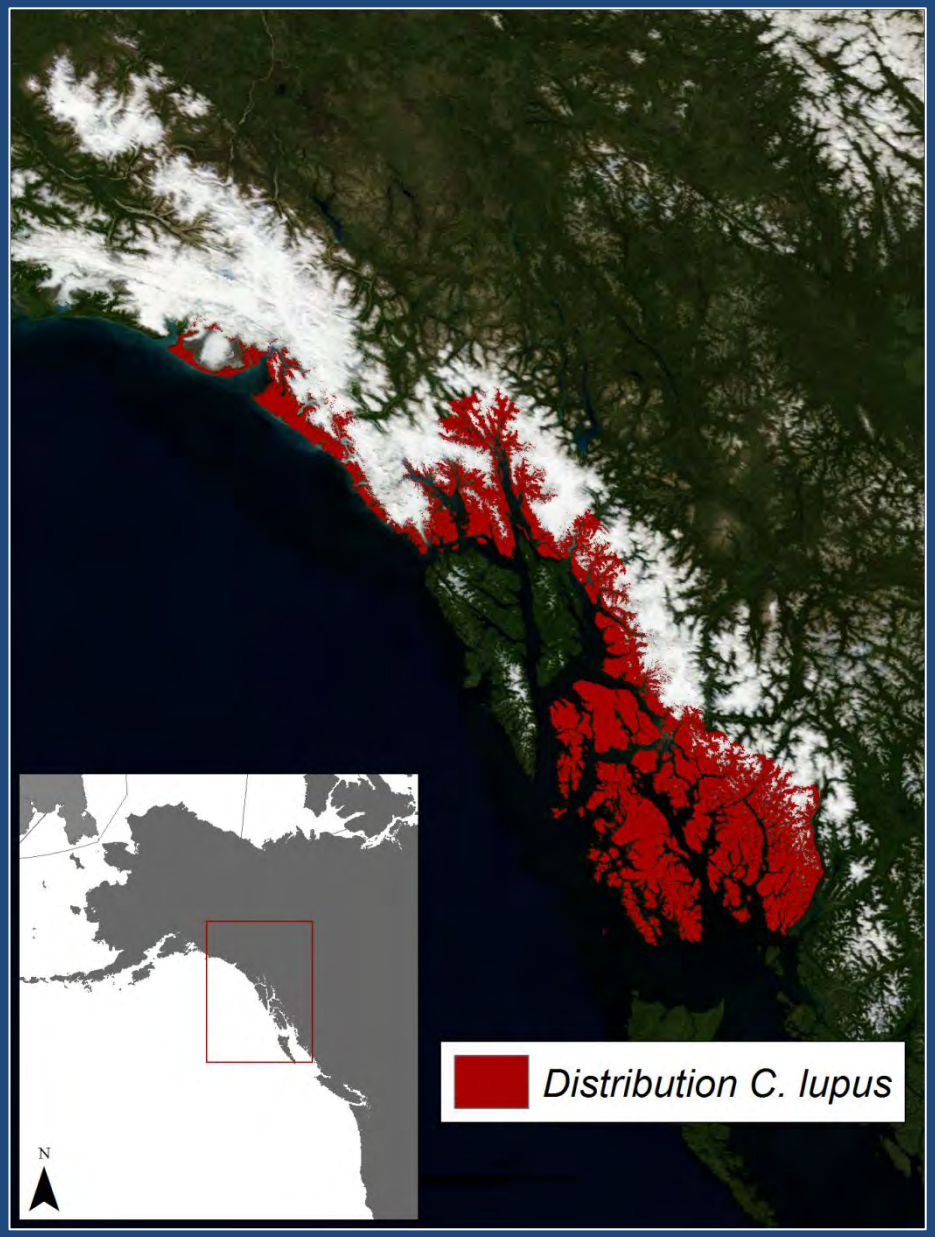
Region I
GMU 2 Wolf Staff Report

ALASKA BOARD OF GAME
Juneau – January 2015

Distribution of Wolves in Region I



Region I population estimate = 750 – 1,100
(Person et al. 1996)

Alaskan population estimate = 7,000 – 11,000
(ADF&G)

Wolf Population Monitoring

Majority of work has focused on GMU 2 (Prince of Wales Island)

Wolf research began on POW in 1992

Most recent monitoring effort 2012 - present

Photo: K. Larson

Project Background

2012-present, cooperative effort (ADF&G and USFS) to investigate methods for estimating wolf density on POW:

- GPS collars
- Noninvasive genetic sampling

Photo: K. Larson

Project Objective

- To develop efficient methods for estimating GMU 2 wolf population abundance

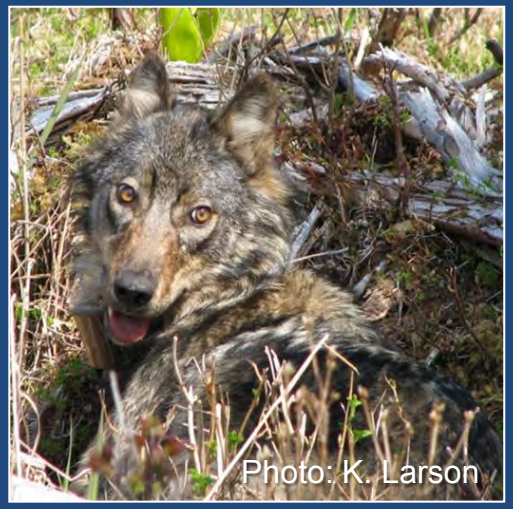
Photo: K. Larson

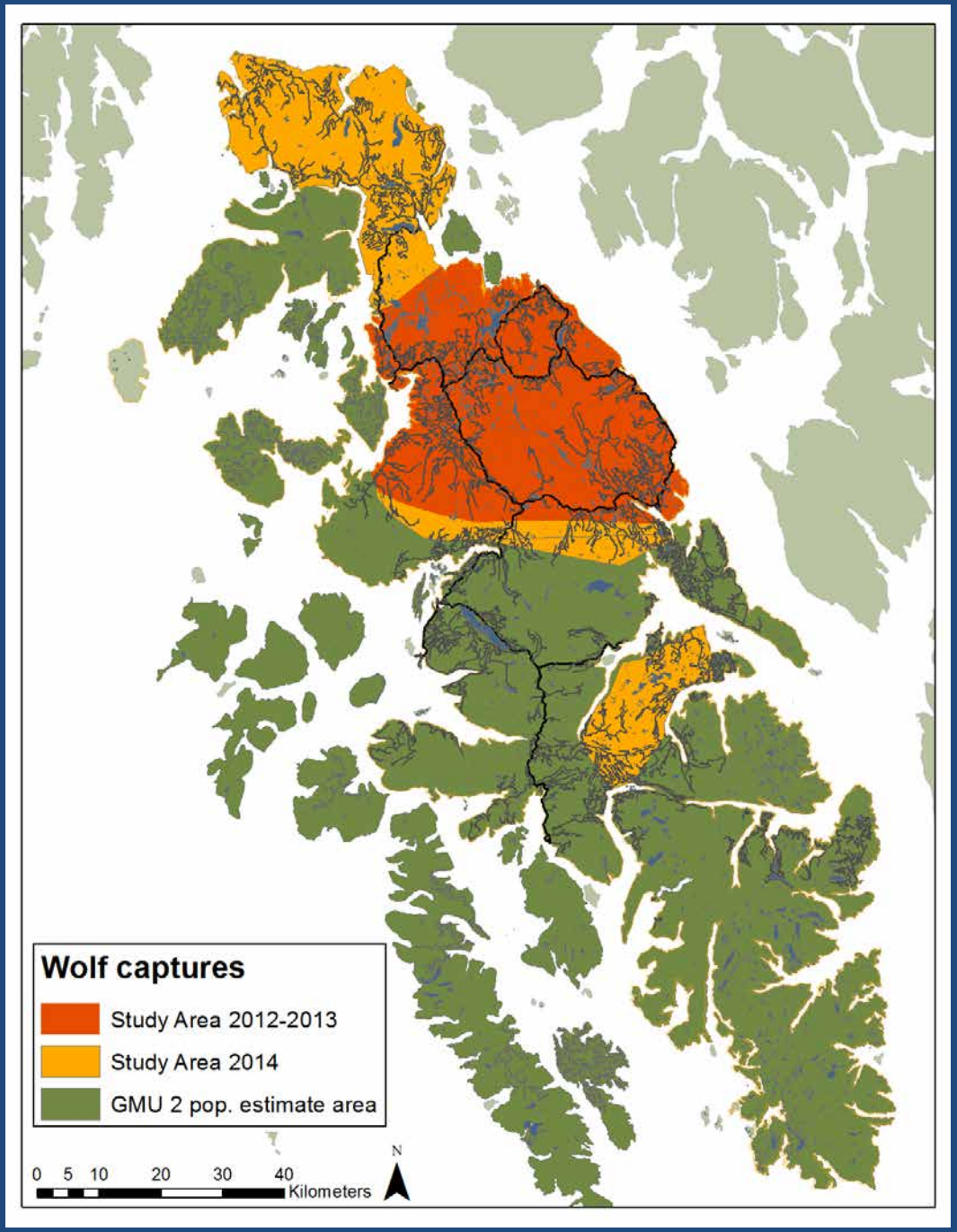
Management Applications:

- Establish annual sustainable harvest levels
- Apply to other regions to estimate wolf densities

Study Plan

- Capture and radio collar wolves from packs within the central POW study area
- Use GPS locations from radio collars to determine movements and pack ranges
- Use aerial counts, together with DNA estimation techniques, to assess wolf abundance within the study area





Live Captures

Spring 2012 – Spring 2014: central POW

Fall 2014: expanded to north & south

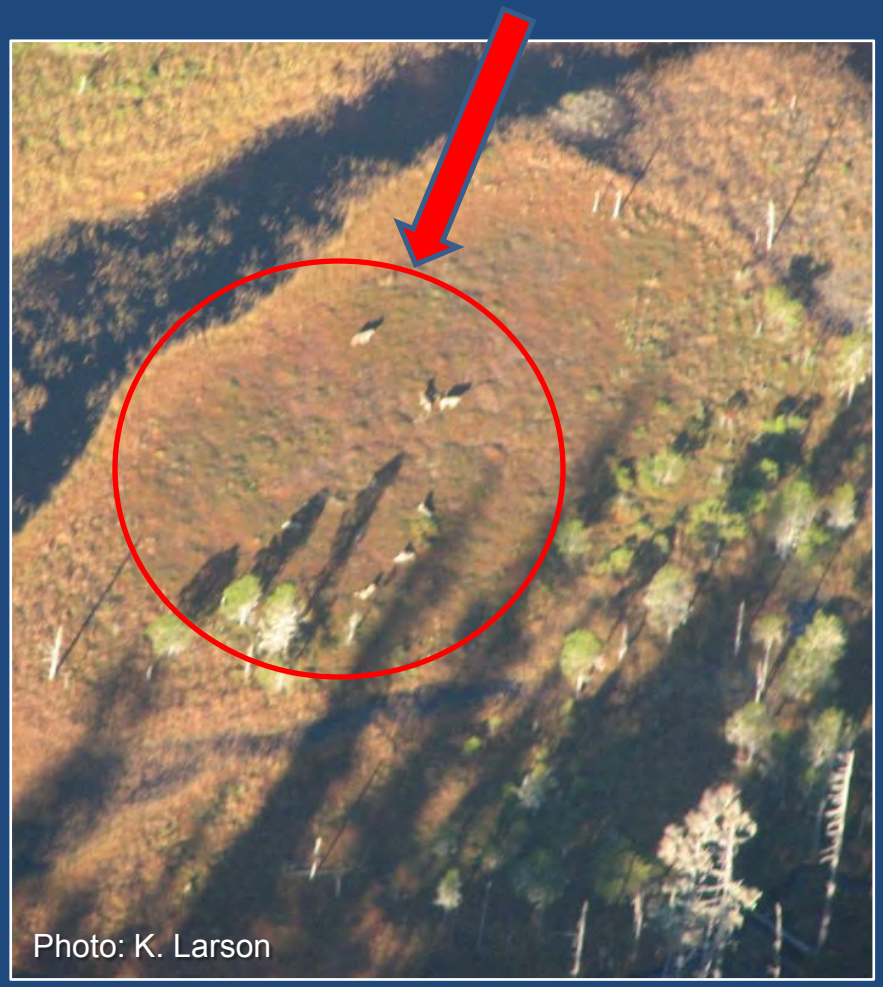
Wolf Captures

- September – October, April – May
- 11 radio collared (4 males, 7 females)
- 2012 = 7, 2013 = 1, 2014 = 3


Photo: K. Larson

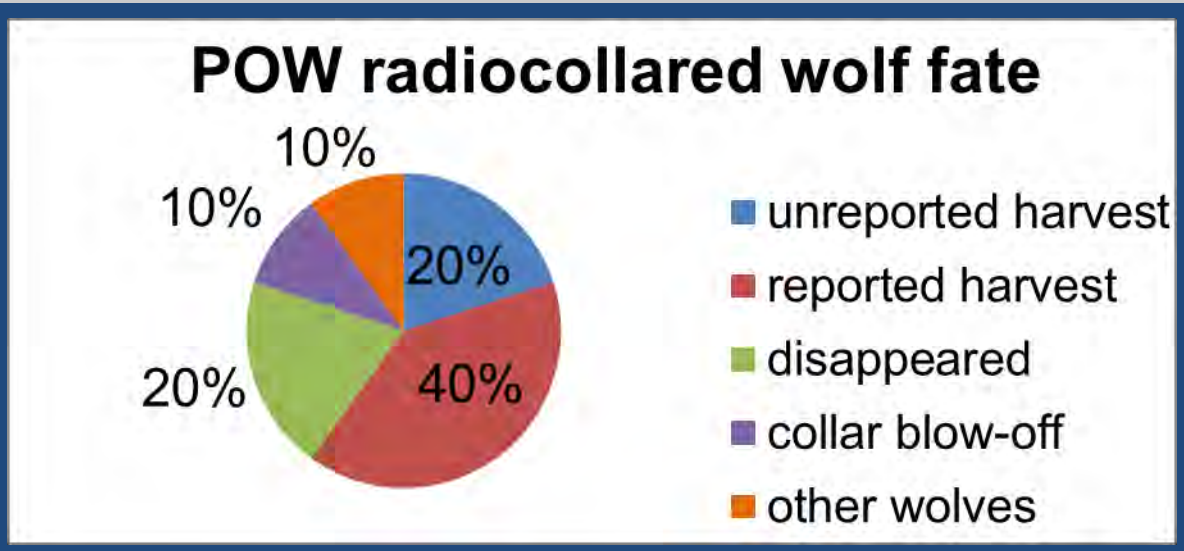
Aerial Estimates

- Wolves radio tracked and located using VHF signals
- GPS location recorded every 2- 6 hours
- GPS data downloaded every 2 weeks
- Determine movement, home range, population trends

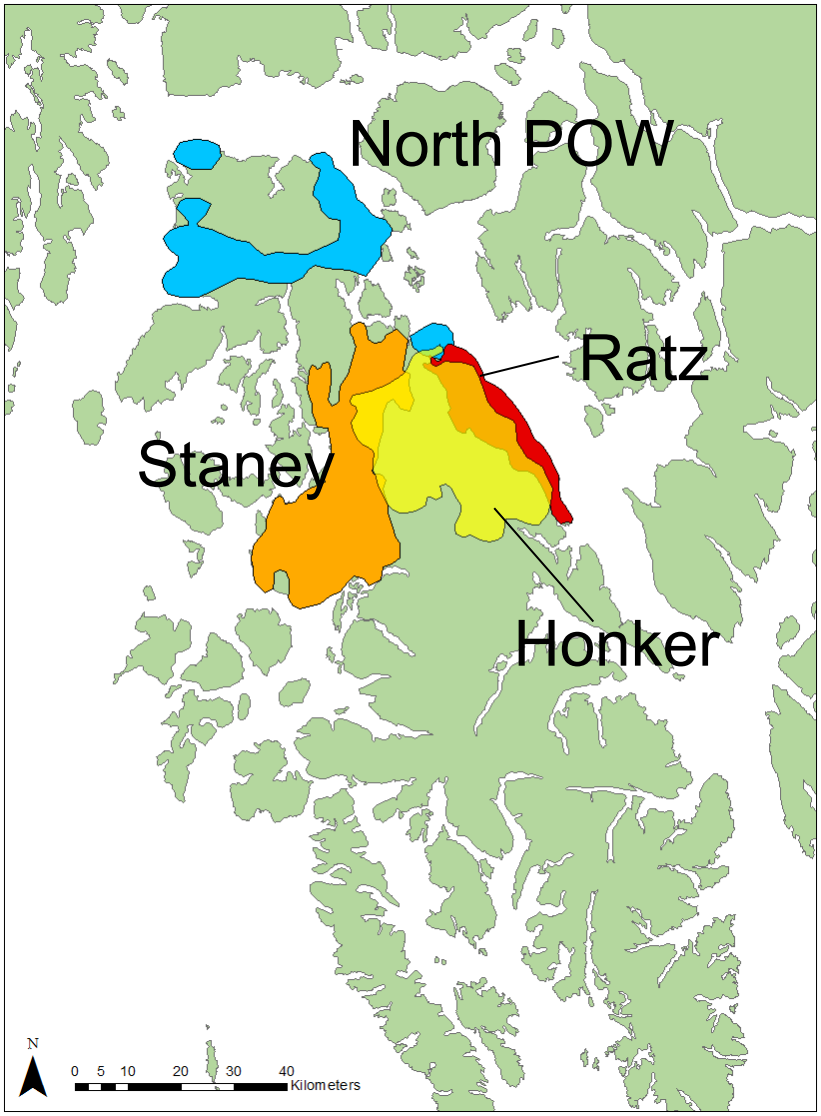


Fates of Radio-collared Wolves

Wolf ID	Status	Fate	Days tracked
AF430	mortality	unreported harvest	293
AF270	mortality	reported harvest	262
AM310	unknown	disappeared	229
AM260	mortality	unreported harvest	352
AF255	mortality	reported harvest	486
JF465	unknown	disappeared	589
JF495	mortality	reported harvest	152
JM435	unknown	collar blow-off	314
YM330	mortality	other wolves	237
YF250	mortality	reported harvest	168
201401	alive		86



Home Ranges of Radiocollared Wolves 2012 - 2014

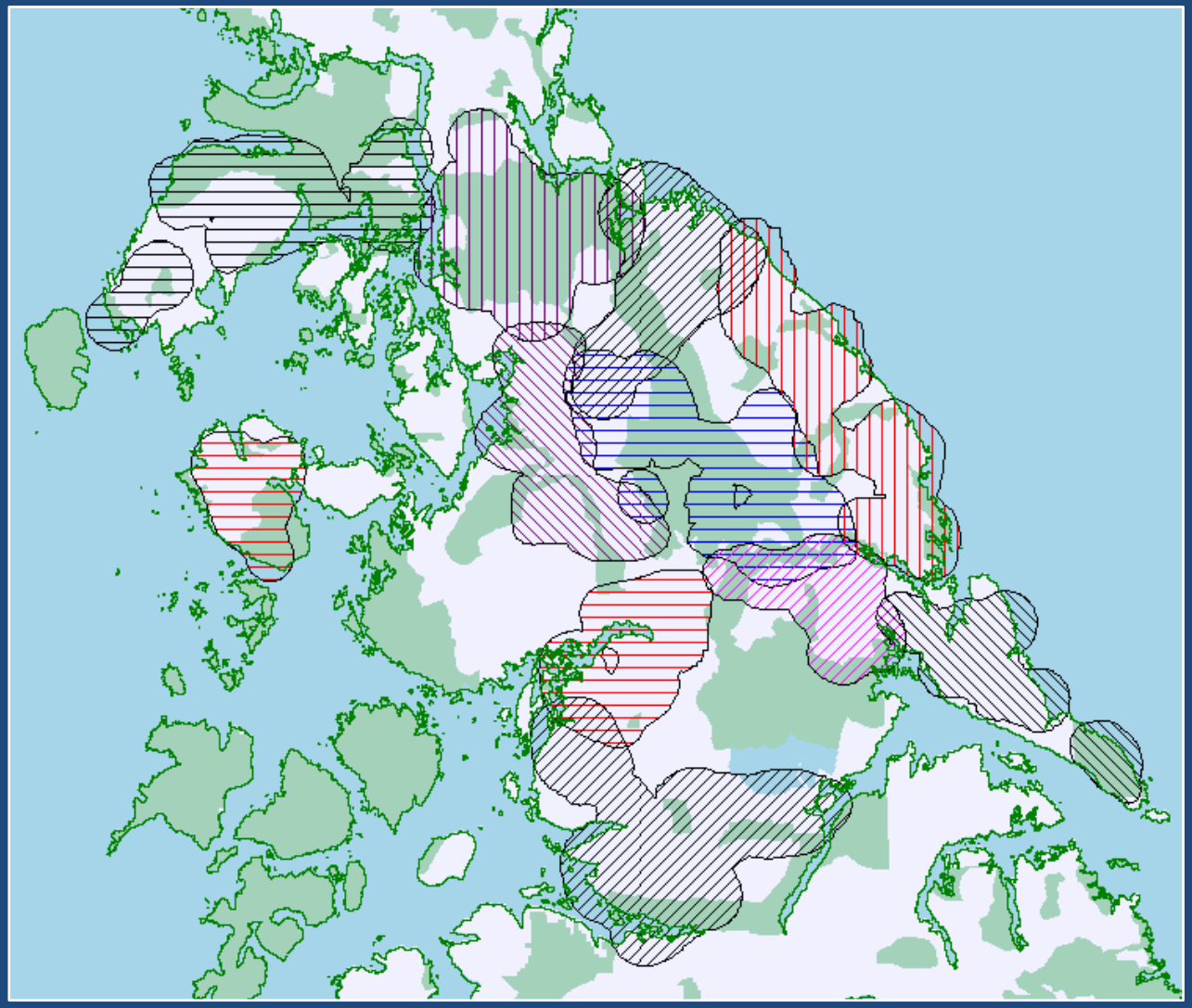


Pack	Annual home range (km^2)	# collared wolves
Staney	81	3
Honker	80	6
Ratz	26	1
North POW	123	1

Mean annual home range
95% KDE = 78 km^2

Fall mean pack size = 7
(range = 3-12)

Comparison to Wolf Pack Home Ranges 1992 - 1995

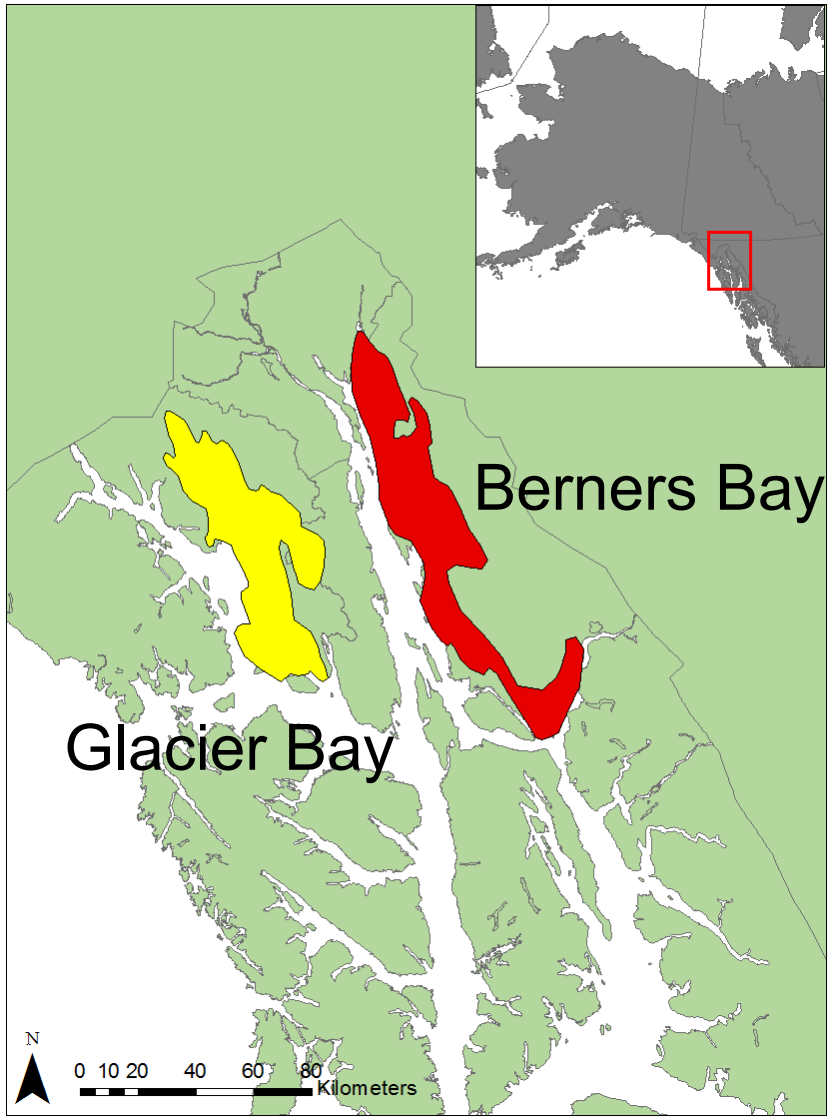


Mean annual home range 95% KDE = 280 km^2

Fall mean pack size = 8 (range = 2-12)

Source: D. Person et al. 1996

Comparison to Northern Region I Wolf Pack Home Ranges



Pack	Annual home range km^2	# collared wolves
Berners Bay	246	2
Glacier Bay	212	1

Mean annual home range
95% KDE = 244 km^2

Source: K. White, ADF&G

Minimum Population Counts

Estimated visually:

1. Aerial surveys of radio collared wolves

2. Remotely deployed cameras
   - -Hair board nodes
   - -Den sites
   - -Travel corridors


Photo: K. Larson


Photo: G. Roffler

Minimum Population Count Results

Fall 2013 = 21 wolves

Honker Pack = 12
Staney Pack = 6
Sweetwater Pack = 3

Fall 2014 = 21 wolves

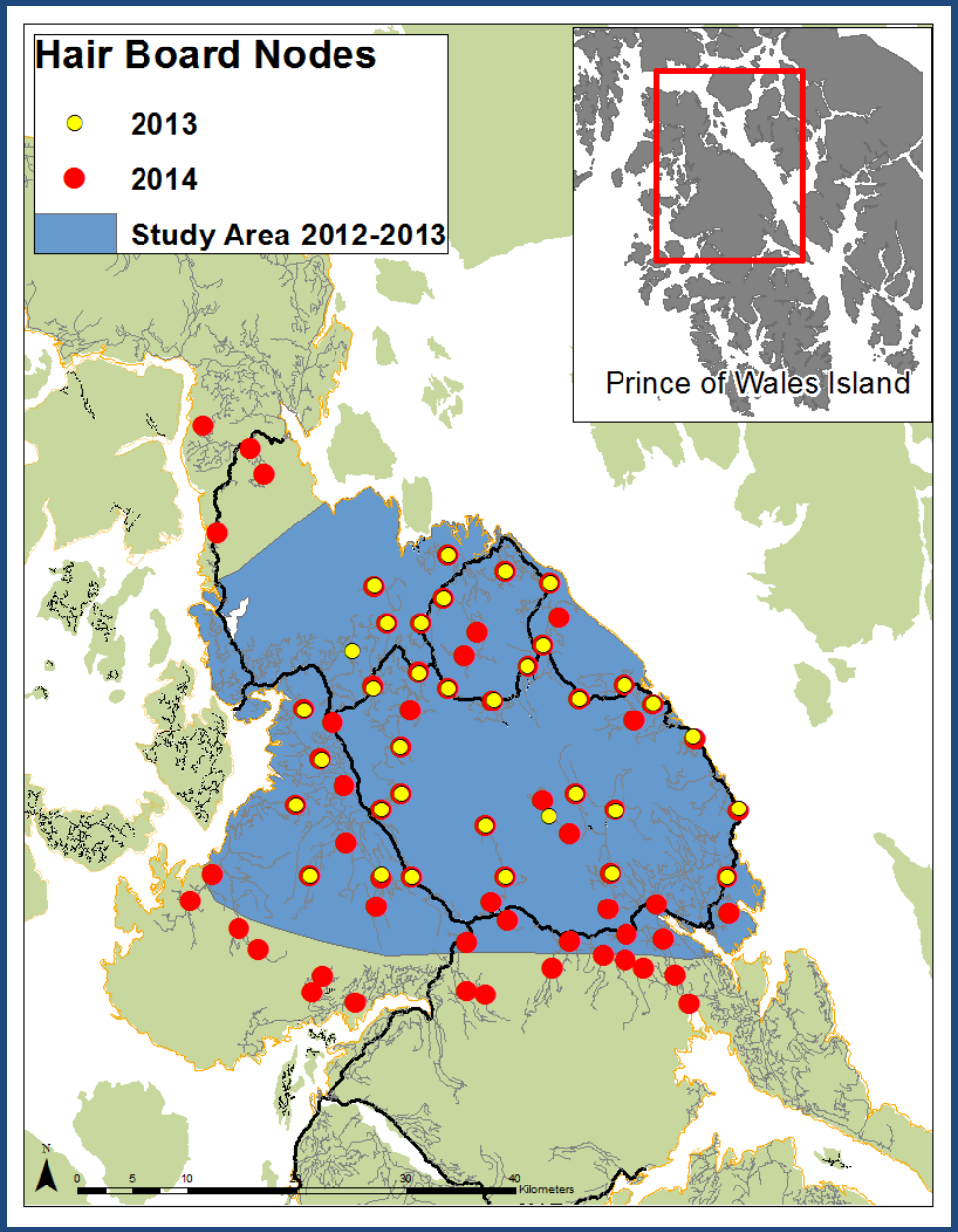
Honker Pack = 16
Staney Pack = 1
Sweetwater Pack = 4

DNA Hair Boards

- Plywood boards with barbed wire
- Wolves rub and roll
- Collect hair to use for individual identification via DNA analysis

Photo: ADF&G

Hair Board Study Area



Fall 2012-2014

Study area 2012-2013 = 1,683 km^2

Covers same area as live captures

Expanded in 2014

Hair Snare Deployment


Photo: G. Roffler

- October 21-December 28
- 36 stations 2012-13
- 72 stations 2014
- Checked every week

Sampling Results 2013

- 33 hair captures
- 21 unique individual wolves
- 8 animals recaptured multiple times
- Movement between detections up to 30 km

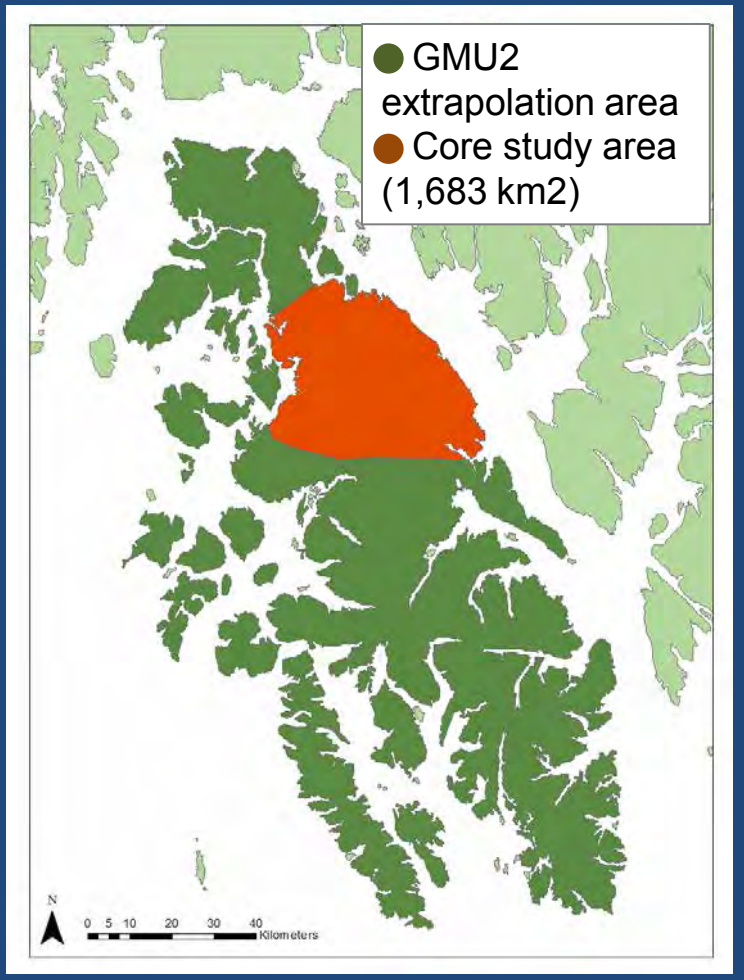
Population Estimate: Fall 2013

- Wolf density in study area (1,683 km^2):
  24.5 per 1000 km^2 *or*
- 41.3 wolves in study area
- 221 wolves on POW (95% CI 130-378)

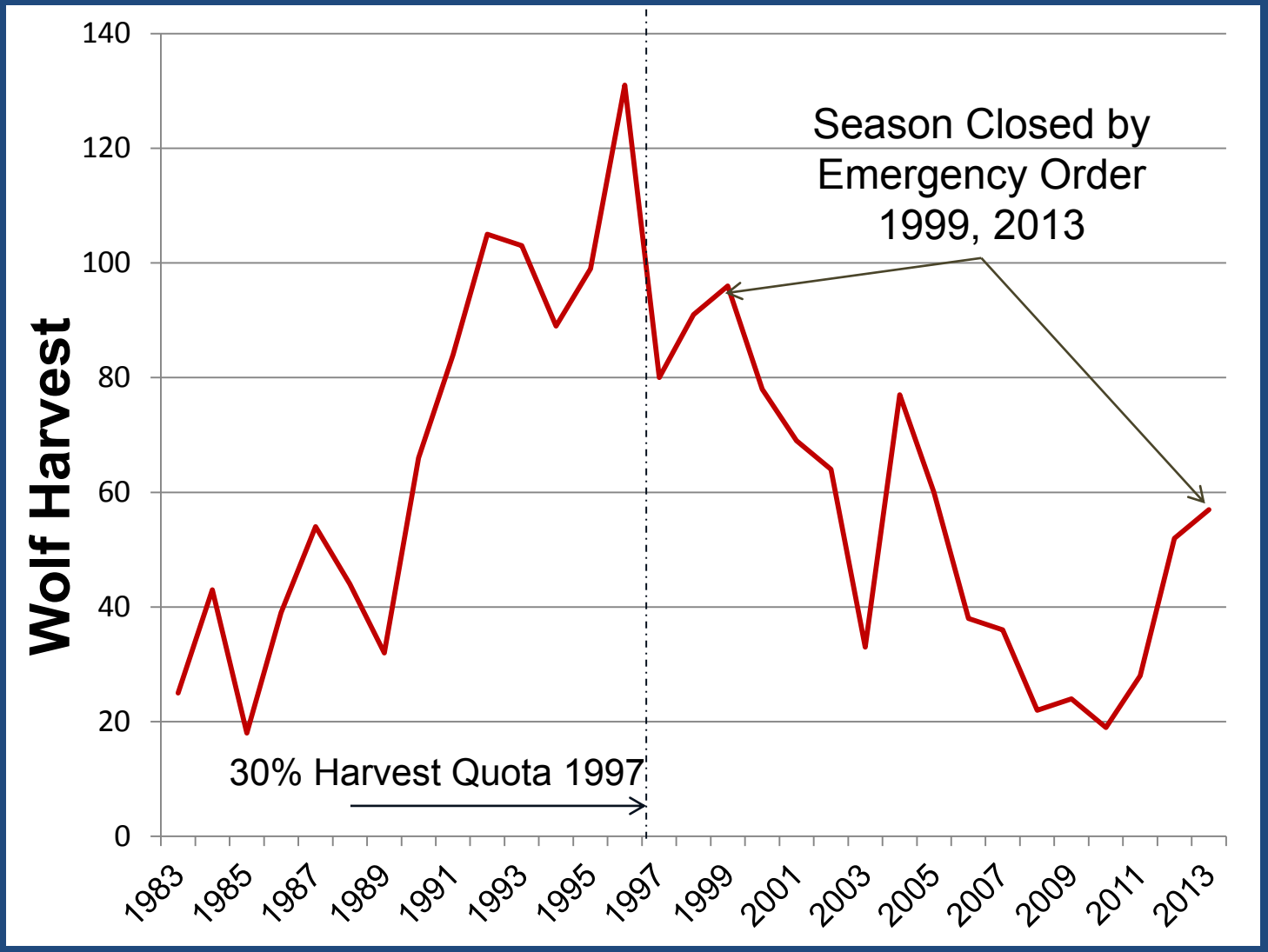
Fall Population Estimates

GMU 2 = 9,069 km^2

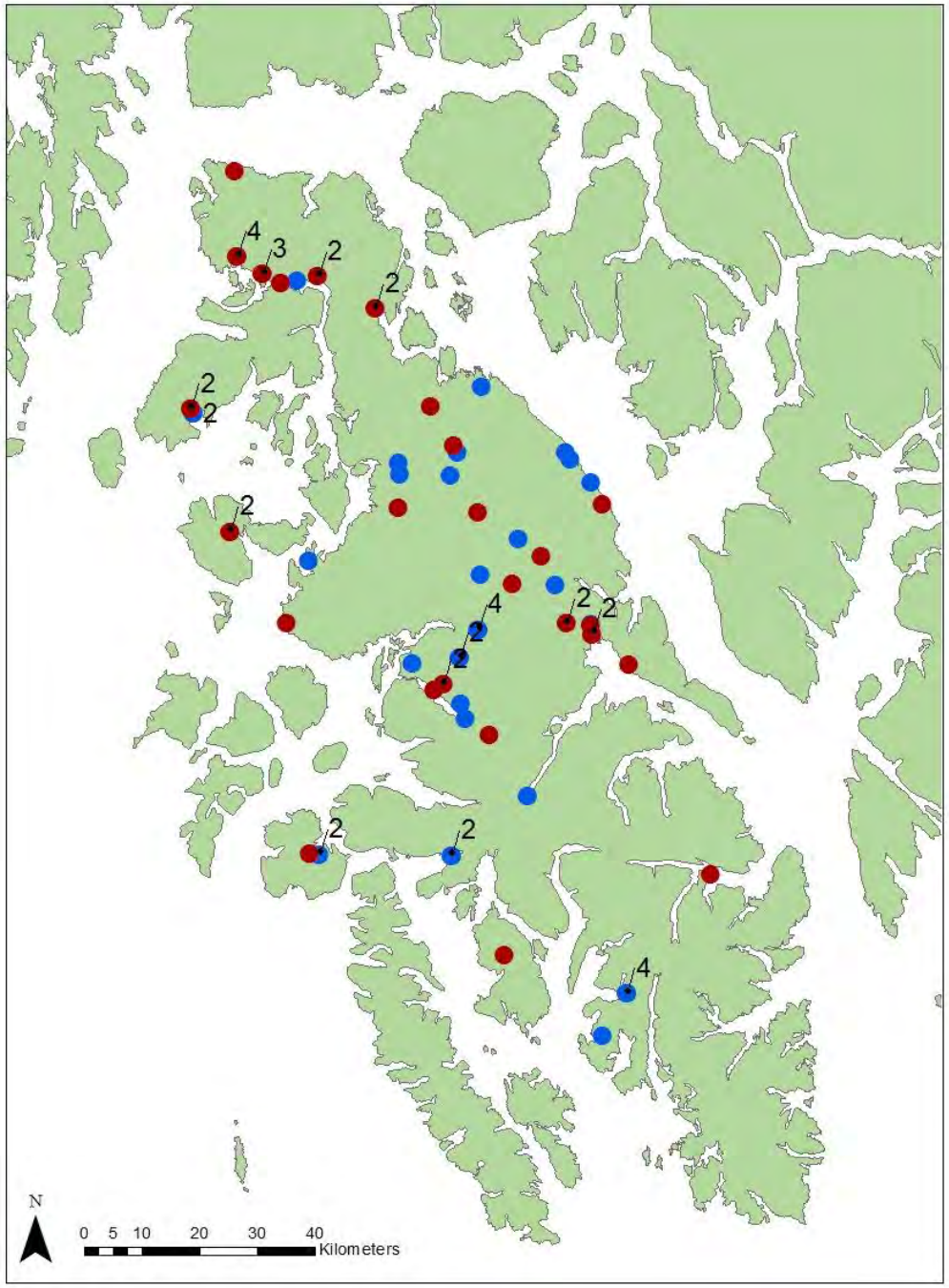
Year	Pop. Estimate	SE	Density/ 1,000 km^2
1994	356	±106	39.5
2003	345	±79	38
2013	221	±60	24.5



Harvest Trends 1990-2013

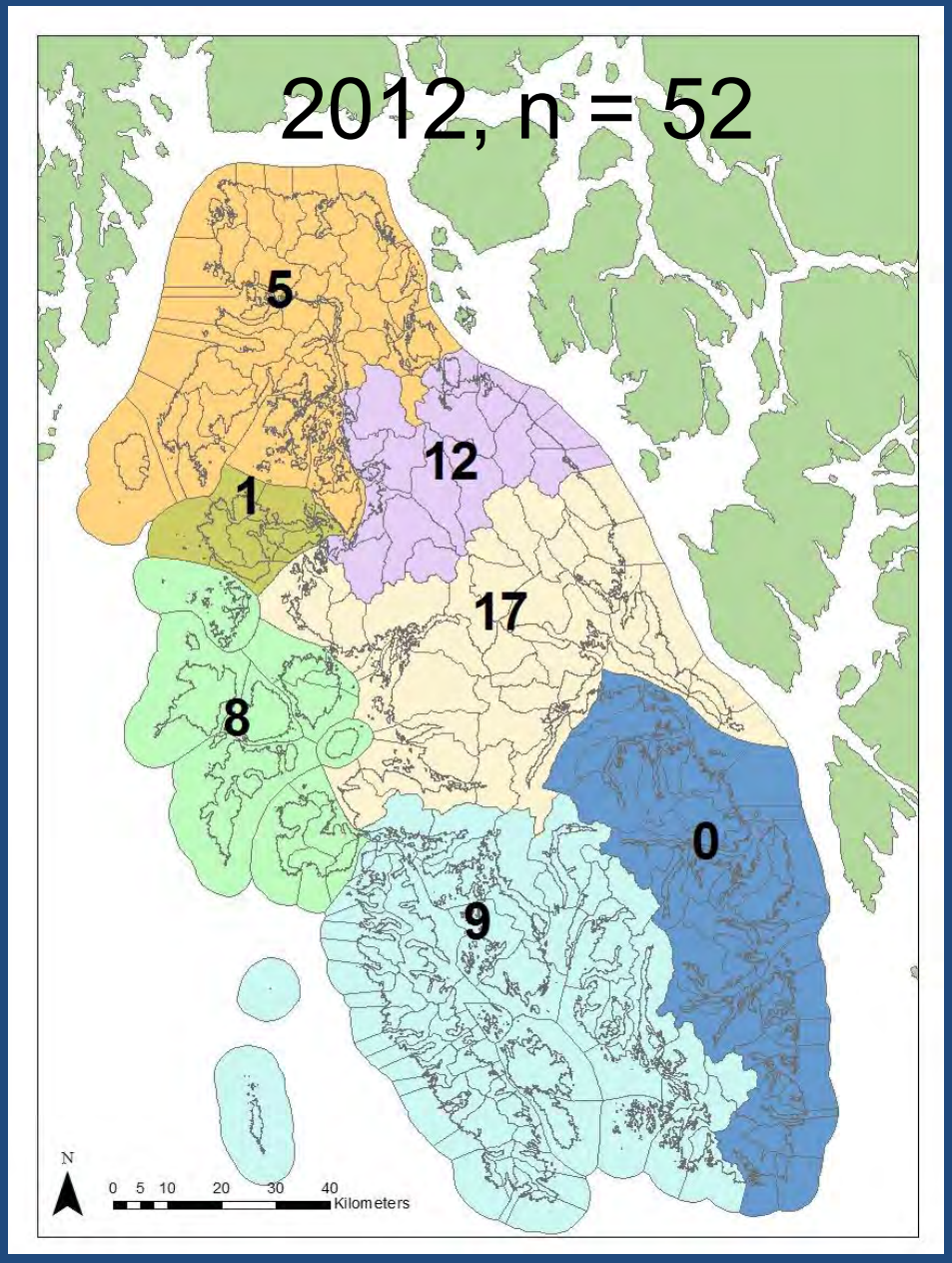


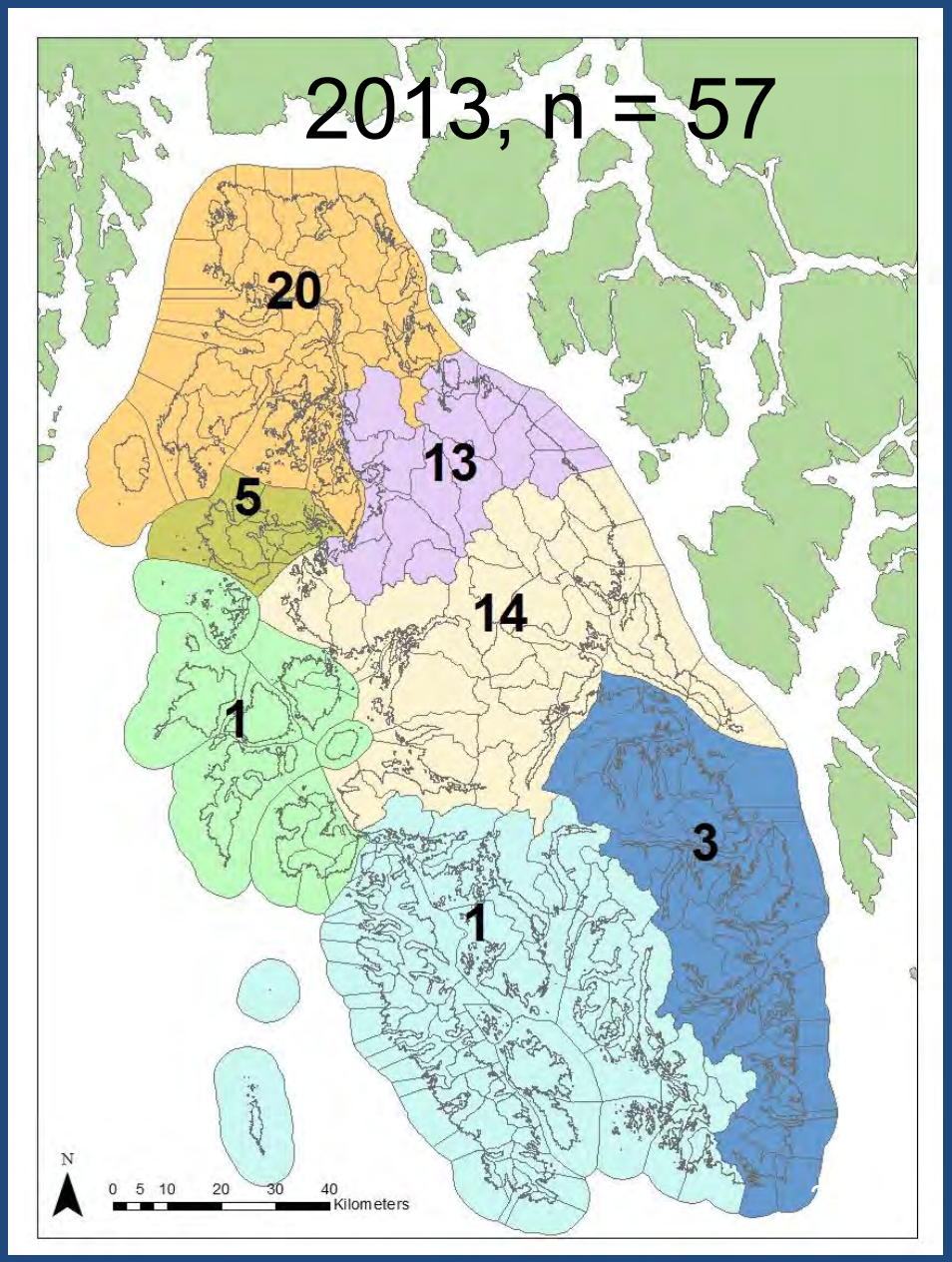
Spatial Distribution of Harvested Wolves



- 2012 – 2013, n = 52
- 2013 – 2014, n = 57

Harvest of Wolves by UCU





Future Research Activities

- Evaluate monitoring methods and determine feasibility of using in other areas
- Diet analysis of wolves region-wide
- Describe genetic structure and measure gene flow among areas