

Whooping Crane Monitoring Period Workgroup Update



Jason Bruggeman (EDO)

Technical Advisory Committee Meeting, April 12, 2023

January TAC Questions

- Adjust PRRIP survey dates?
 - Spring: March 6–April 29
 - Fall: October 9–November 15
- How to compare previous to current data?
- What to do with data collected outside of survey season?
- How to modify whooping crane reports?



Workgroup to Address TAC Questions

- Members:
 - Dave Baasch (Crane Trust)
 - Jason Bruggeman (EDO)
 - Patrick Farrell (EDO)
 - Malinda Henry (EDO)
 - Mallory Jaymes (EDO)
 - Matt Rabbe (USFWS)
 - Dave Zorn (CNPPID)

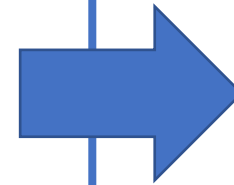
Data Sources Evaluated

- USFWS public sighting data for Nebraska
 - 1975-2022
- PRRIP systematic aerial survey data
 - 2001-2022
- PRRIP opportunistic ground survey data
 - 2001-2022
- Telemetry data from individual whooping cranes
 - 2010-2018
 - 2018-2021



Data Sources Evaluated

- USFWS public sighting data for Nebraska
 - 1975-2022
- PRRIP systematic aerial survey data
 - 2001-2022



Whooping crane
groups

- PRRIP opportunistic ground survey data
 - 2001-2022
- Telemetry data from individual whooping cranes
 - 2010-2018
 - 2018-2021



USFWS Public Sighting Data—Spring

- **1975–2022**

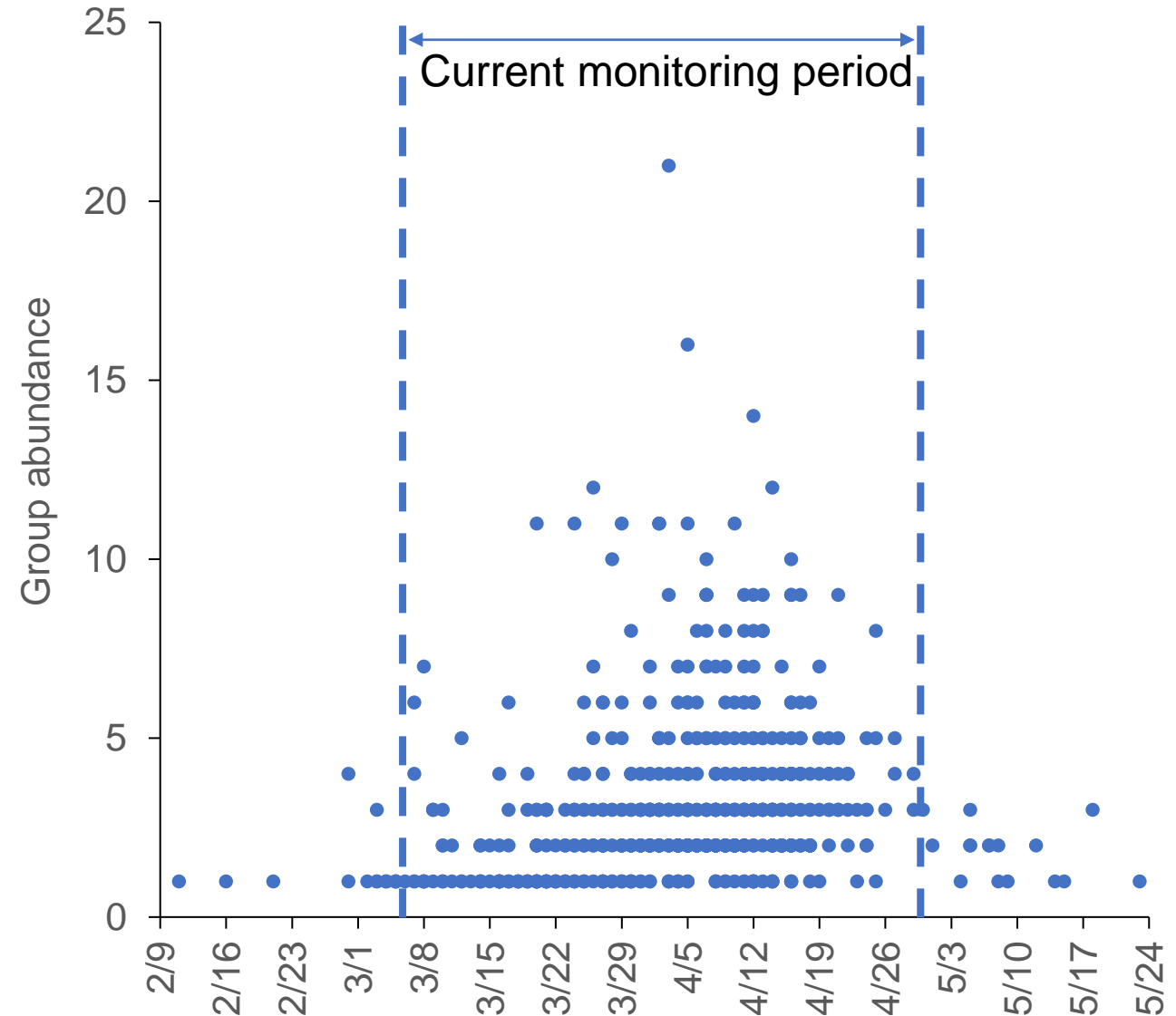
- 586 group observations

- **Methods**

- 2.5th and 97.5th percentiles
- 5th and 95th percentiles

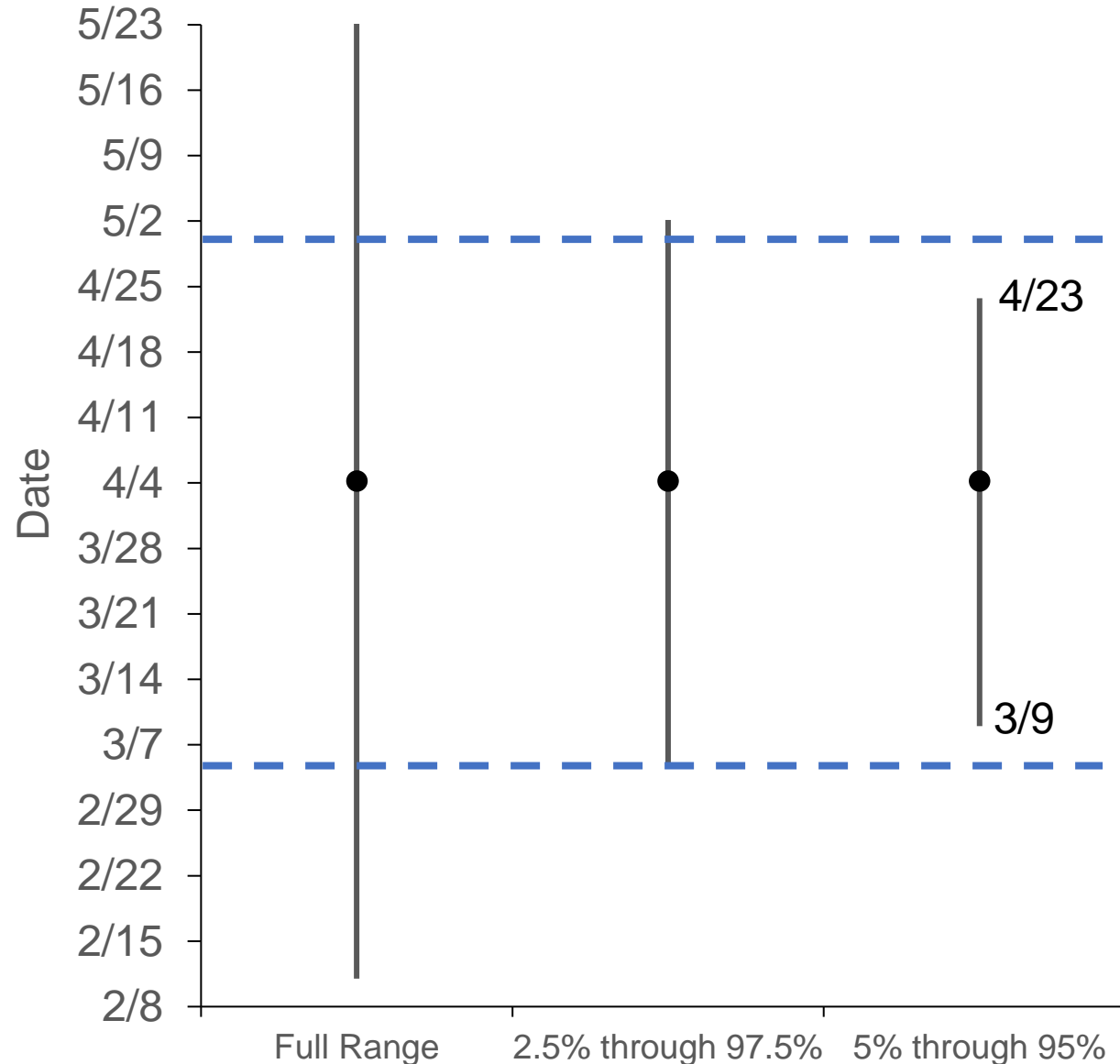
- **Periods**

- 1975-2022
- 1975-1999; 2000-2022
- 10-year periods
- 5-year periods



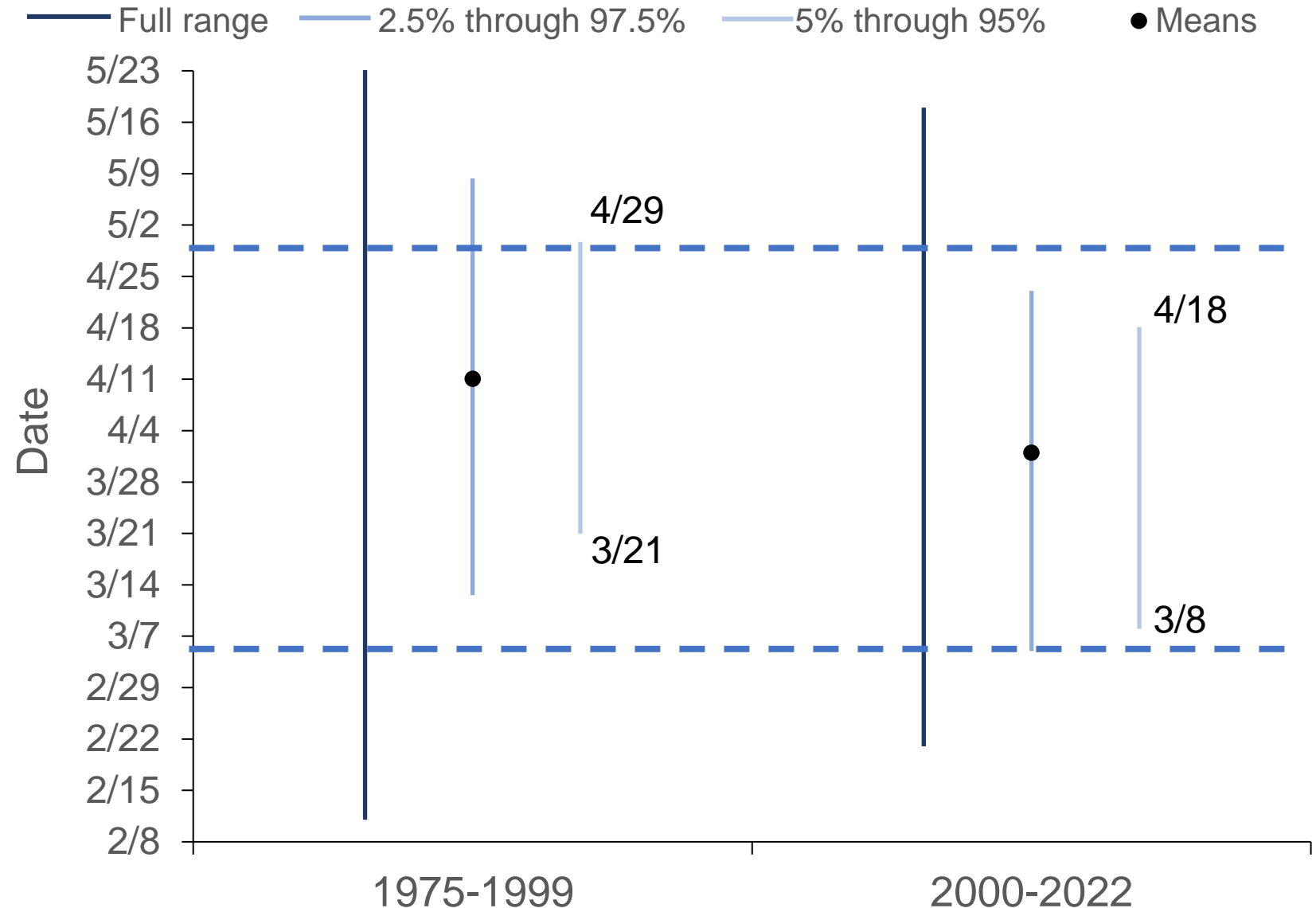
USFWS Public Sighting Data—Spring

• 1975–2022



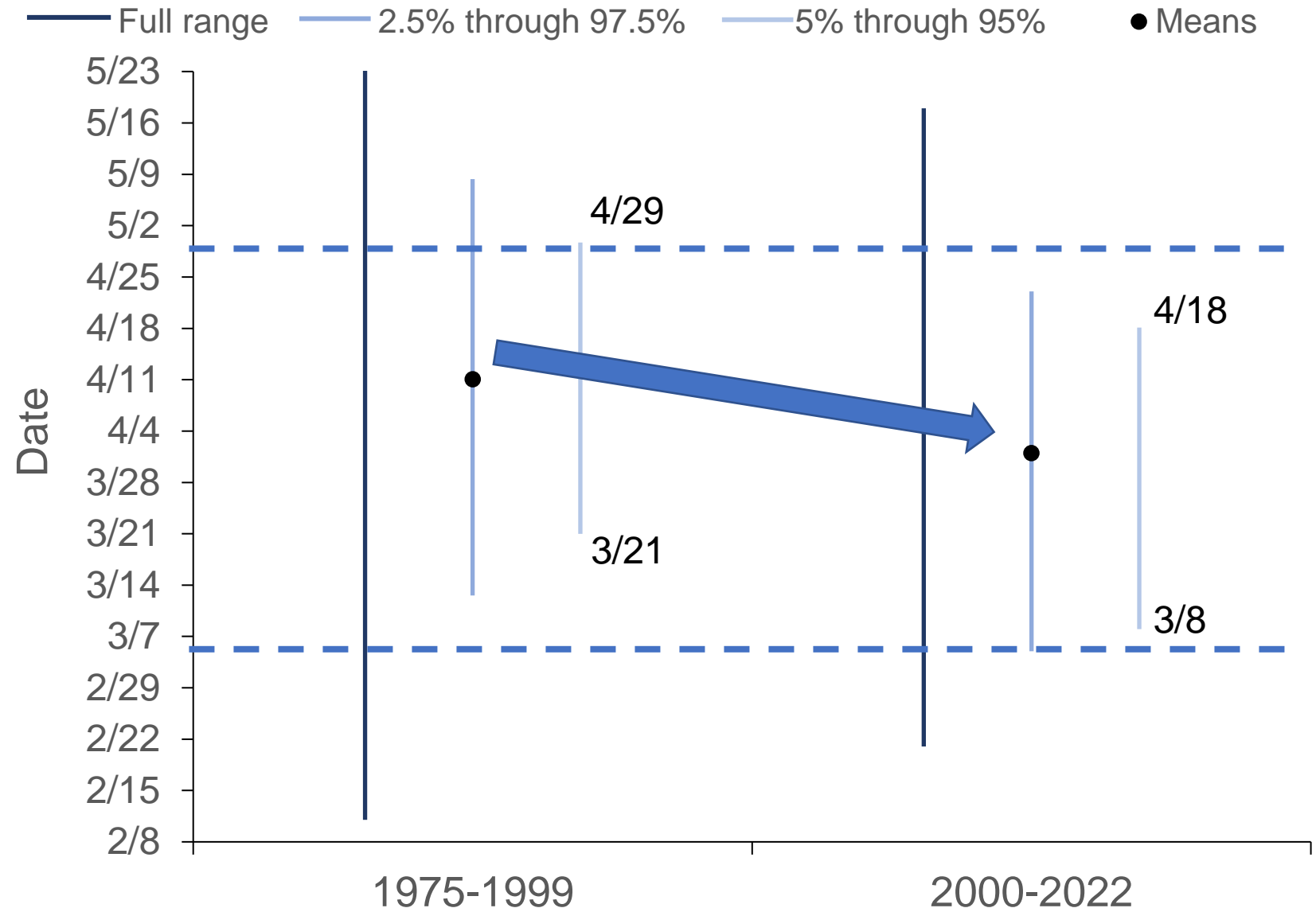
USFWS Public Sighting Data—Spring

- Two periods



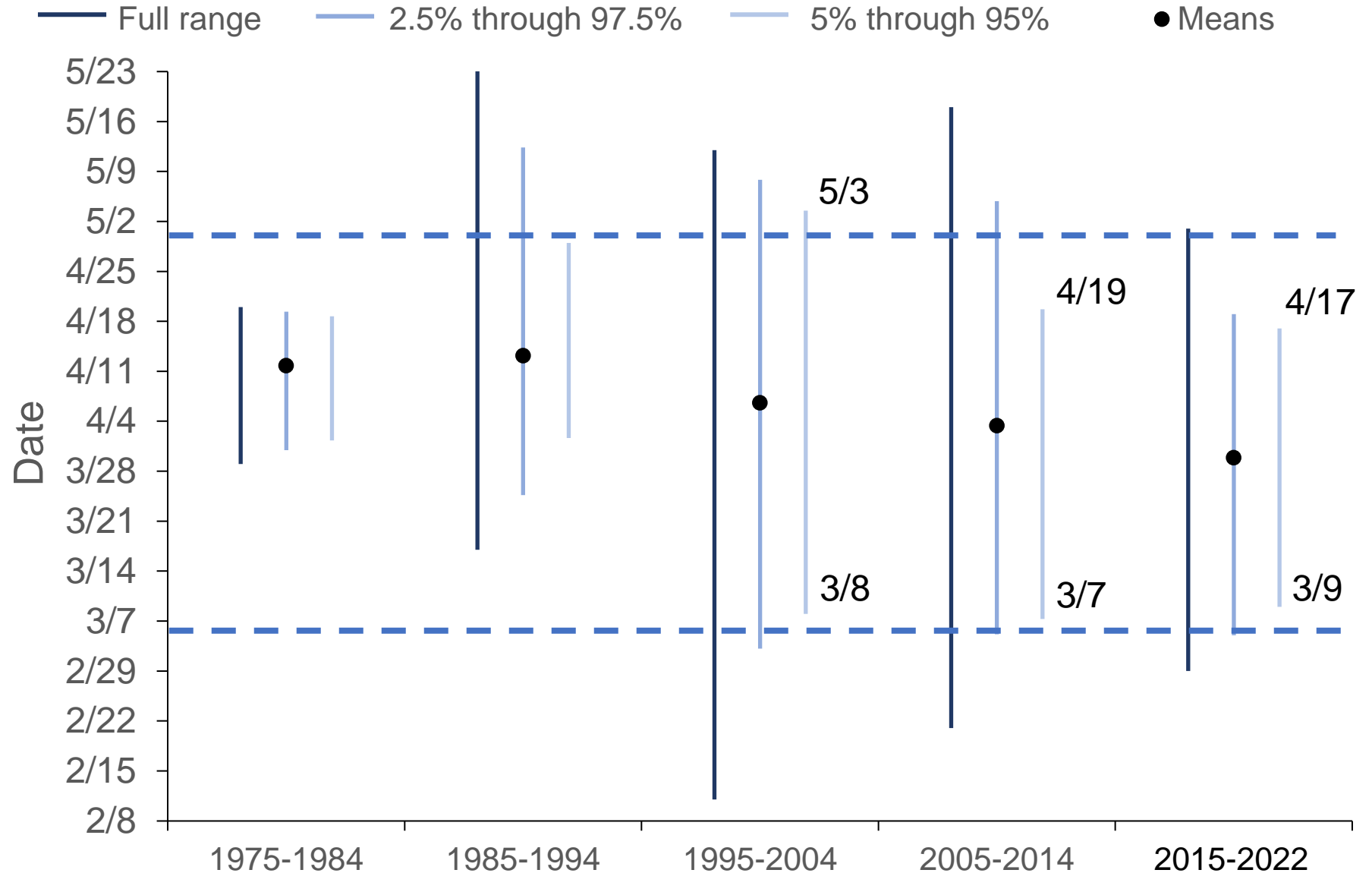
USFWS Public Sighting Data—Spring

- Two periods



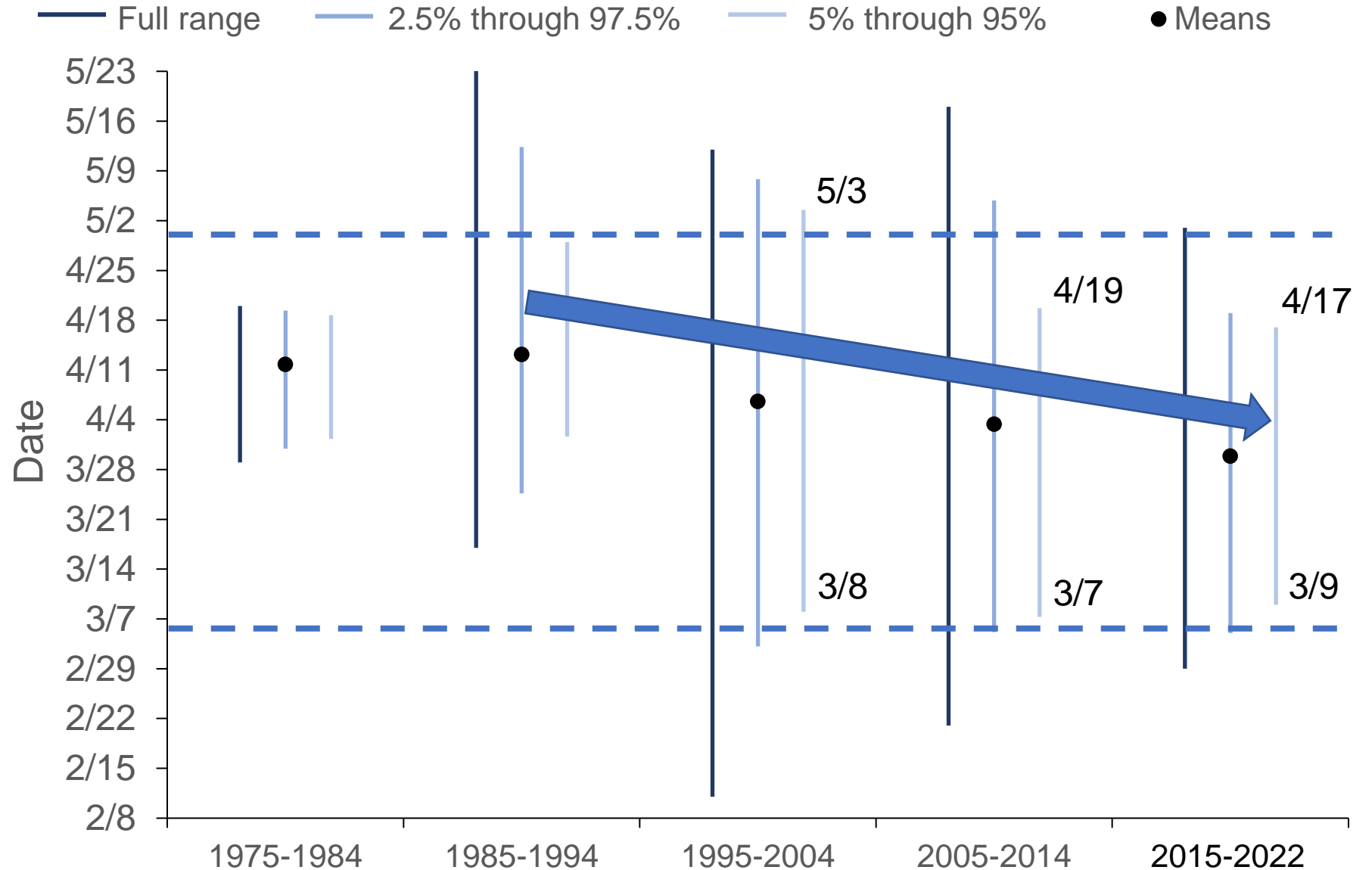
USFWS Public Sighting Data—Spring

- 10-year periods



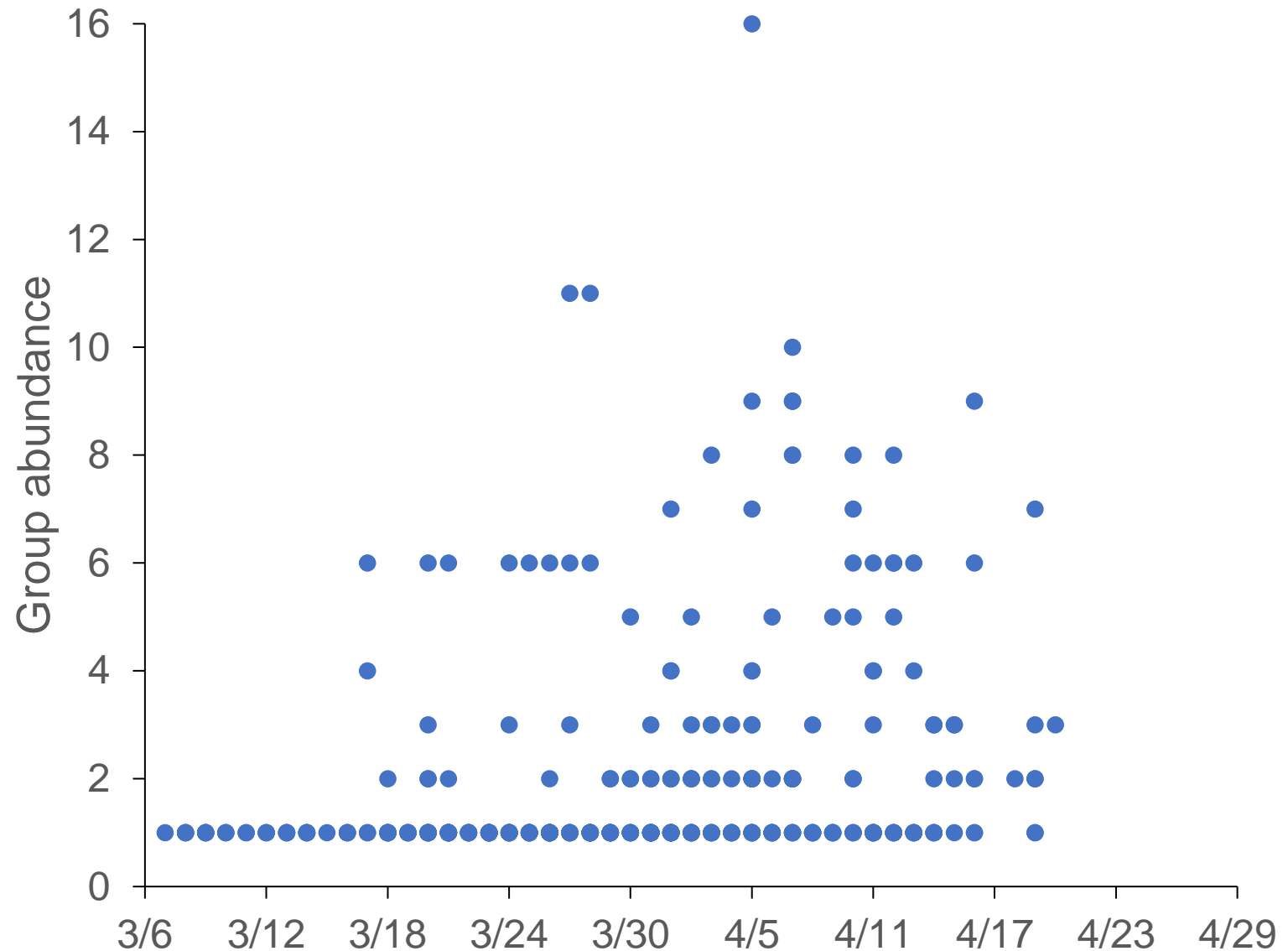
USFWS Public Sighting Data—Spring

- 10-year periods



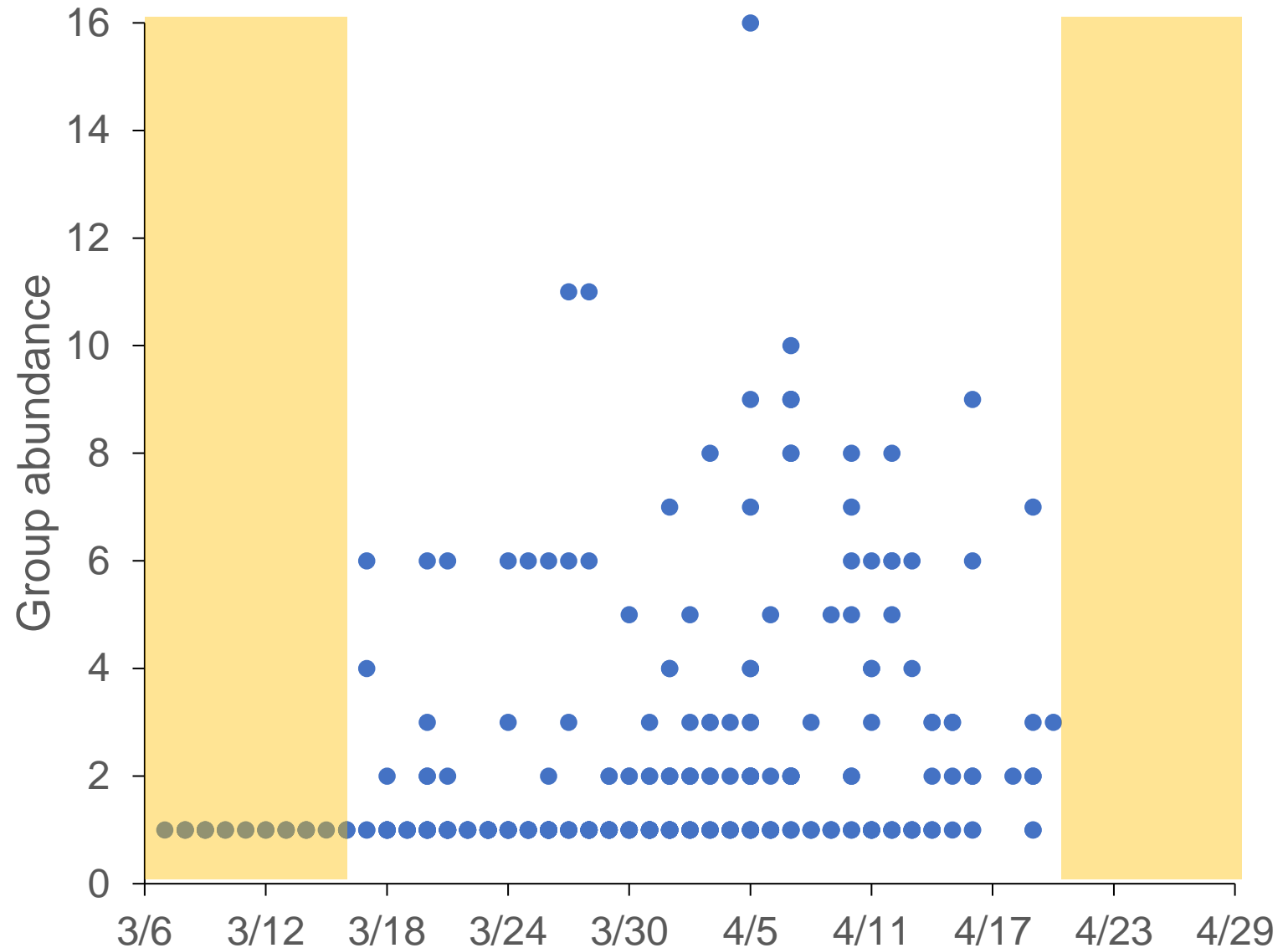
PRRIP Systematic Aerial Surveys—Spring

- **2001–2022**
 - 360 group observations
 - March 7–April 20



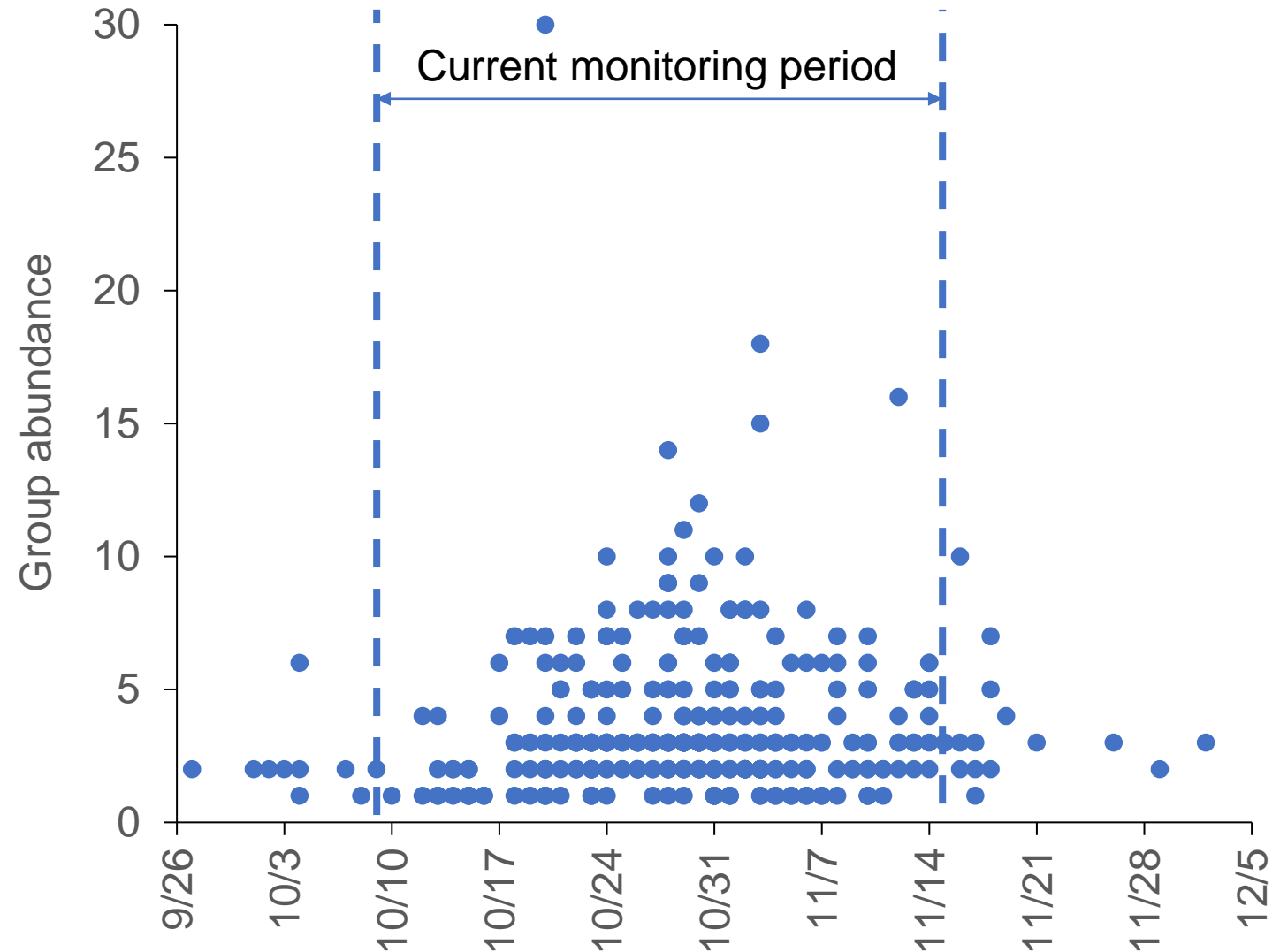
PRRIP Systematic Aerial Surveys—Spring

- **2001–2022**
 - 360 group observations
 - March 7–April 20



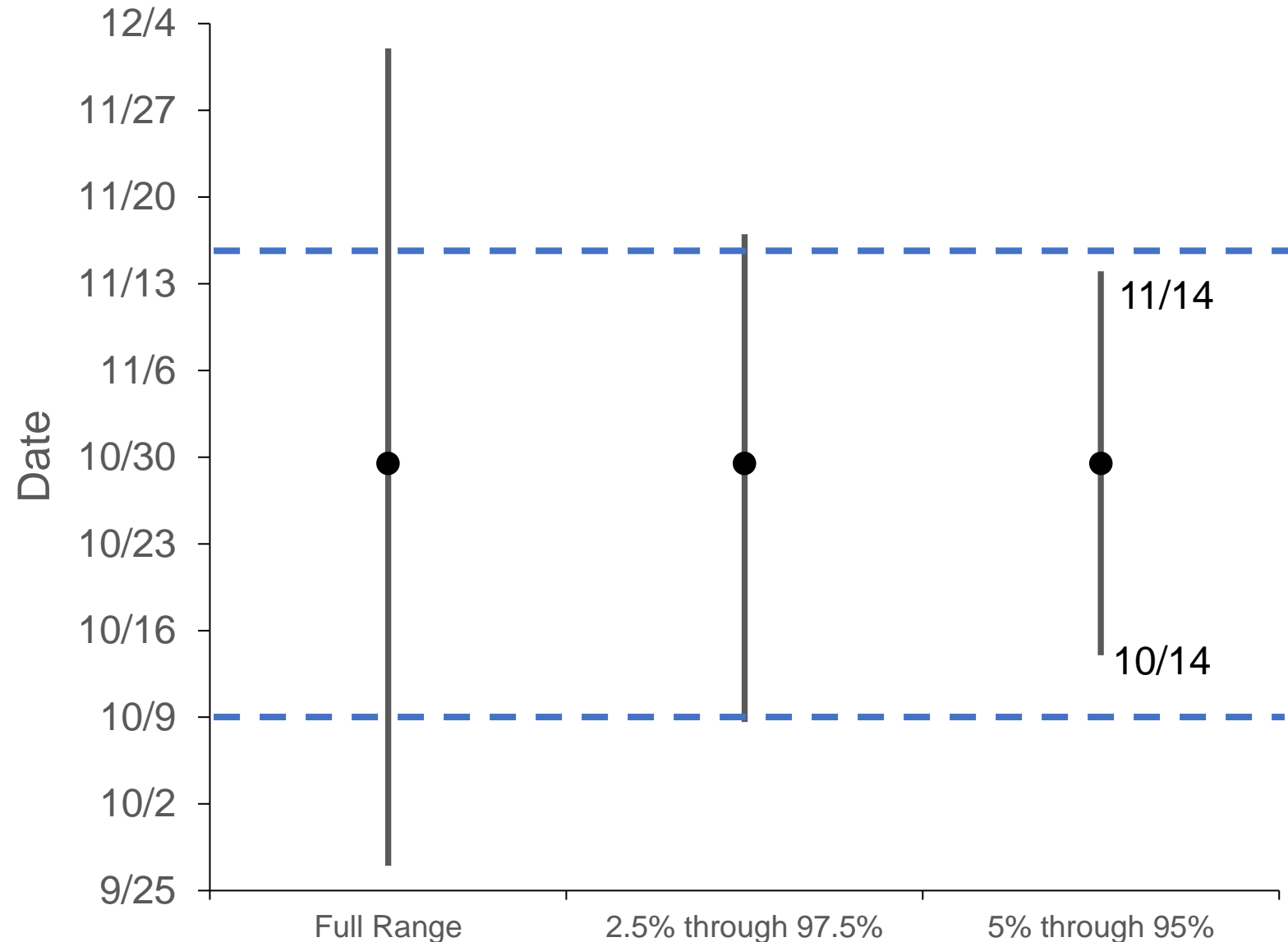
USFWS Public Sighting Data—Fall

- **1975–2022**
 - 346 group observations



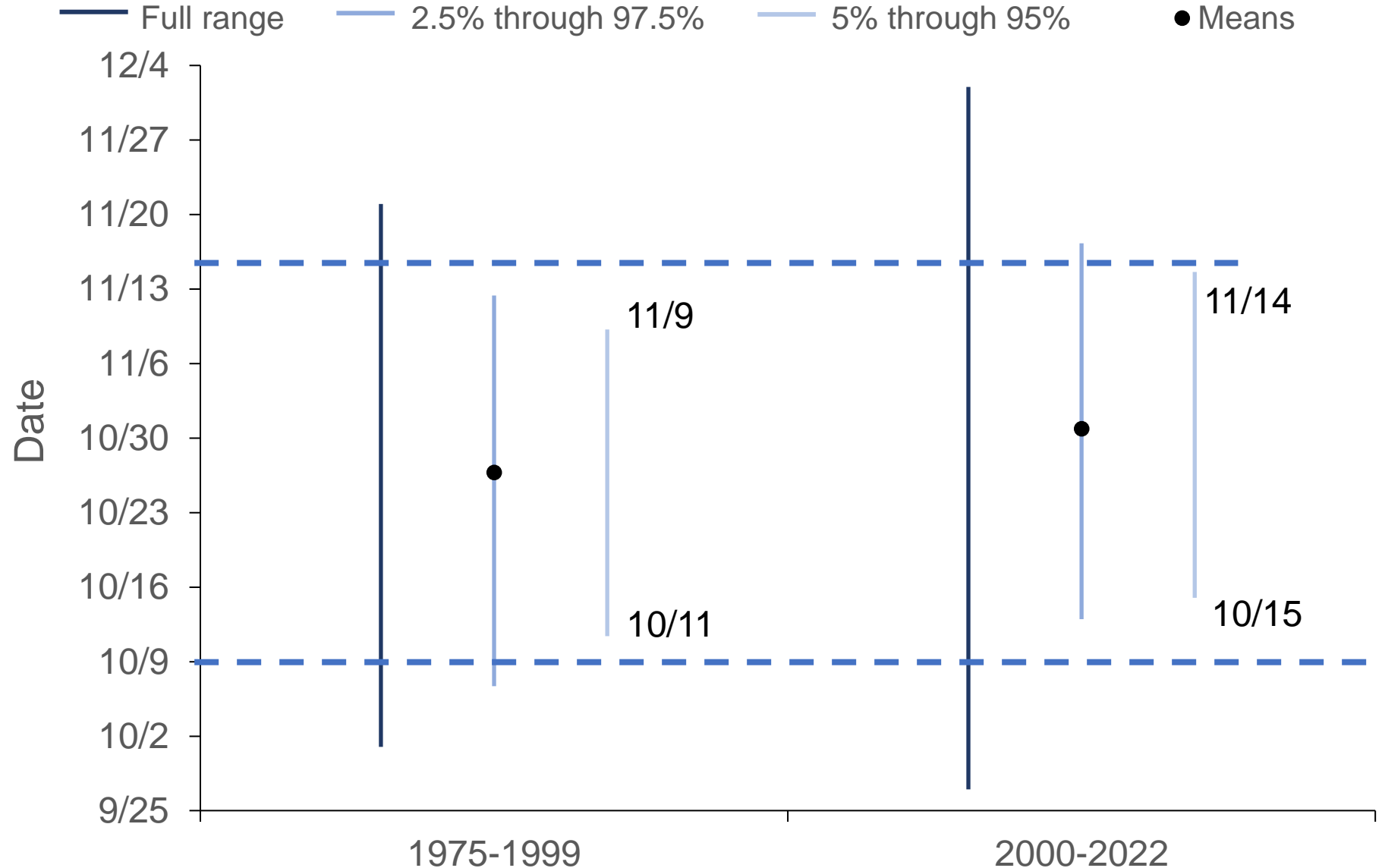
USFWS Public Sighting Data—Fall

• 1975–2022



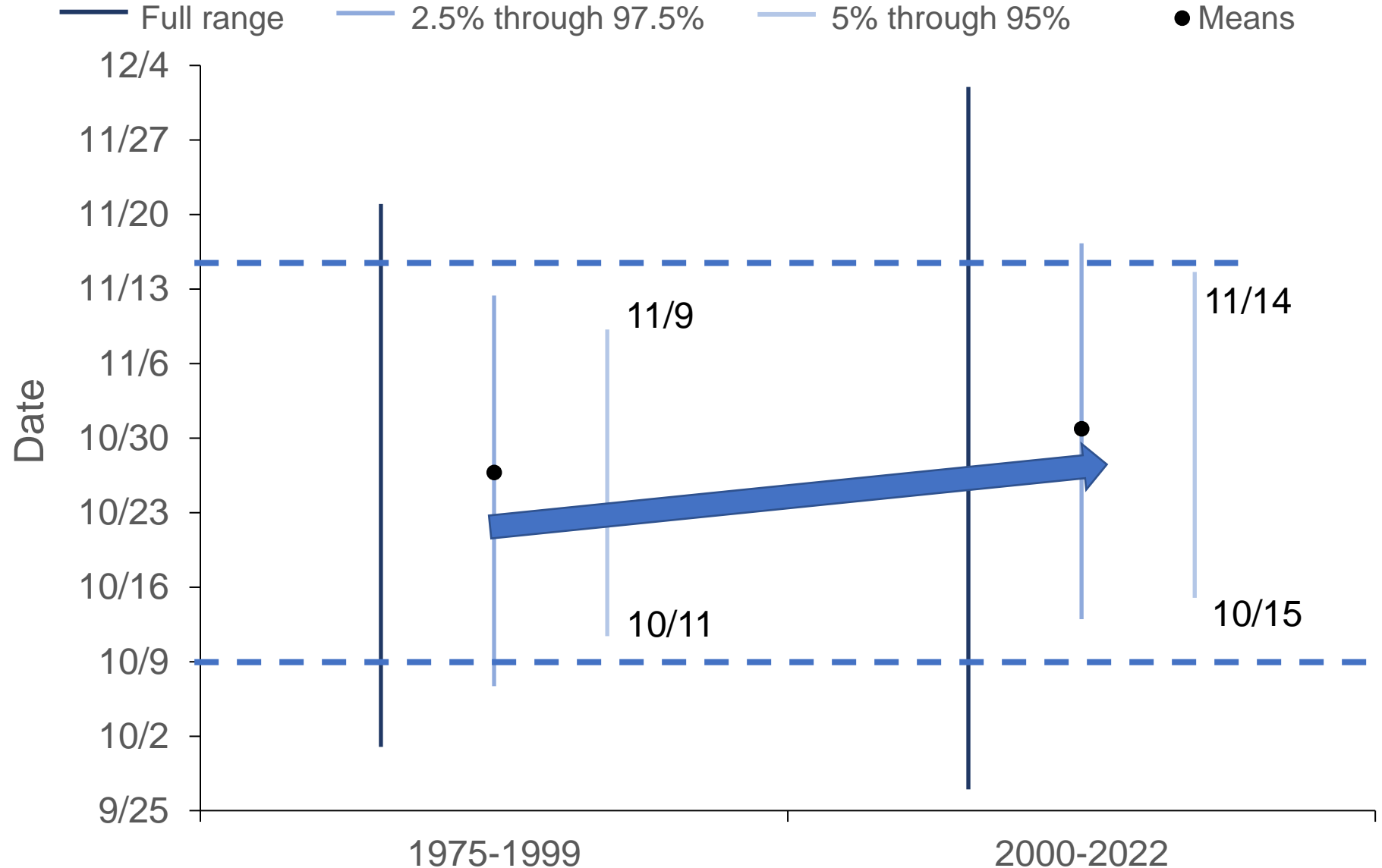
USFWS Public Sighting Data—Fall

- Two periods



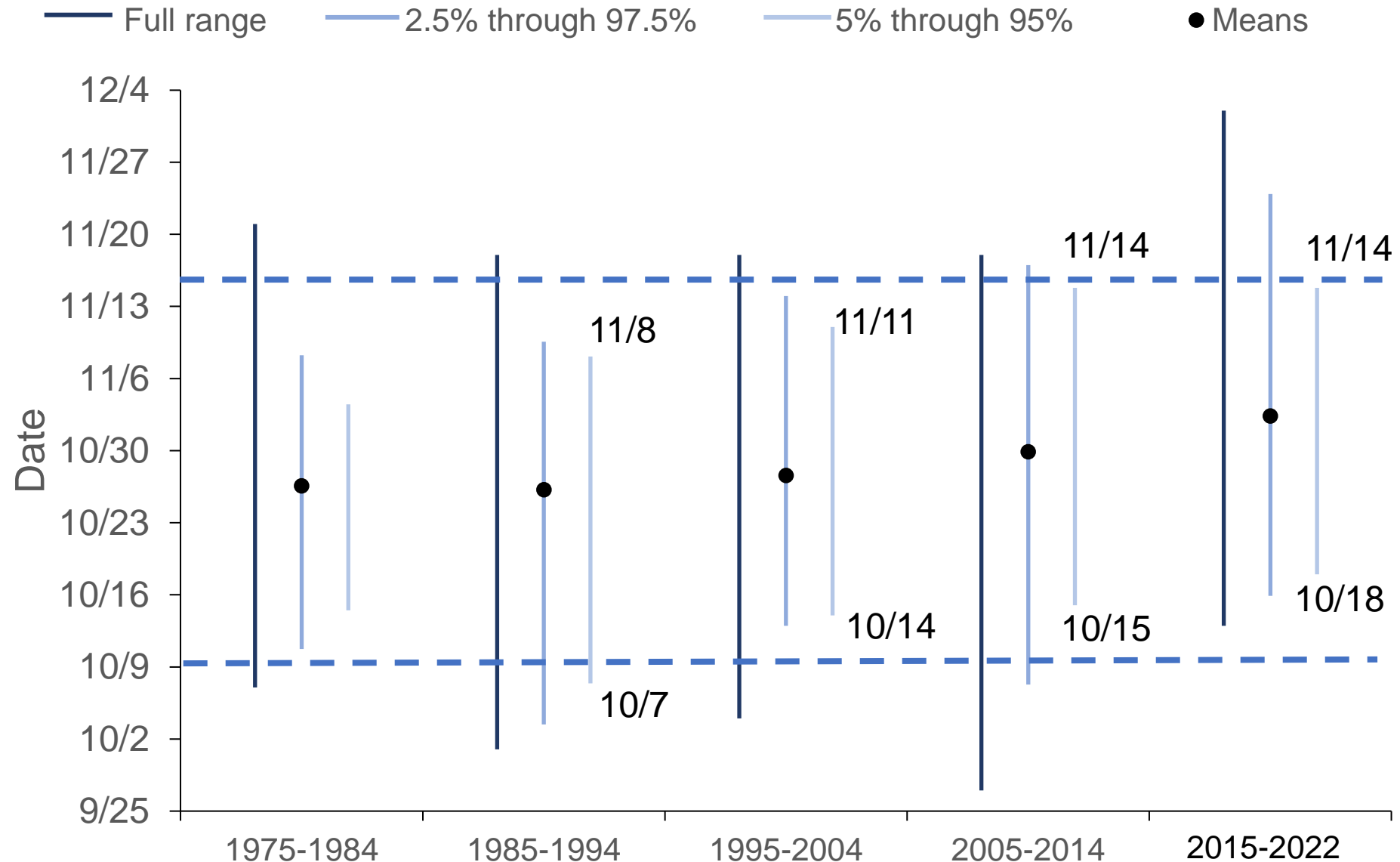
USFWS Public Sighting Data—Fall

- Two periods



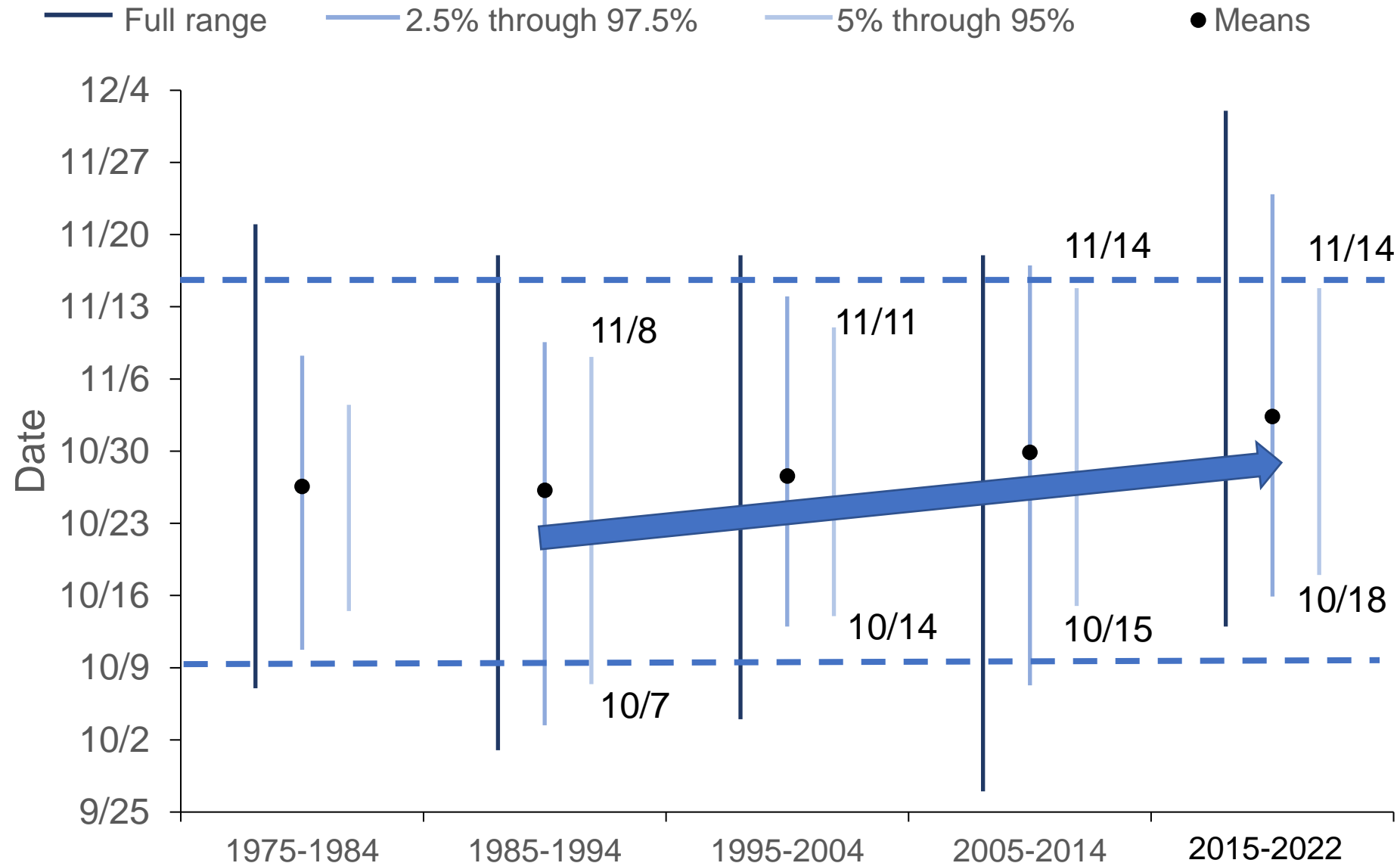
USFWS Public Sighting Data—Fall

- 10-year periods



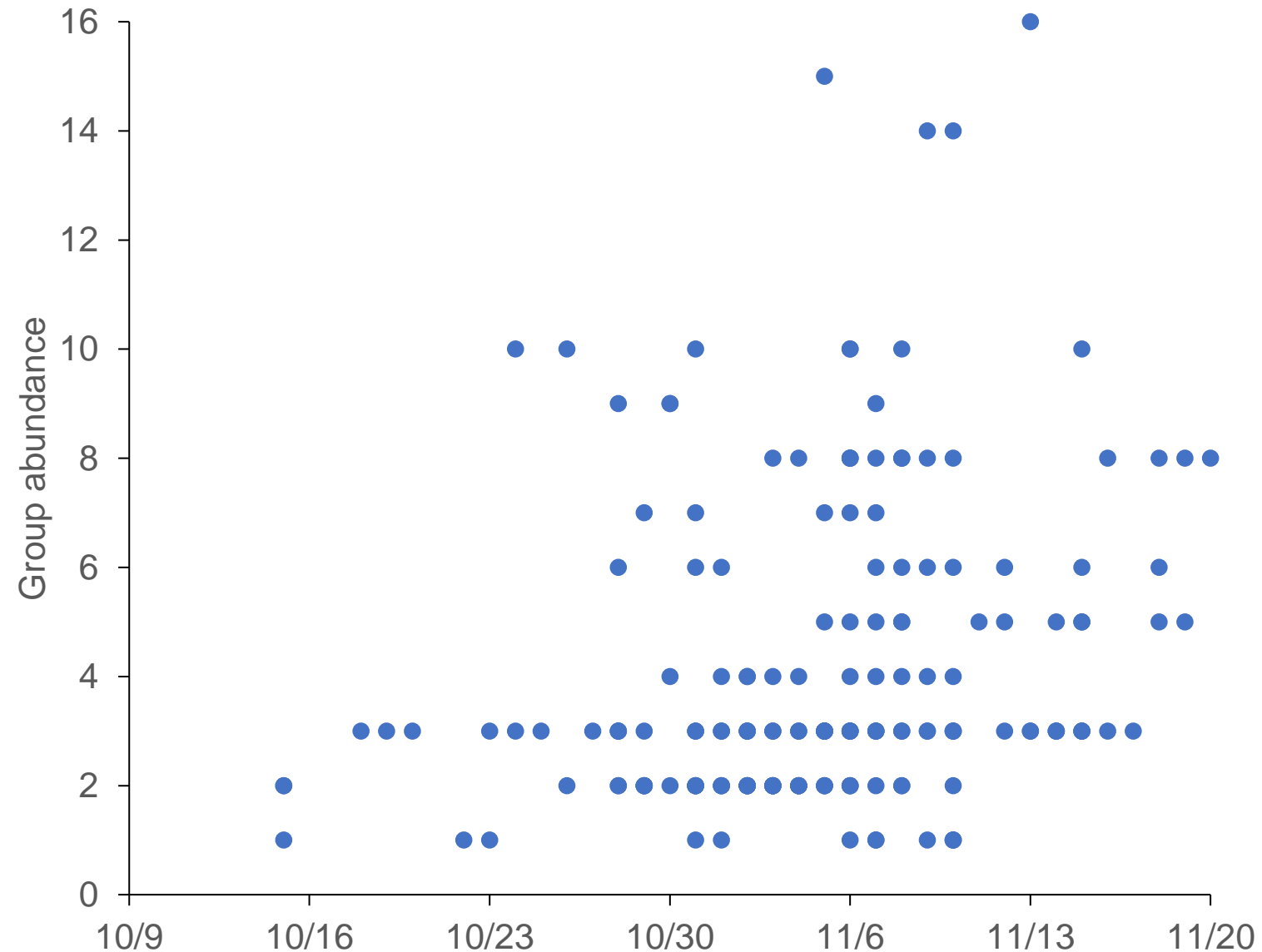
USFWS Public Sighting Data—Fall

- 10-year periods



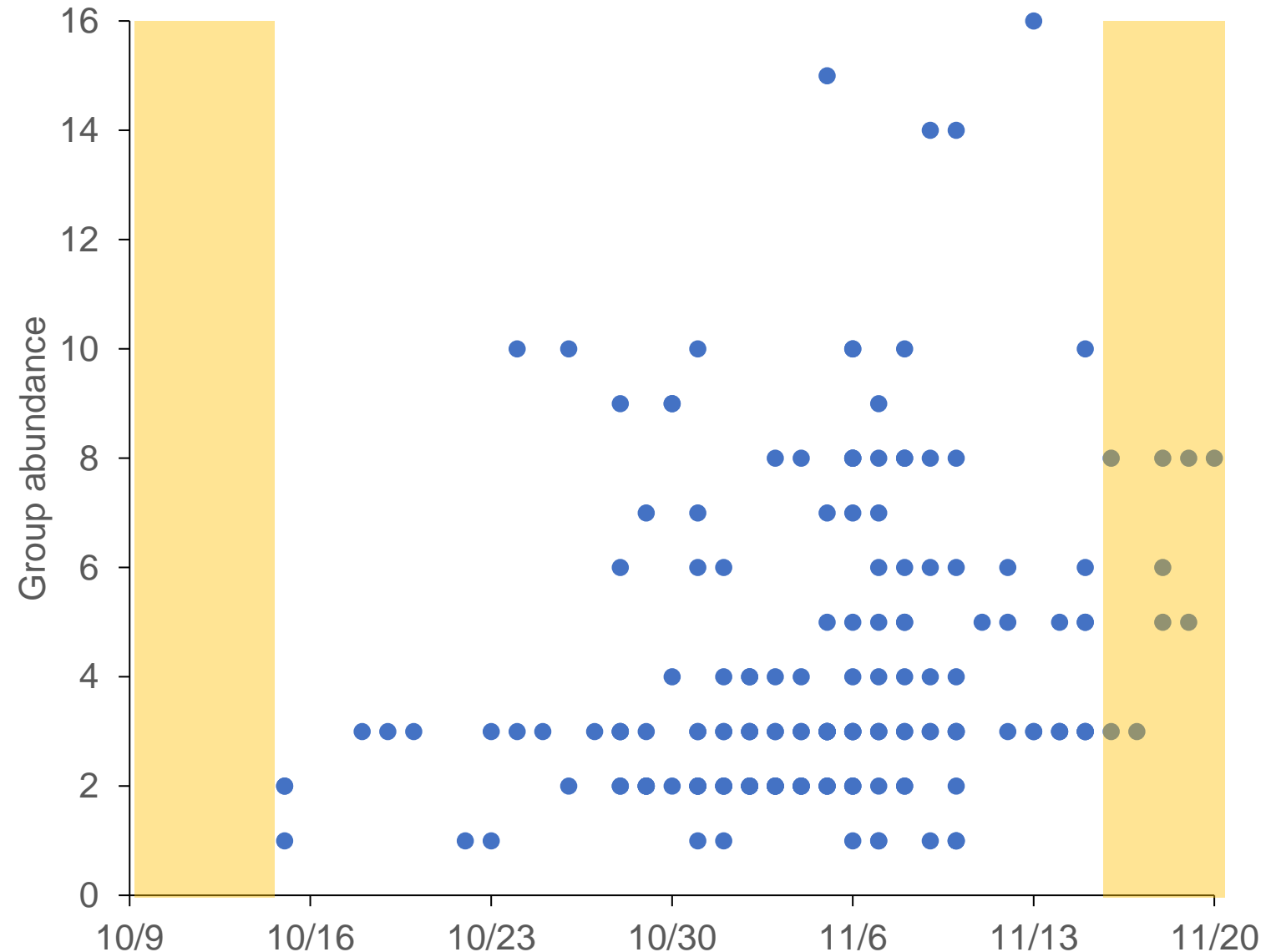
PRRIP Systematic Aerial Surveys—Fall

- **2001–2022**
 - 176 group observations
 - October 15–November 20



PRRIP Systematic Aerial Surveys—Fall

- **2001–2022**
 - 176 group observations
 - October 15–November 20



Workgroup Recommendations

- Change dates for PRRIP spring and fall surveys because of:
 - Shifts in 5th and 95th percentiles over time from USFWS data
 - No PRRIP observations after April 20
 - No PRRIP observations before October 15
 - Increase in PRRIP observations after November 15

Workgroup Recommendations

- Change dates for PRRIP spring and fall surveys because of:
 - Shifts in 5th and 95th percentiles over time from USFWS data
 - No PRRIP observations after April 20
 - No PRRIP observations before October 15
 - Increase in PRRIP observations after November 15
- Use 10-year rolling periods to evaluate changes in percentiles from USFWS database
 - Survey dates established based on 2.5th and 97.5th percentiles
 - Annually examine whether current established survey dates encompass the 5th and 95th percentile from most recent 10-year period

Establishing and Reevaluating Survey Dates

USFWS data

Establishing and Reevaluating Survey Dates

USFWS data



EDO calculates 2.5th and 97.5th and 5th and 95th percentiles (10-year rolling period)

Establishing and Reevaluating Survey Dates

USFWS data



EDO calculates 2.5th and 97.5th and 5th and 95th percentiles (10-year rolling period)



EDO summarizes results for TAC

Establishing and Reevaluating Survey Dates

USFWS data



EDO calculates 2.5th and 97.5th and 5th and 95th percentiles (10-year rolling period)

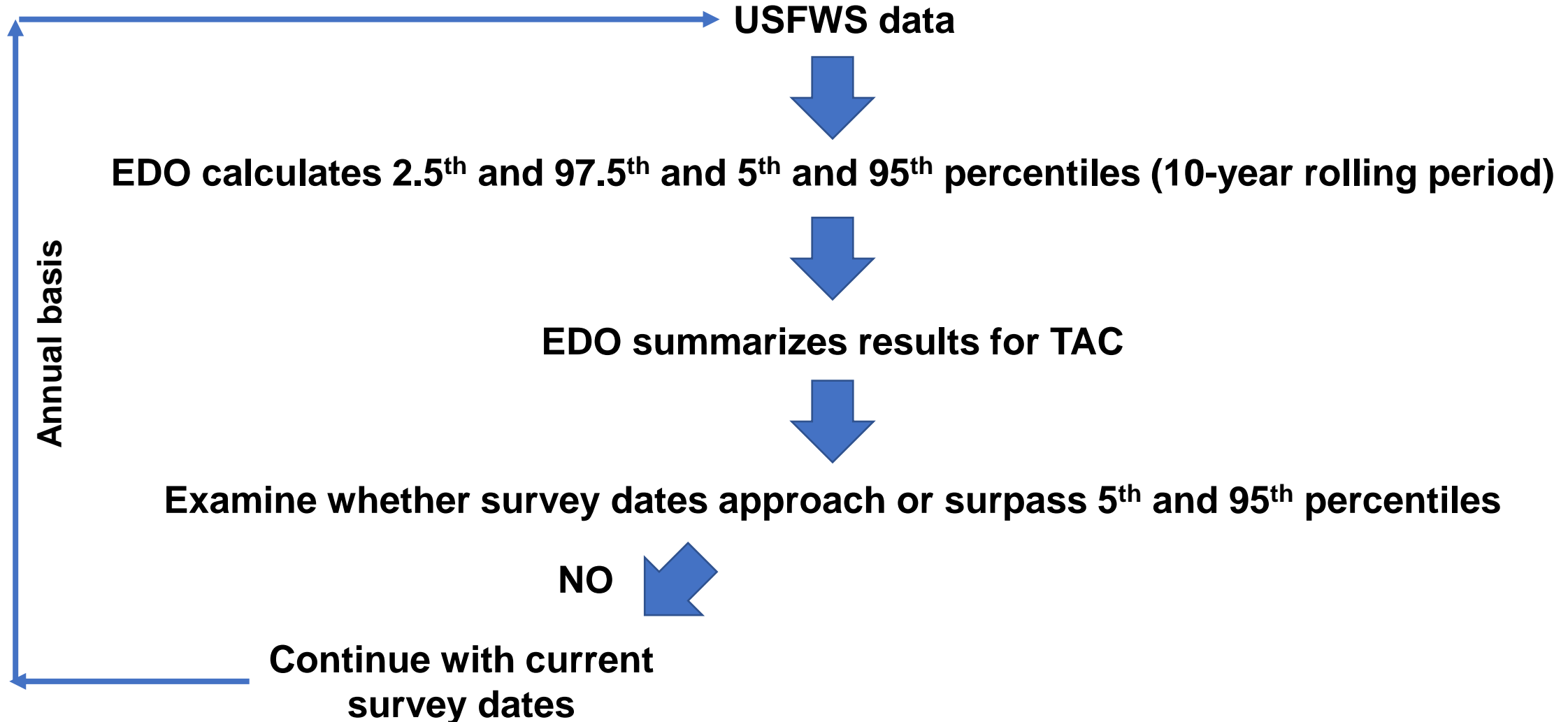


EDO summarizes results for TAC

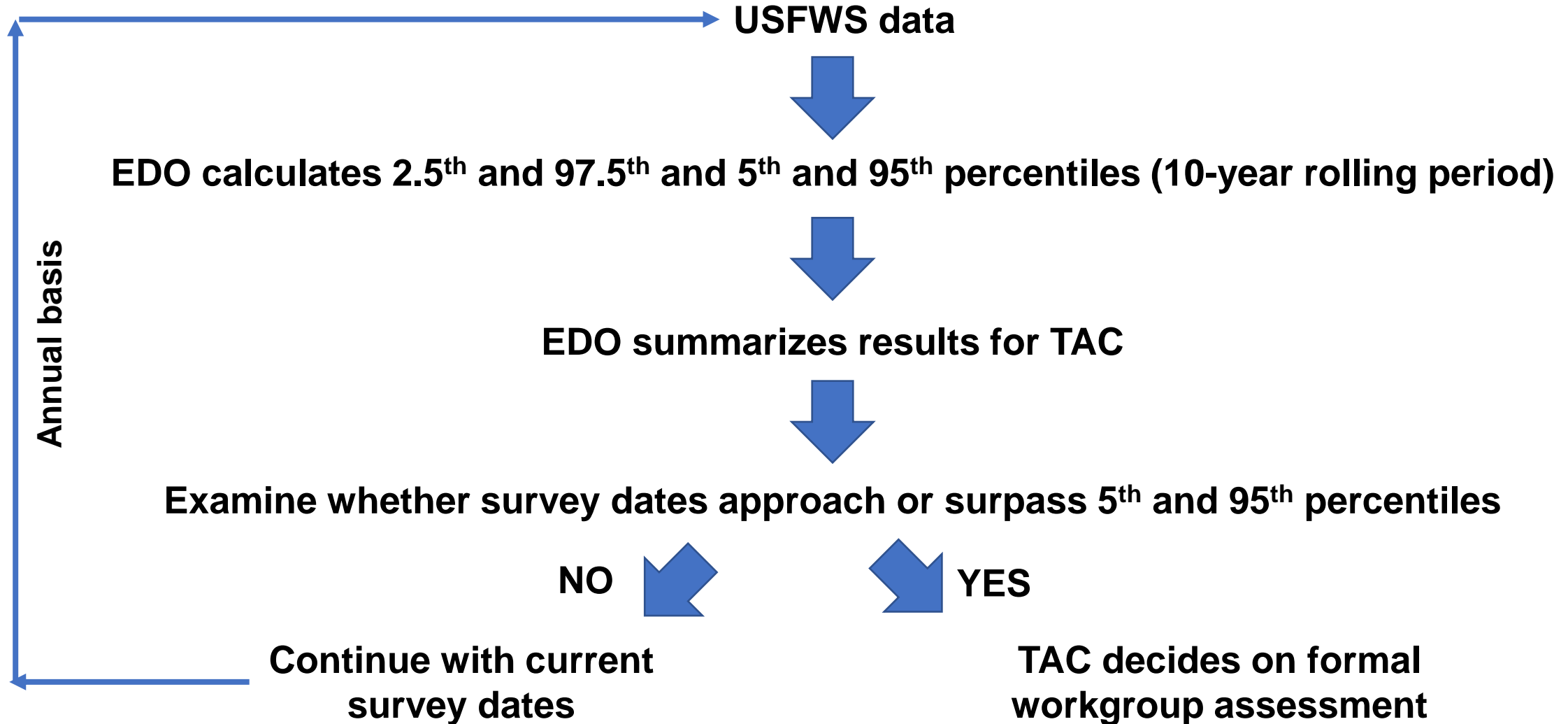


Examine whether survey dates approach or surpass 5th and 95th percentiles

Establishing and Reevaluating Survey Dates



Establishing and Reevaluating Survey Dates



Establishing 2024 Survey Dates

- 2013–2022 spring data
 - Range: February 28–May 5 (mean = March 31; $n = 271$)
 - 5th–95th percentiles: March 10–April 17
 - 2.5th–97.5th percentile: March 5–April 19

Establishing 2024 Survey Dates

- 2013–2022 spring data
 - Range: February 28–May 5 (mean = March 31; $n = 271$)
 - 5th–95th percentiles: March 10–April 17
 - 2.5th–97.5th percentile: March 5–April 19
- 2013–2022 fall data
 - Range: September 27–December 1 (mean = November 2; $n = 121$)
 - 5th–95th percentiles: October 17–November 16
 - 2.5th–97.5th percentile: October 15–November 18

Establishing 2024 Survey Dates

- 2013–2022 spring data
 - Range: February 28–May 5 (mean = March 31; $n = 271$)
 - 5th–95th percentiles: March 10–April 17
 - 2.5th–97.5th percentile: **March 5–April 19**
2024 survey dates
- 2013–2022 fall data
 - Range: September 27–December 1 (mean = November 2; $n = 121$)
 - 5th–95th percentiles: October 17–November 16
 - 2.5th–97.5th percentile: **October 15–November 18**
2024 survey dates

Comparing and Reporting Data

1. Calculate 5th and 95th percentiles from previous 10 years
2. Determine crane metrics between 5th and 95th percentiles
3. Repeat steps 1 and 2 back to 2007

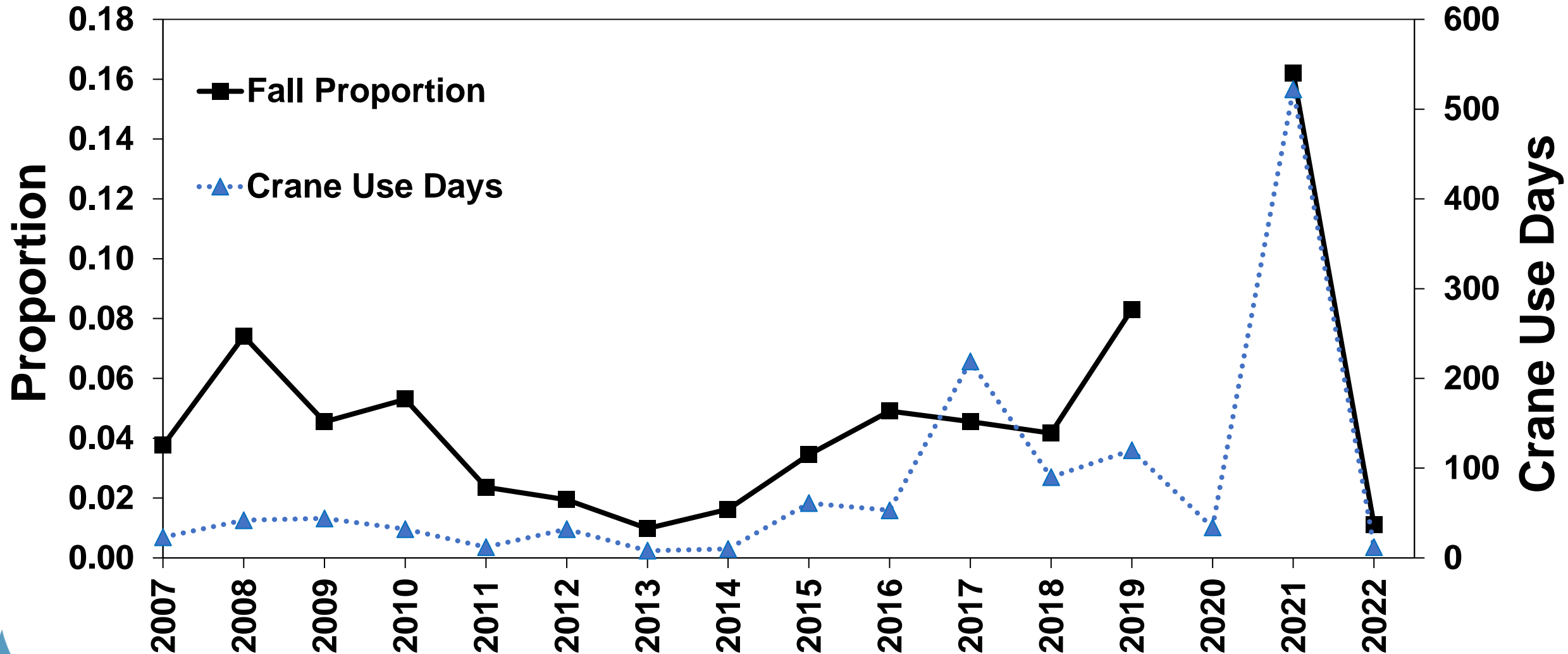
Comparing and Reporting Data

1. Calculate 5th and 95th percentiles from previous 10 years
2. Determine crane metrics between 5th and 95th percentiles
3. Repeat steps 1 and 2 back to 2007
4. Report each season's performance metrics as those observed within dates encompassing 5th and 95th percentiles

Comparing and Reporting Data

1. Calculate 5th and 95th percentiles from previous 10 years
2. Determine crane metrics between 5th and 95th percentiles
3. Repeat steps 1 and 2 back to 2007
4. Report each season's performance metrics as those observed within dates encompassing 5th and 95th percentiles
5. Identify years when survey periods were shorter and did not encompass 5th and 95th percentiles

Whooping Crane Report—Figure 3



Discussion and Questions

