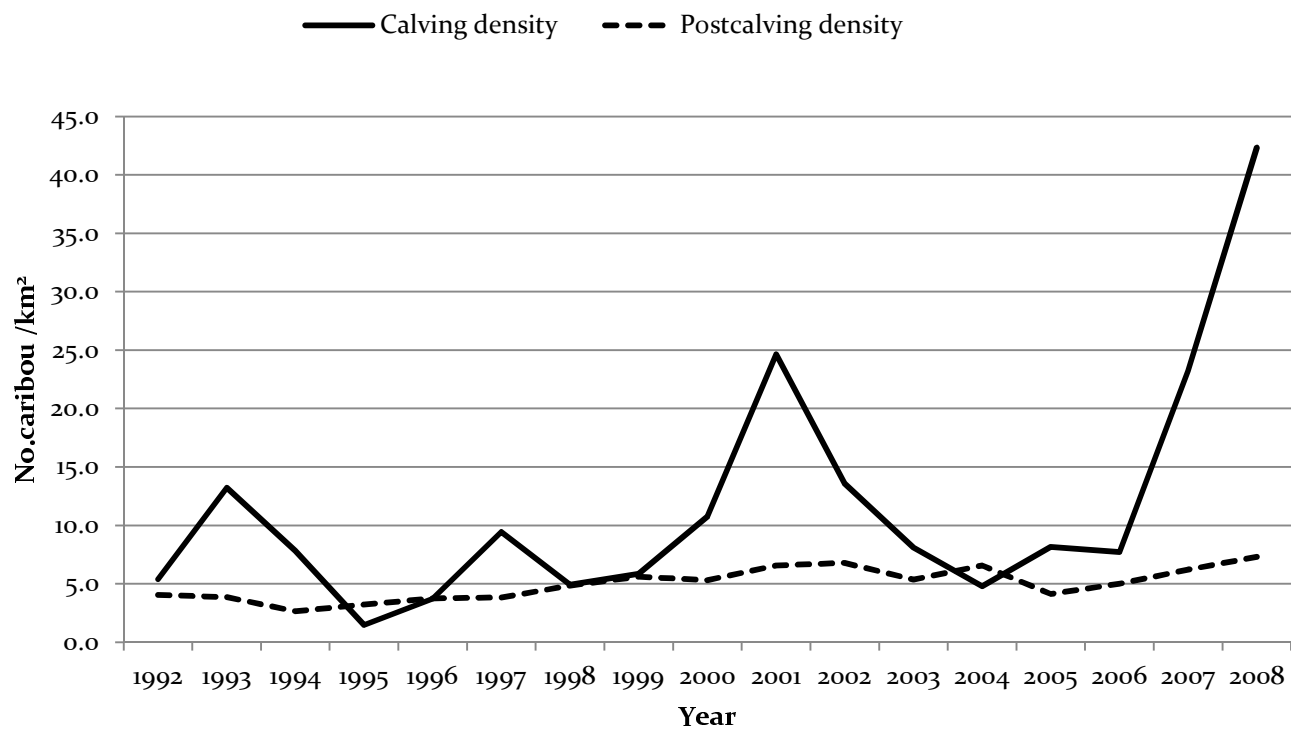
# Ongoing Monitoring

- Herd Size and Trend-annual photocensus
  - substantial and prolonged increase in herd size continues
- Herd fall composition-annual
- Harvest-annual
- Seasonal range Use-annual
- Health/Nutrition-annual
  - Has become a concern: basis for future management
    - Based on 3-year-old parturition rates
- Wolf population trend-annual
  - Ongoing wolf control

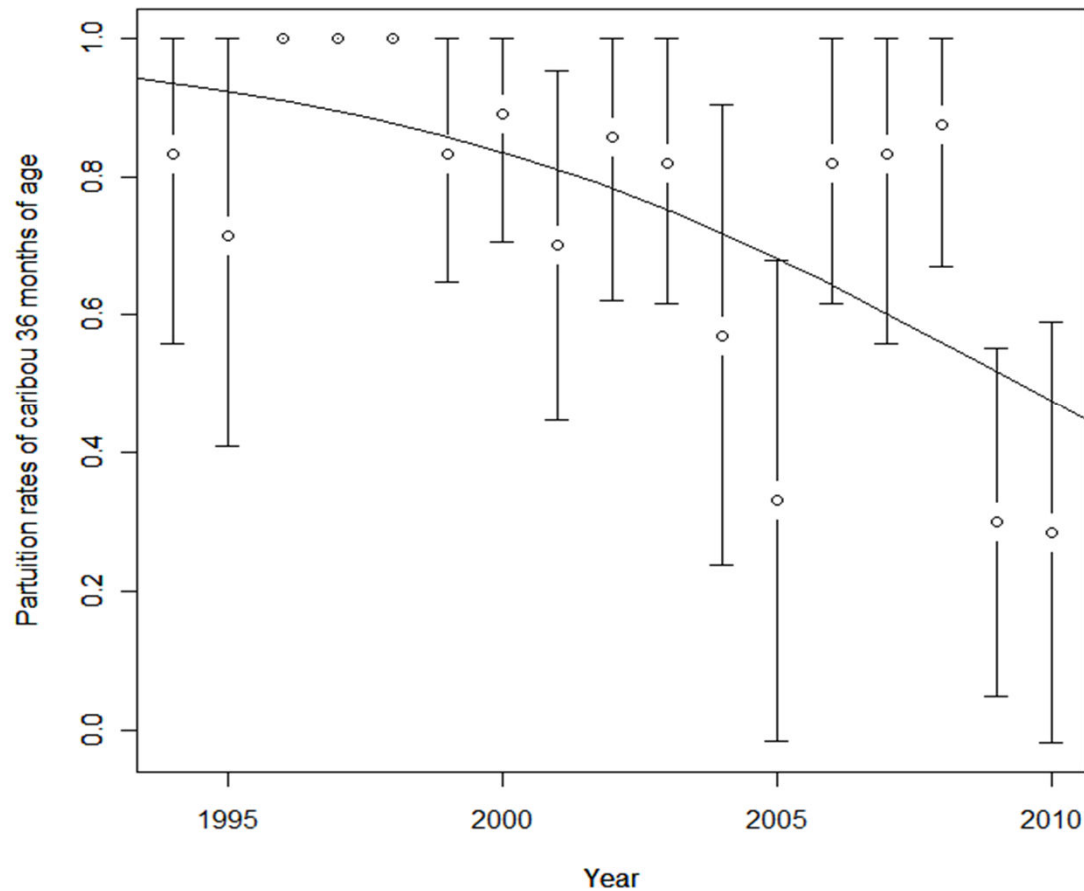
# Range sizes (km<sup>2</sup>) Fortymile caribou herd, 1991–2008



# Caribou Density During Calving and Postcalving



# 3-YR Old Parturition Rates: 1994-2010





# Lessons Learned

- Necessary management during recovery/increasing phase
  - Population Trend
    - June photocensuses
    - October composition surveys
  - Nutritional status
    - Weighing 14-20 4-month old female calves
    - Estimate parturition rates of > 14 females 36 months old
    - Estimate parturition rates of > 48 month females
    - Seasonal mapping of range use to identify overgrazing
- Public engagement
  - Harvest Management
  - Wolf Management
- Expect to be continually surprised