



2023 Survey Results, Rock Ptarmigan Research, and Brood Survey Volunteer Opportunities

Cameron Carroll, Small Game Coordinator, Fairbanks
cameron.carroll@alaska.gov; 907.459.7237



Small Game Program Staff

Cameron Carroll, Small Game Coordinator (Fairbanks)

Tim Spivey, Small Game Biologist (Anchorage)



Small Game Program

1. **Survey & Inventory**

- Spring Breeding Surveys
- Summer Brood Surveys

2. **Research**

3. Outreach / Education

4. Board of Game



Spring Breeding & Summer Brood Surveys

Estimate (relative) abundance and population productivity of grouse & ptarmigan species



Sharp-tailed Grouse Lek Surveys

Dates: Mid April to Early May

Locations:

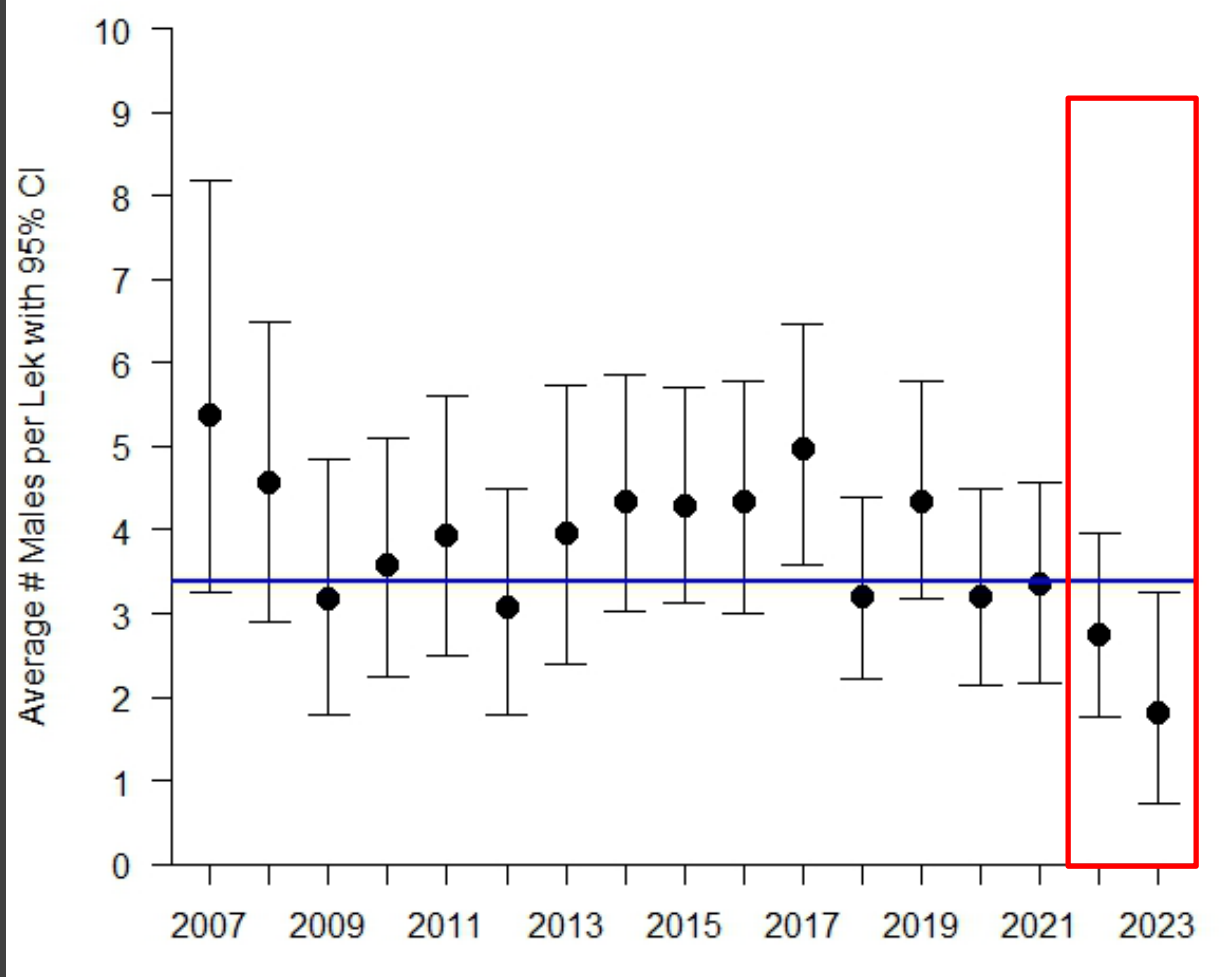
- **Delta Junction** (2007-present)
- Tok (2014-present)

Methods:

- Visit leks active in last 5 yrs
- Stay minimum 5min
- 3 repeat counts for each lek

Count:

- **# of displaying males**
- # of females present
- Total # of birds at lek



Delta Sharp-tailed Grouse Spring Survey Data



Ruffed Grouse Drumming Surveys

Dates: Late April to Mid May

Locations:

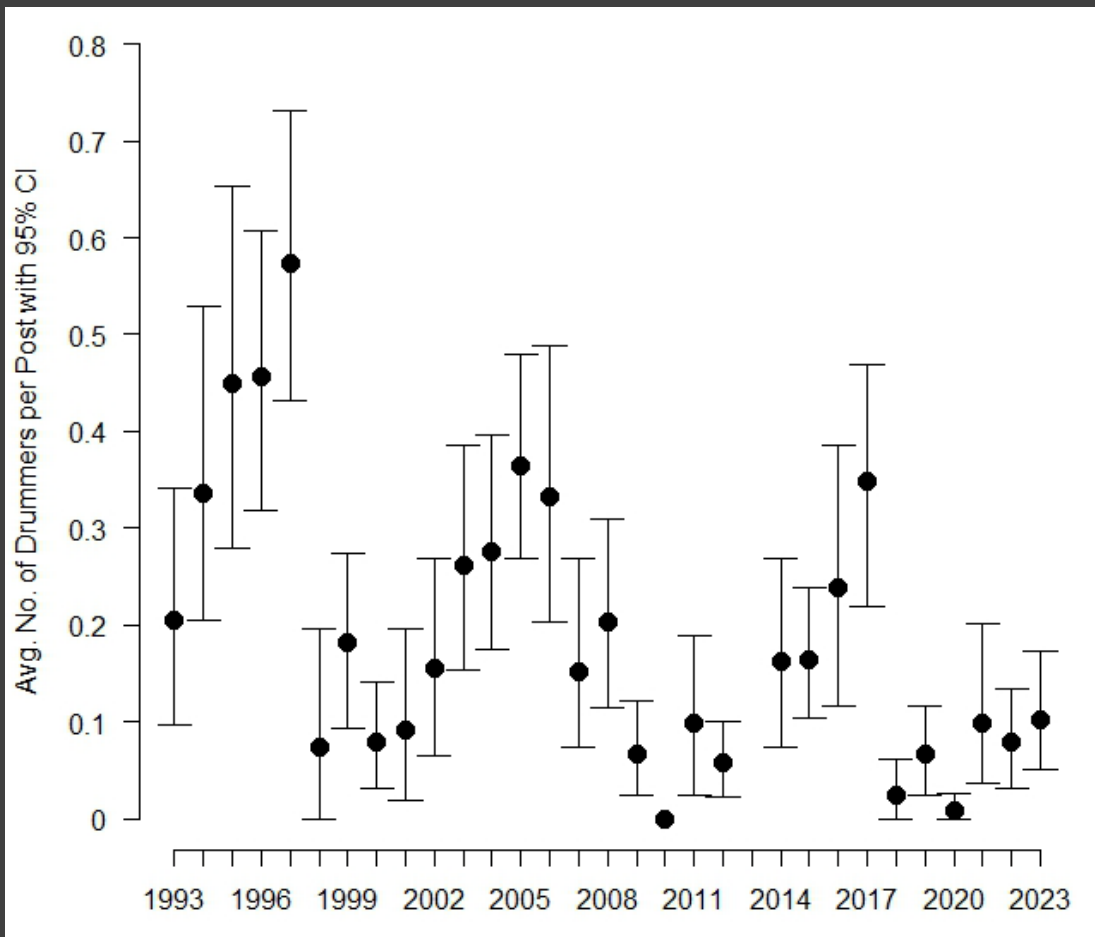
- Interior (1993-present)
 - **Anderson**
 - Delta
 - Fairbanks
 - Tok
- **Mat-Su Valley** (2006-present)

Methods:

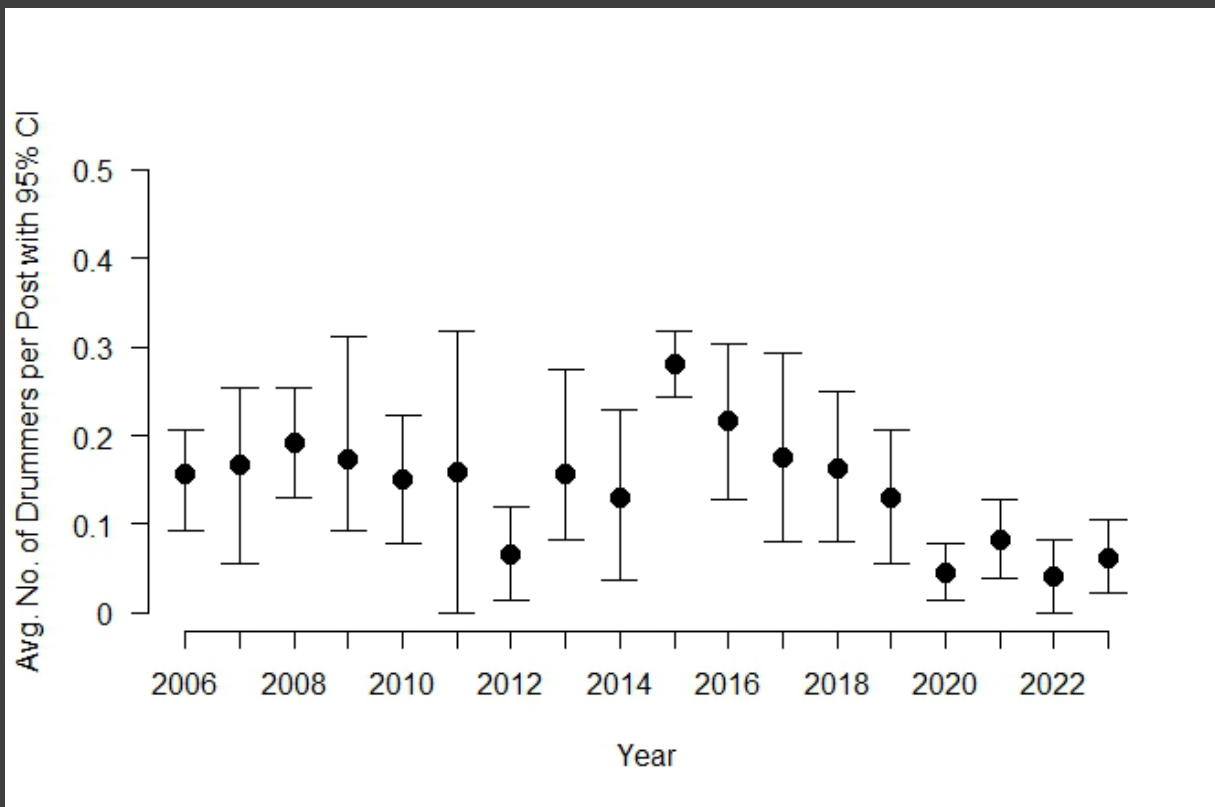
- Visit 9-12 stops along route
- Listen for 4min at each stop
- 4 repeat surveys

Count:

- # of unique drumming males



Anderson Ruffed Grouse Drumming Survey Data



Mat-Su Valley Ruffed Grouse Drumming Survey Data



Sooty Grouse Hooter Surveys

Dates: Early April to Late May

Locations:

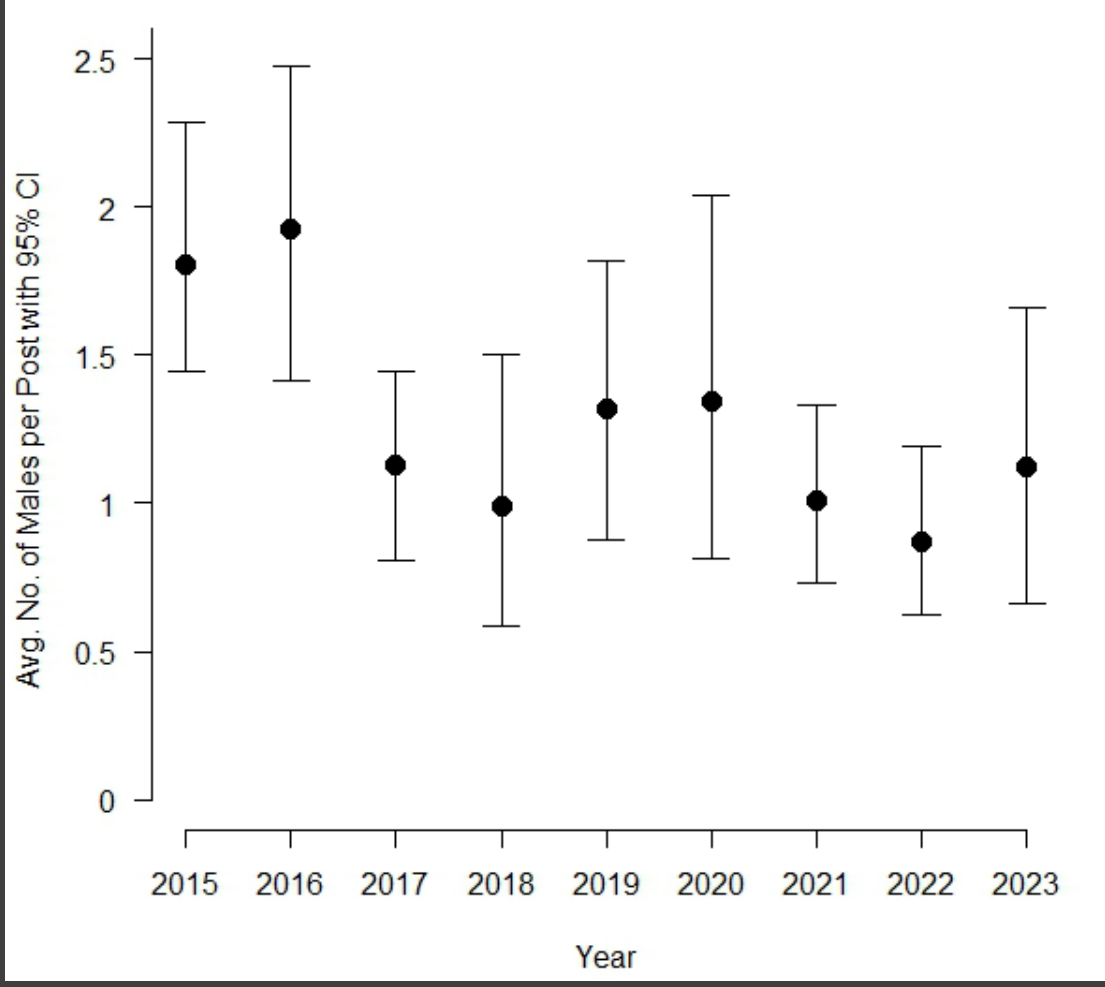
- Southeast Alaska
 - Haines
 - **Juneau**
 - Ketchikan
 - Petersburg

Methods:

- Visit 9-12 stops along route
- Listen for 4min at each stop
- Complete 3 separate surveys

Count:

- # of male hooters



Juneau Sooty Grouse Hooter Survey Data



Mark Lindberg

Ptarmigan Callback Surveys

Dates: Late April to Late May

Locations:

- **Interior**
- Kenai Peninsula
- Nome
- **Southcentral**

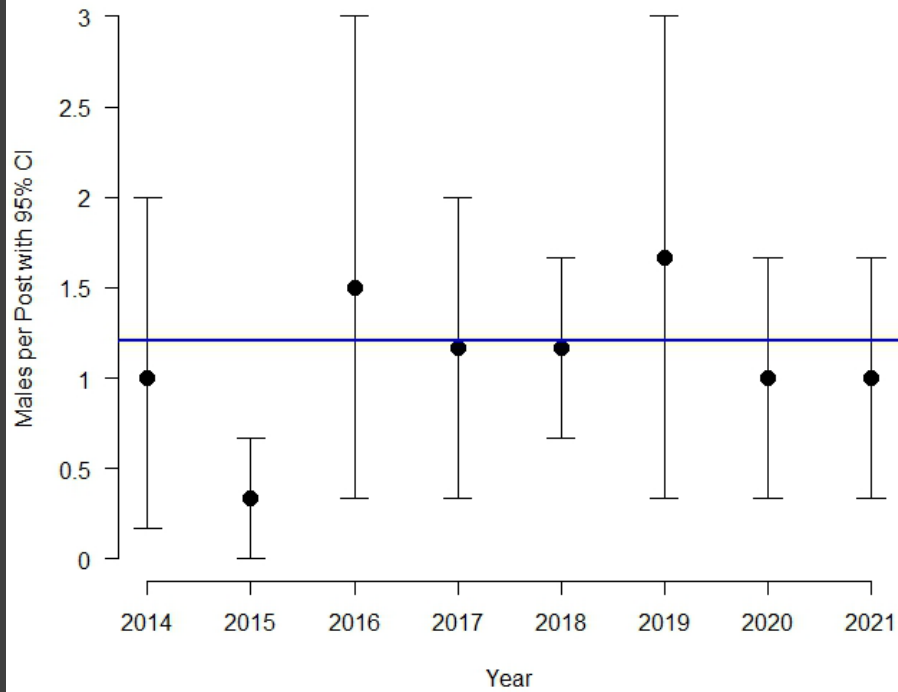
Methods:

- Visit 9-12 stops along route
- Play recorded call at each stop
- Listen for 4min at each stop
- Complete 3 separate surveys

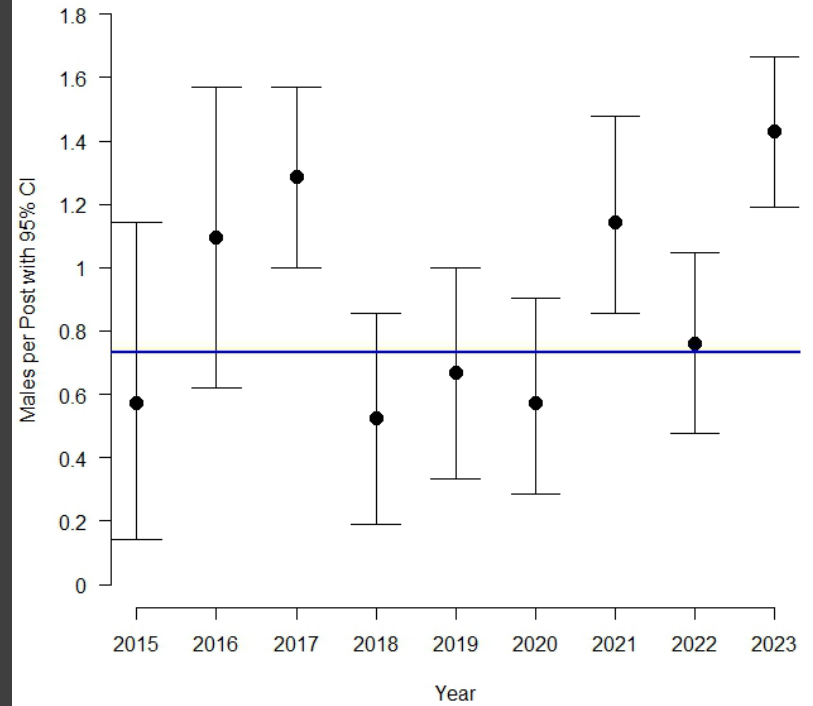
Count:

- # of male ptarmigan that respond

GMU 20C-Denali NP

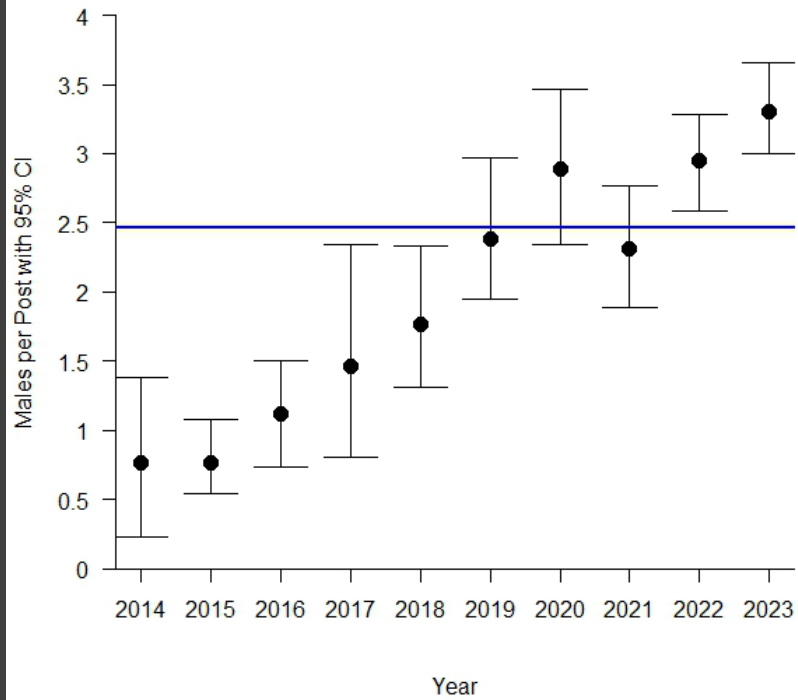


GMU 20E-Mount Fairplay

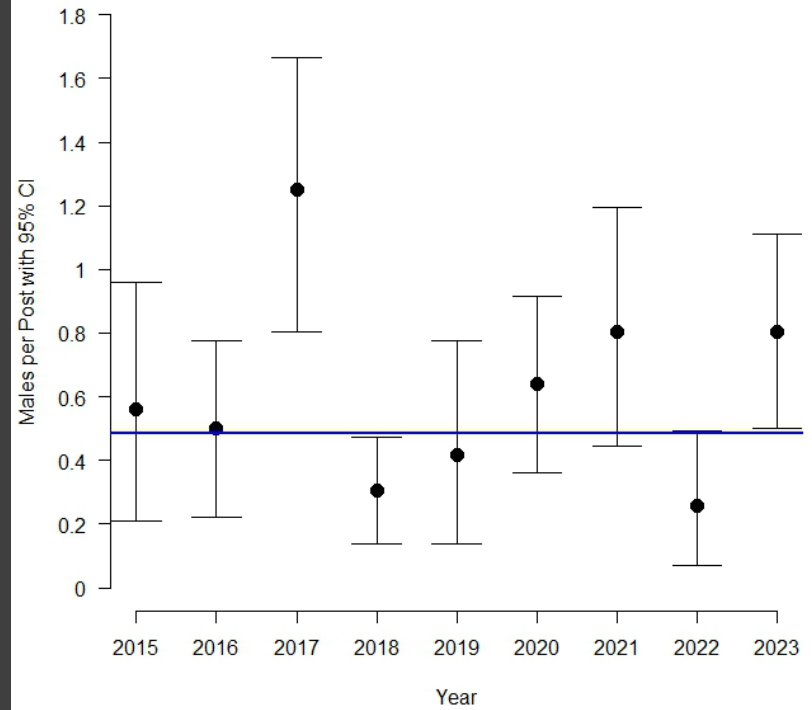


Interior Rock Ptarmigan Callback Survey Data

GMU 20C-Denali NP

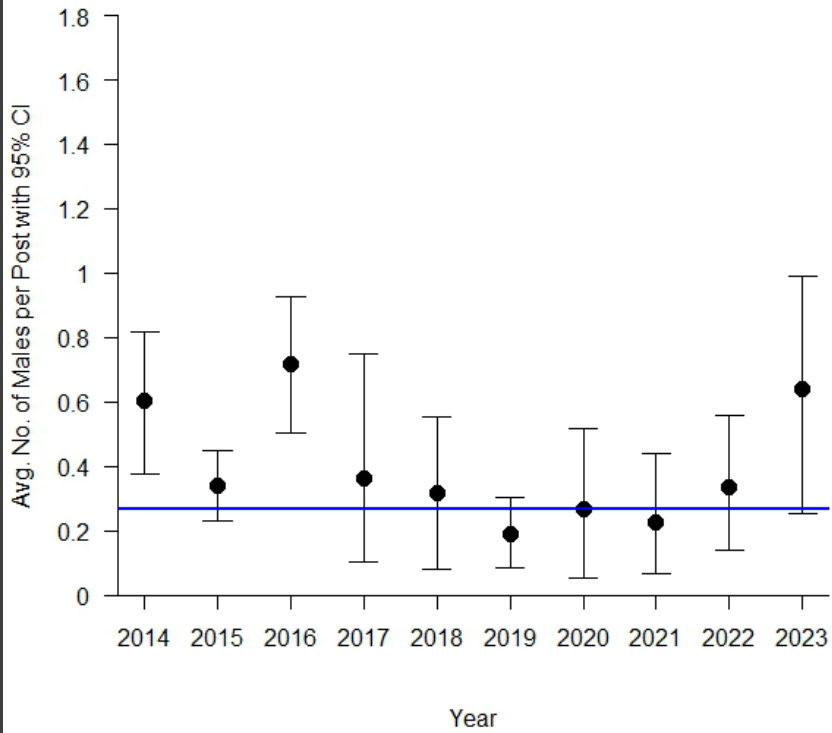


GMU 20E-Mount Fairplay

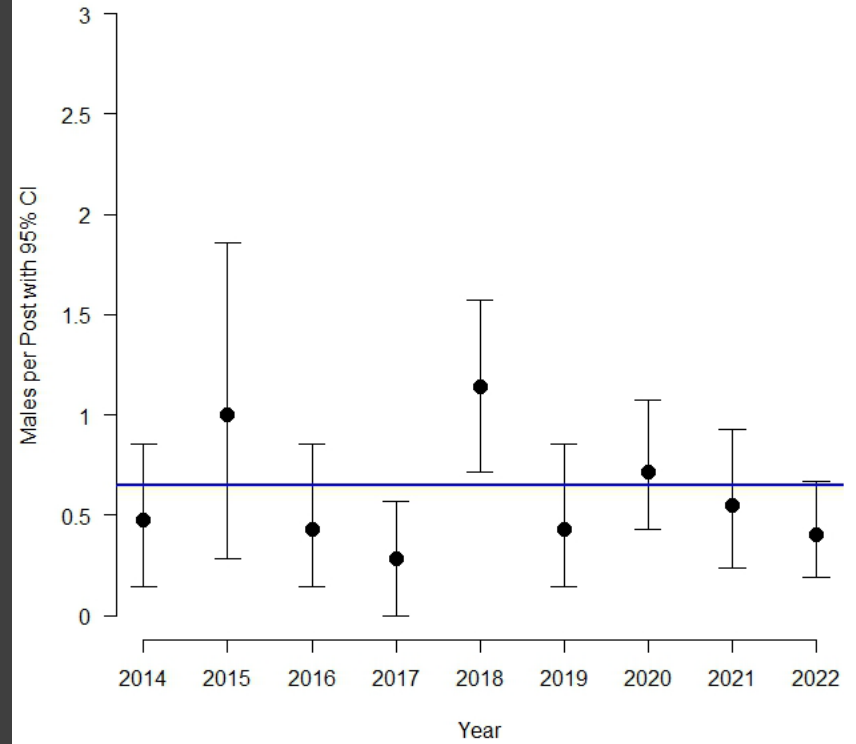


Interior Willow Ptarmigan Callback Survey Data

GMU 13B-Denali Hwy East

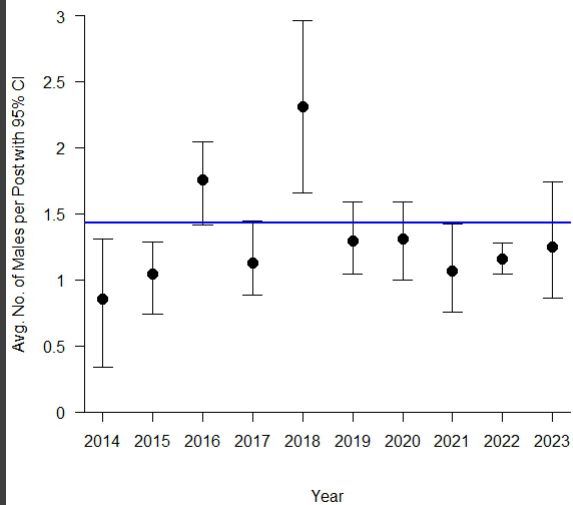


GMU 14C-Chugach SP

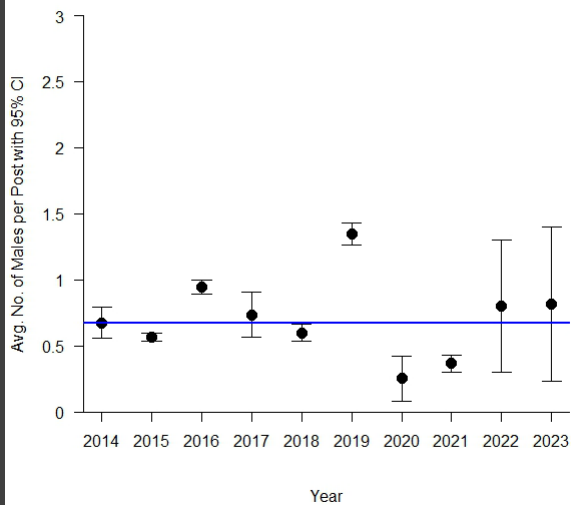


Southcentral Rock Ptarmigan Callback Survey Data

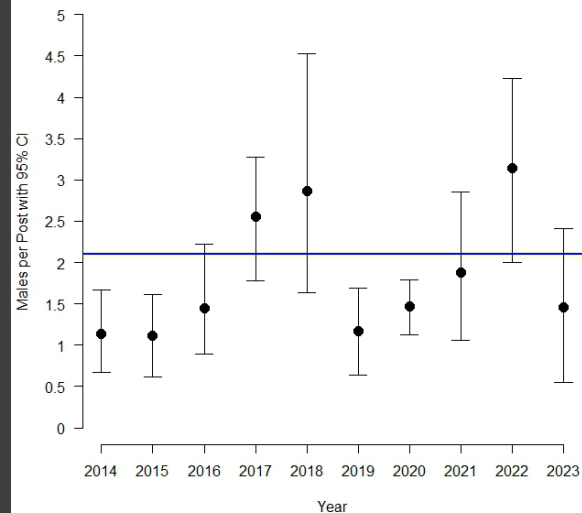
GMU 13B-Denali Hwy East



GMU 13E-Denali Hwy West



GMU 14C-Chugach SP



Southcentral Willow Ptarmigan Callback Survey Data



Ptarmigan Brood Surveys

Dates: Late July

Locations:

- Chugach State Park
- **Denali Highway**
- **Eagle Summit**
- Hatcher Pass
- Kenai Peninsula
- Sheep Mountain

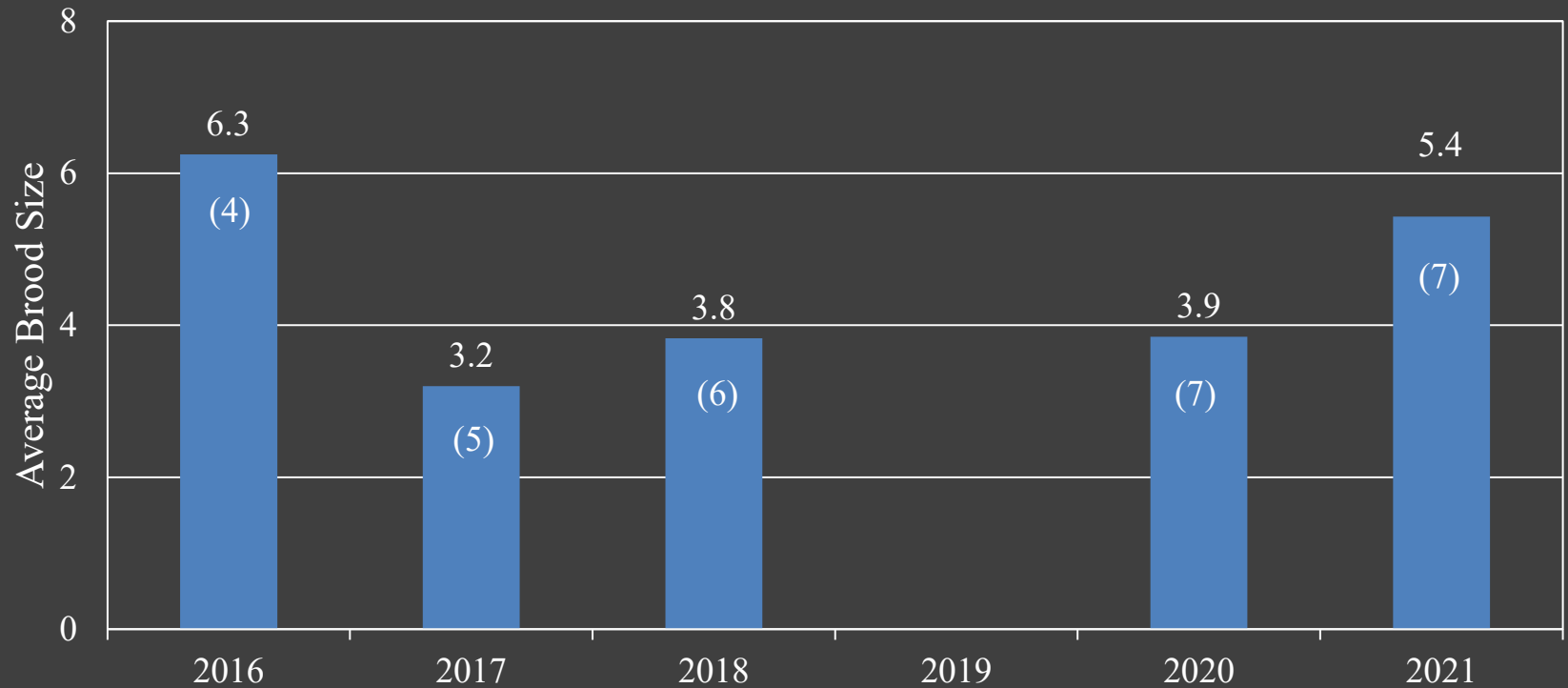
Methods:

- Walk line transects with pointing dog
- Dog points broods
- Observer records data

Count:

- # of broods observed
- # of chicks per brood

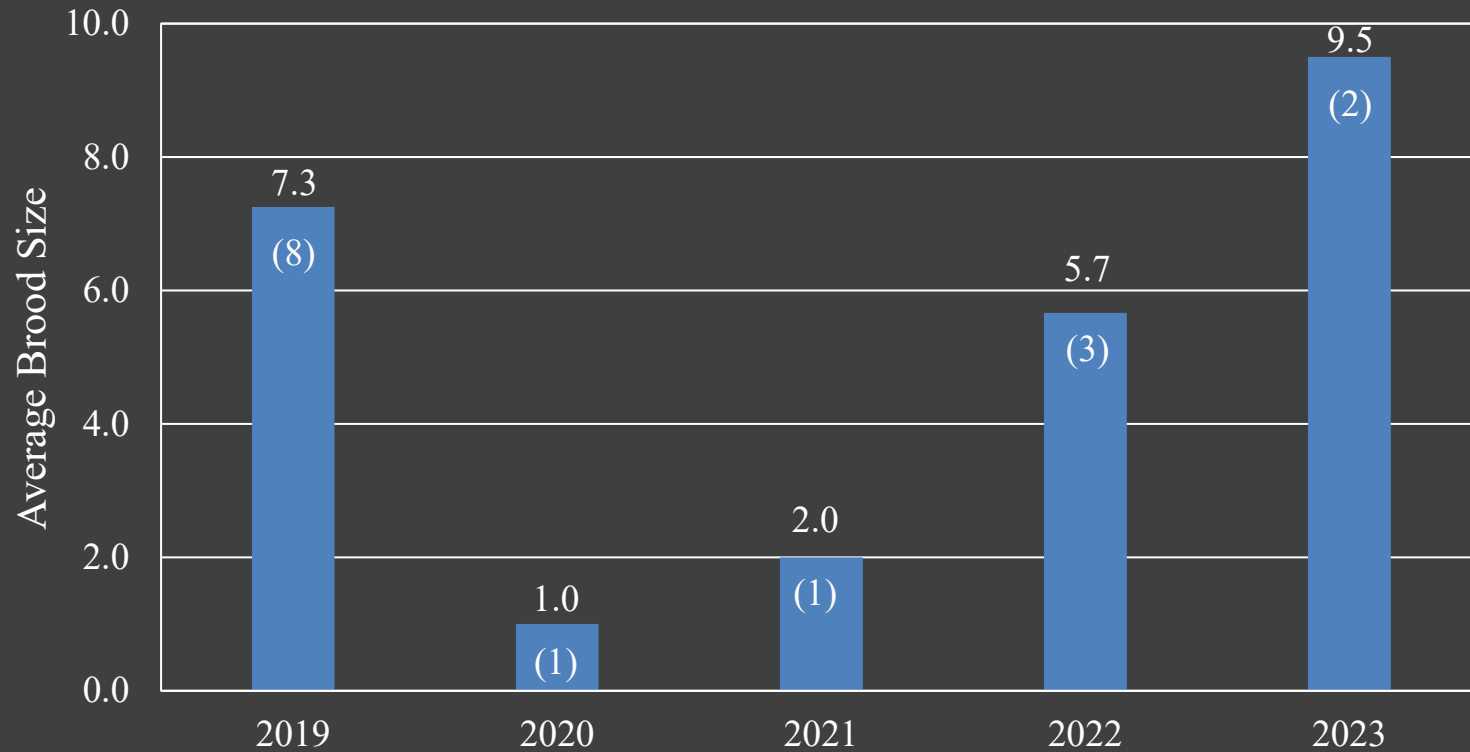
Average brood size recorded during late-July brood surveys, 2016-2021.



Eagle Summit Rock Ptarmigan Brood Survey Data



Average brood size recorded during brood surveys; 2019-2023



Denali Highway Brood Survey Data



Summary of Population Trends

Sharp-tailed grouse:

- #'s in Interior have been decreasing past few years

Ruffed grouse:

- Interior:
 - #'s increasing after several years of low numbers
- Mat-Su Valley:
 - #'s in Mat-Su have remained low for past 4 years

Ptarmigan:

- Interior:
 - #'s increasing across Interior
- Southcentral:
 - #'s stable (willow) or increasing (rock) except in Chugach SP



Research: Brood-Mixing in Rock Ptarmigan



Brood-Mixing in Galliformes

(heavy bodied, ground feeding birds)

- Brood-mixing is highly variable ranging from 4% to 43%
- Most studies are observational
- Newer studies incorporate DNA analysis



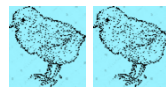
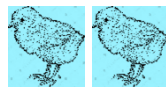
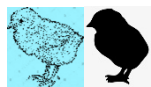
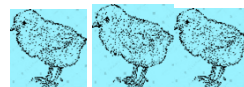
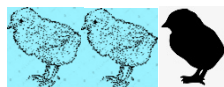
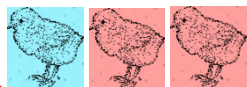
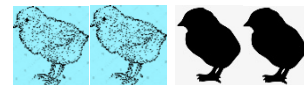
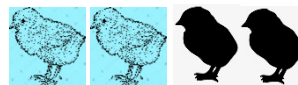
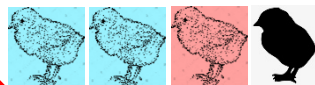
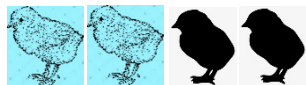
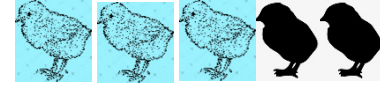
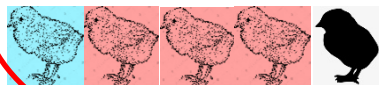
Brood-Mixing in Rock Ptarmigan Interior Alaska (2018-2019)




Capture method: drive nets

- Captured 36 chicks associated with radio-tagged hens (18 broods)
- 18 female chicks & 18 male chicks
- Chicks/brood: 3 chicks (range: 1 to 6)
- Chicks caught/brood: 2 (range: 1 to 4)



	Tagged hen
	Tagged chick
	Untagged chick



-  Chick DNA matched hen
-  Chick DNA not match hen
-  Chick not tagged



Brood-Mixing in Galliformes

- 43% ($n = 42$) of broods mixed in sage grouse in Utah (Dahlgren et al. 2010)¹
- **22% ($n = 18$) of broods mixed in rock ptarmigan in Alaska (this study)**
- 17 to 21% ($n = 59$, $n = 38$) of broods mixed in bobwhite quail (DeMaso et al. 1997, Faircloth et al. 2005)²
- 14% ($n = 29$) of broods mixed in rock ptarmigan in Canada (Wong et al. 2009)³
- 4% to 13% ($n = 27$, $n = 16$) of broods mixed in white-tailed ptarmigan in Canada (Wong et al. 2009)³
- 0.5% to 3% of broods mixed in sharp-tailed grouse in NW Colorado (Barker et al. 2022)⁴



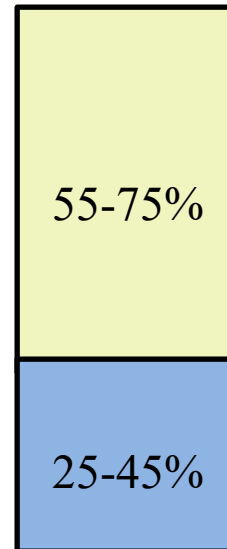
Brood Survey Volunteer Opportunities



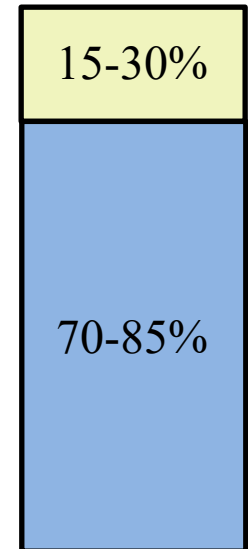
Population Productivity

How many birds available in fall?

Good



Poor



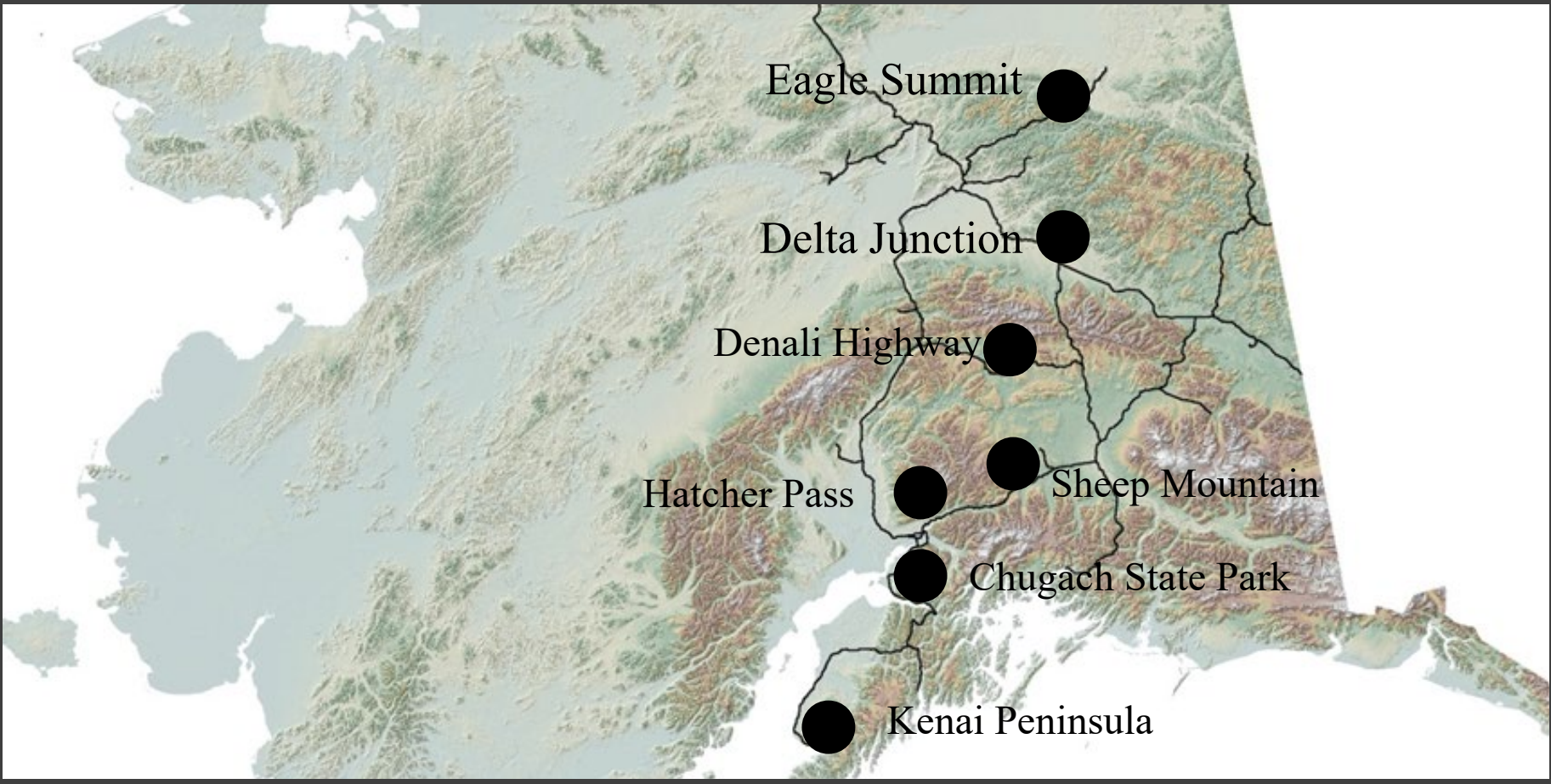
Juveniles: yellow
Adults: blue



Biological data collected during surveys:

broods encountered

chicks per brood



Current Brood Survey Locations



Survey Schedule Window

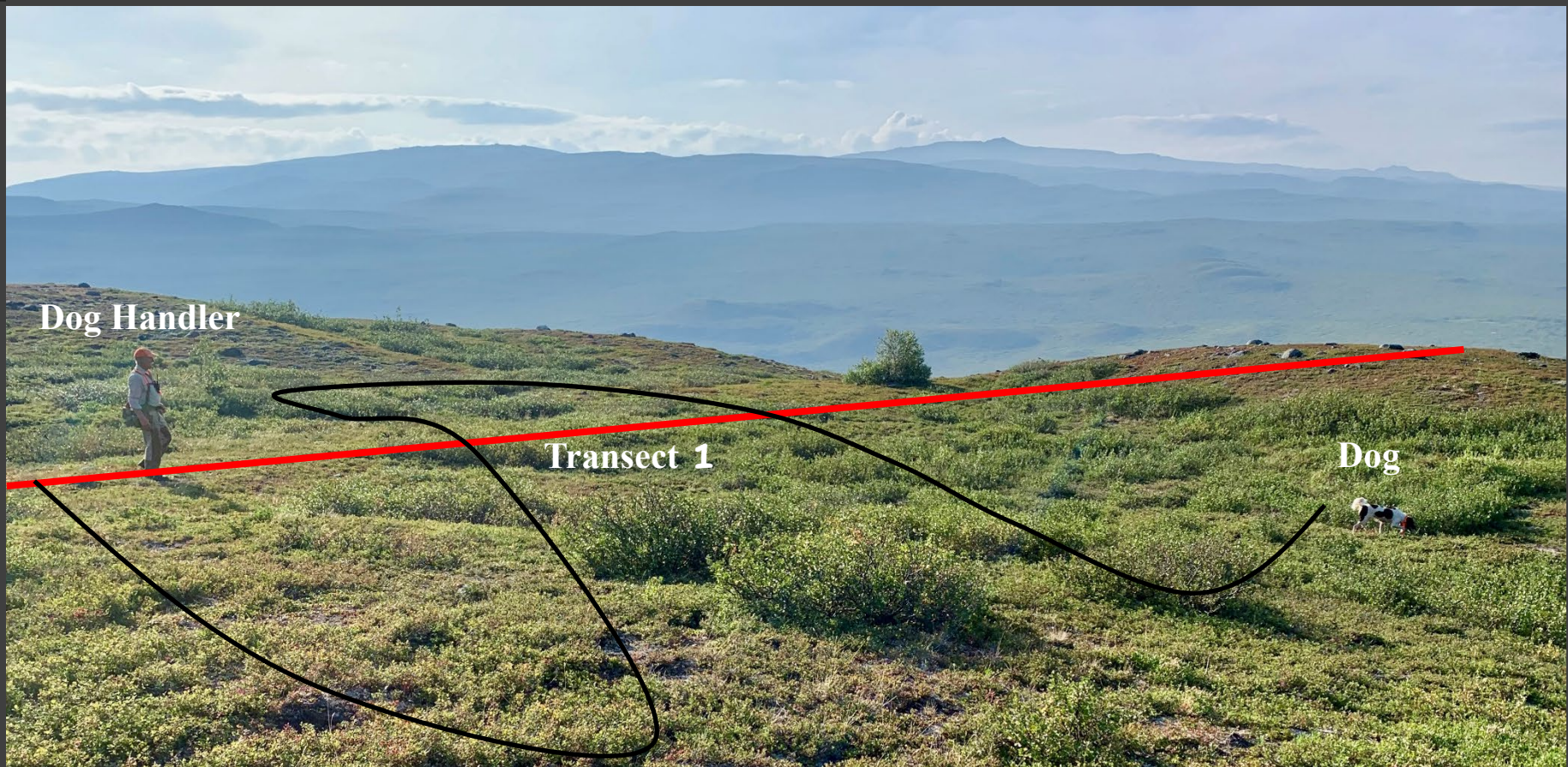
Sharp-tailed grouse (Delta Junction)

15-25 July

Rock & Willow Ptarmigan

15-31 July

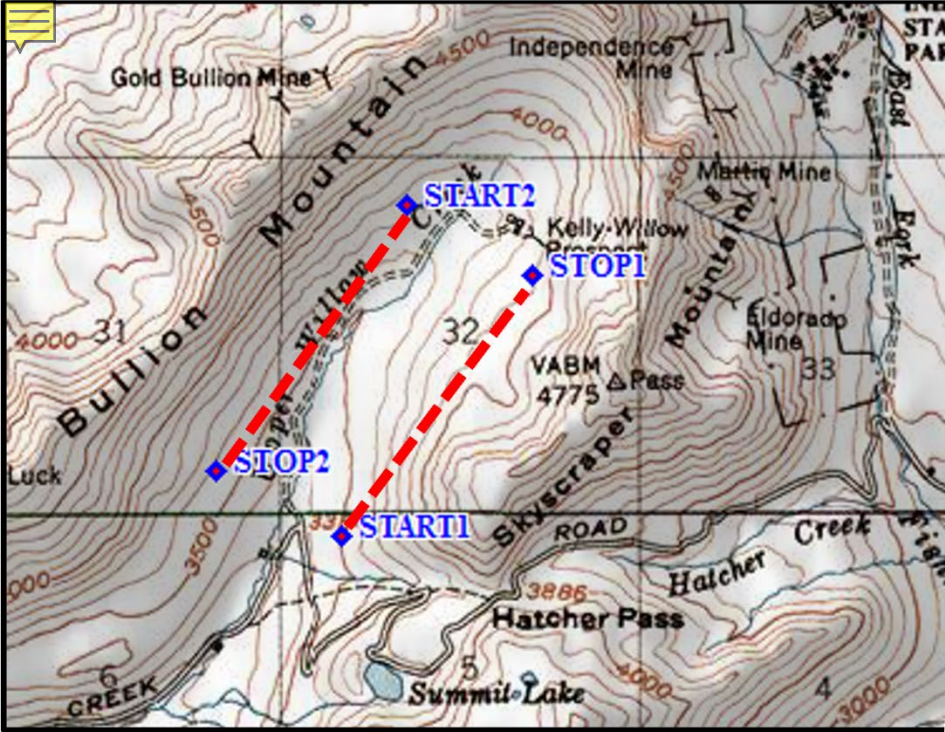
Early mornings



Survey Design

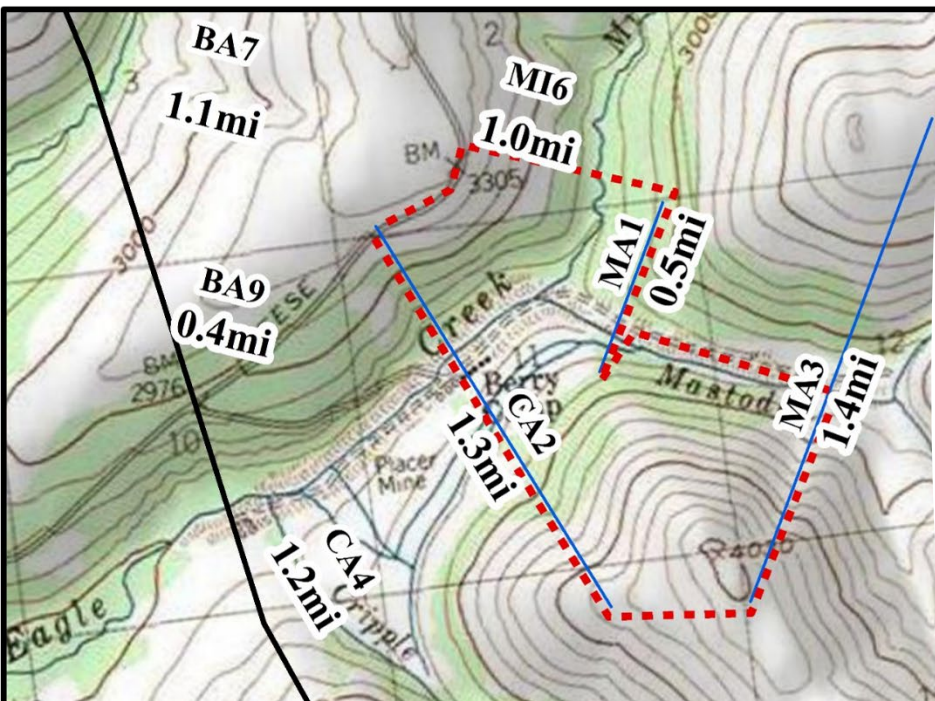
- Out and back (2 parallel transects)
- Loop
- ~ 2 to 5 miles of walking

Survey Routes



Hatcher Pass Survey Route (Upper Willow)

~ 2 miles to complete 2 parallel transects



Eagle Summit Survey Route

~ 4.5 miles to complete a "loop" of 2.5 transects

Evaluations



Dogs must be:

- Pointing breed
- Steady to point & flush
- Under voice control



Handlers must be:

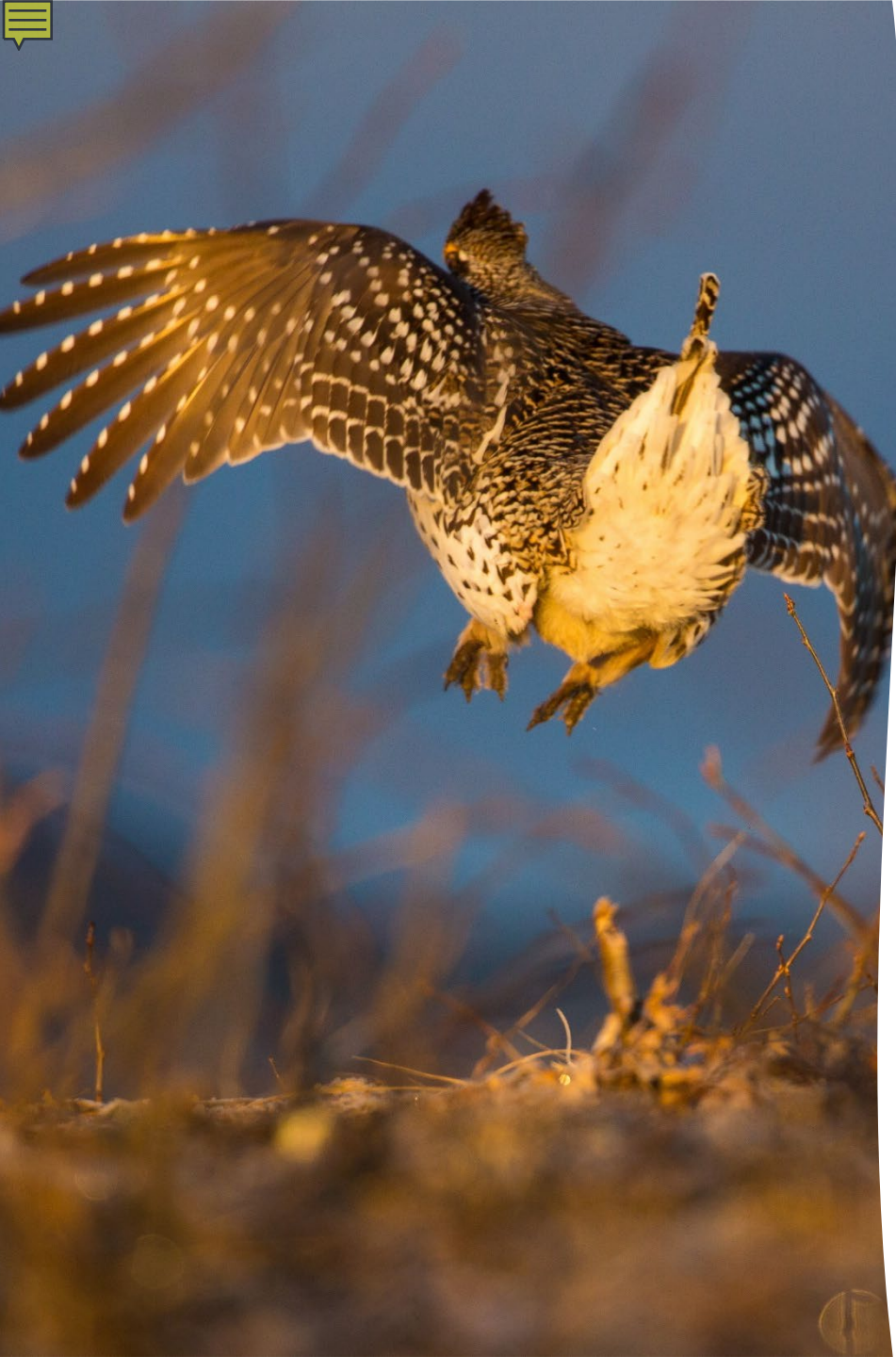
- Able to walk/hike 4 to 6 miles in rough terrain
- Familiar with species ID

*Evaluations and “tune-ups” may be coordinated to coincide with NAVHDA training event(s)



Volunteer Commitment

- Volunteer agreements are required
- Keep track of volunteer time and mileage
- ADF&G cannot offer financial compensation



Financial Contribution

2021

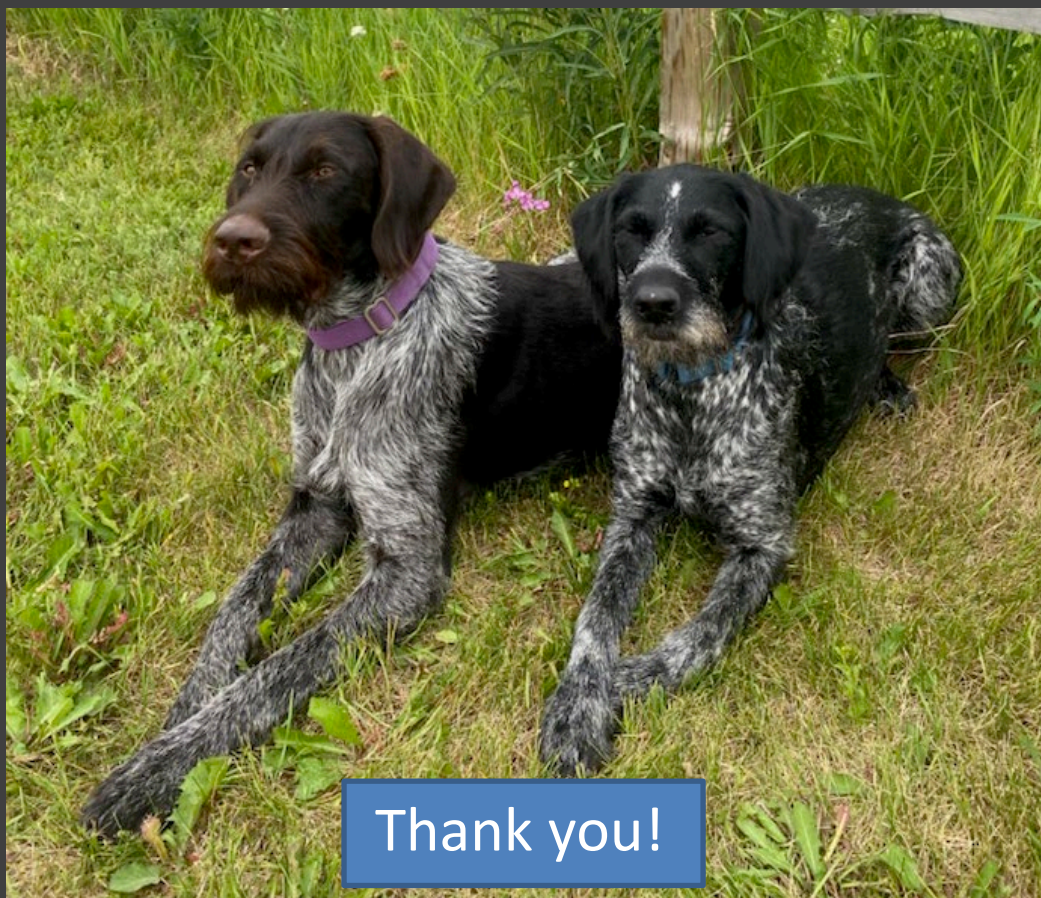
- 14 volunteers
- 366 volunteer hours
- 6613 vehicle miles
- **\$50,500** for Small Game

2022

- 11 volunteers
- 249 volunteer hours
- 4911 vehicle miles
- **\$47,500** for Small Game

2023

- 15 volunteers
- 246 volunteer hours
- 3592 vehicle miles
- **\$43,830** for Small Game



Thank you!



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