

2024 Whooping Crane Monitoring Protocol



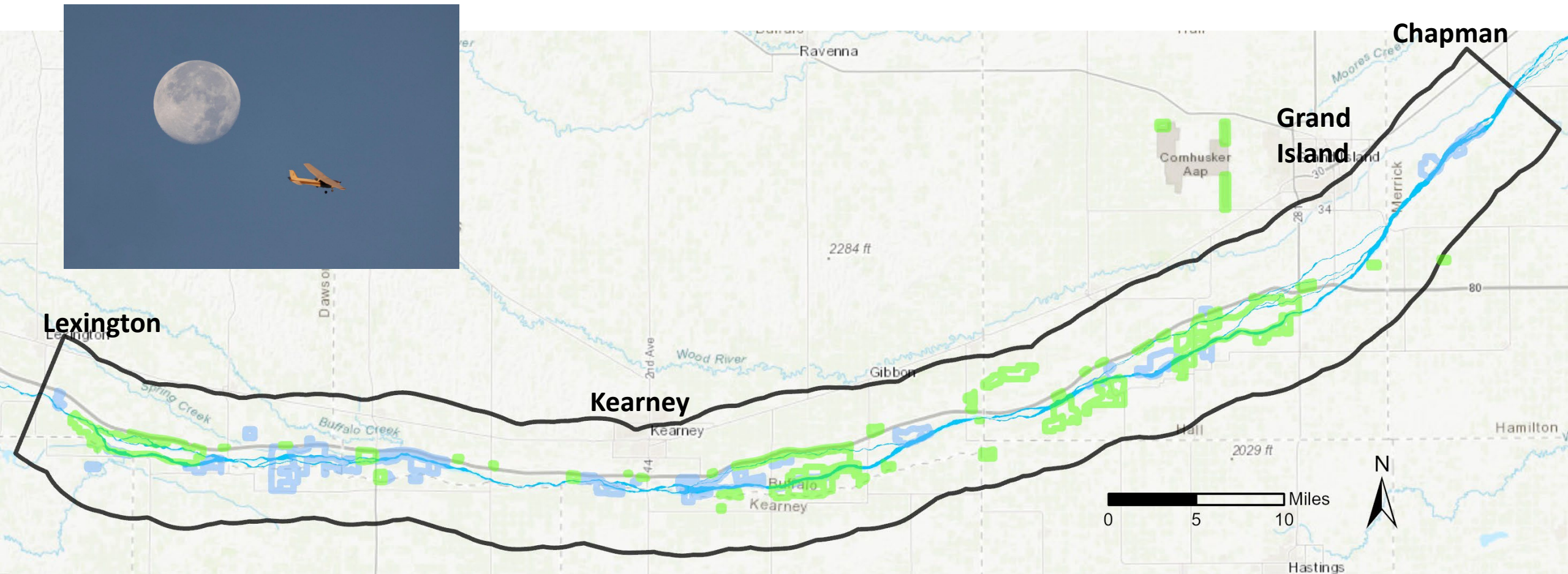
Jason Bruggeman, PRRIP EDO—TAC Meeting, May 8, 2024

Purpose

- Provide guidance for collecting whooping crane use and associated habitat attribute data
- Objectives:
 1. Detect and confirm stopovers in AHR
 2. Identify habitat used during stopovers
- Assess management objective progress
- Evaluate learning (EBQs)
- Test management hypotheses



Study Area



Field Methods

- Systematic aerial surveys
- Ground crew surveys
- Drone surveys
 - Use during ground crew to better view groups
 - Use when flights are cancelled
 - Use during monitoring period extensions
- Opportunistic locations



Monitoring Design Considerations

- Inference restricted to AHR
- Use of systematically detected groups in analyses affords inference to entire AHR
- Use of opportunistically detected groups in analyses may introduce bias (unequal sampling effort)
- Detection probability < 1



Spring and Fall Monitoring Periods

- Dates based on 2.5th and 97.5th percentiles of initial dates of group observations in Nebraska
 - Use most recent 10 years data
- Spring: March 5 – April 19
- Fall: October 15 – November 18
- Monitoring period extended if cranes remain on AHR past end date



Reporting

- Stopover metrics
 - Proportion of AWB population stopping in AHR
 - Number of crane use days
- Stopover metrics adjusted for 5th and 95th percentile dates
- Habitat and flow metrics



TAC Considerations

- Drone usage
- Use during ground crew to view groups
- Use when flights are cancelled
- Use during monitoring period extensions
 - If extended seven days beyond scheduled end date due to one or two groups, may get permission from USFWS to use drone to monitor remaining group(s)
 - Conduct within 10 miles of group's previous locations



TAC Considerations

- Extended monitoring periods
 - Monitor remaining crane groups
 - Monitor new arrivals during extension
- Stopping surveys during extension
 - Spring
 - No cranes observed on AHR for two days and no recent (within two days) reports of cranes in Central Flyway to the south
 - Fall
 - No cranes observed on AHR for two days and no recent (within two days) reports of cranes in Central Flyway to the north



TAC Considerations

- Other scenarios during regular monitoring period
 - Birds observed on a flight early during final week of period; remainder of regular monitoring period flights cancelled
 - Birds not observed on a flight early during final week of period; remainder of regular monitoring period flights cancelled
- Options
 - A) Extend period to resurvey once
 - B) Extend period to resurvey twice
 - C) Do not extend period

