



TO: GOVERNANCE COMMITTEE
FROM: EXECUTIVE DIRECTOR'S OFFICE
SUBJECT: WHOOPING CRANE MONITORING PERIOD UPDATE
DATE: JUNE 1, 2023

Based upon the data reviewed by the TAC and summarized below, we are asking for GC approval of the following TAC recommendation:

GC MOTION: Beginning in 2024, PRRIP's whooping crane monitoring protocol will be updated to reflect the following changes to the survey period:

- The spring monitoring period, currently from March 6 through April 29, will be changed to March 5 through April 19.
- The fall monitoring period, currently from October 9 through November 15, will be changed to October 15 through November 18.

Additional TAC recommendations to accompany the changes in monitoring period:

- Annual assessments of whooping crane observation dates based on the most recent 10 years of data available from the USFWS public sighting database to keep track of potential shifts in the timing of whooping crane arrival in Nebraska.
- Reporting of seasonal performance metrics (proportion of population and crane use days) as those observed within the survey dates defined by the 5th - 95th percentiles of group observations over the previous 10 years.

I. CONTEXT AND PURPOSE

In an effort to align survey dates with the period when most (90%) whooping cranes were sighted in Nebraska, the monitoring protocol established spring and fall monitoring periods to encompass the 5th - 95th percentiles of initial sighting dates for all recorded sightings of whooping crane groups in Nebraska from 1975–1999 ([PRRIP 2021](#)). Since then, the 5th and 95th percentile window of observations has served as a guideline to adjust monitoring dates to accommodate for temporal shifts in whooping crane arrival in Nebraska.

On January 18, 2023, the Technical Advisory Committee (TAC) discussed the question of whether or not the dates of spring and fall PRRIP systematic aerial surveys needed to be adjusted to account for changes in the timing and duration of whooping crane migration. A working group was formed to further evaluate the question. The workgroup met on March 21, 2023, and consisted of the



following members: Dave Baasch (Crane Trust); Jason Bruggeman (EDO); Patrick Farrell (EDO); Malinda Henry (EDO); Mallory Jaymes (EDO); Matt Rabbe (USFWS); and Dave Zorn (CNPPID). The EDO analyzed dates of observations for whooping crane groups from the spring and fall migration from multiple sources during 1975–2022 and provided an overview of results during the working group meeting. The working group found results obtained from the USFWS public sighting database, which includes sightings from PRRIP systematic aerial surveys, to be most informative.

II. DATA EVALUATED AND RESULTS

A. Spring Migration

The mean, median, 2.5th - 97.5th, and 5th - 95th percentile dates of group observations shifted to at least seven days earlier from the 1975–1999 period to the 2000–2022 period (**Figure 1**). Current PRRIP spring systematic aerial survey dates range between March 6 and April 29 and include 5th and 95th percentile dates for previous and recent periods. However, there has been a shift to earlier group observations over time and PRRIP aerial surveys have not documented any groups after April 20 during any spring survey dating back to 2001.

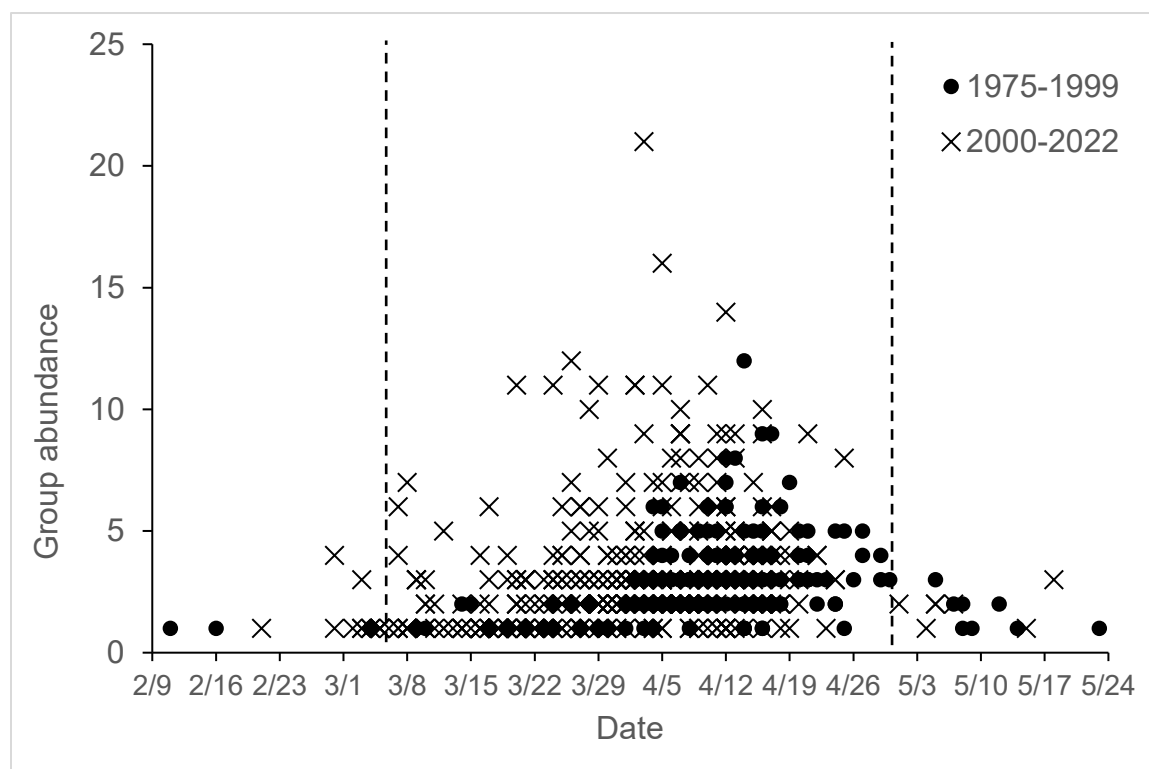


Figure 1. Whooping crane group abundance by date for observations recorded during spring 1975–1999 (denoted by circle) and 2000–2022 (denoted by x) from the USFWS public sighting database. The current dates of PRRIP spring systematic aerial surveys (March 6–April 29) are depicted with vertical dashed lines.



B. Fall Migration

The mean, median, 2.5th - 97.5th, and 5th - 95th percentile dates of group observations shifted to at least four days later from the 1975–1999 period to the 2000–2022 period (**Figure 2**). Current PRRIP fall systematic aerial survey dates range between October 9 and November 15 and include 5th and 95th percentile dates for previous and recent periods of ≥ 10 years. However, the 95th percentile of group observations has shifted for several recent periods to November 14, which nearly matches the November 15 survey end date. The earliest observation recorded during PRRIP fall aerial surveys since 2001 was October 15 and surveys have been extended beyond November 15 in four of the last eight years to continue monitoring whooping cranes present on the last day of the monitoring period until their departure in accordance with established monitoring protocol.

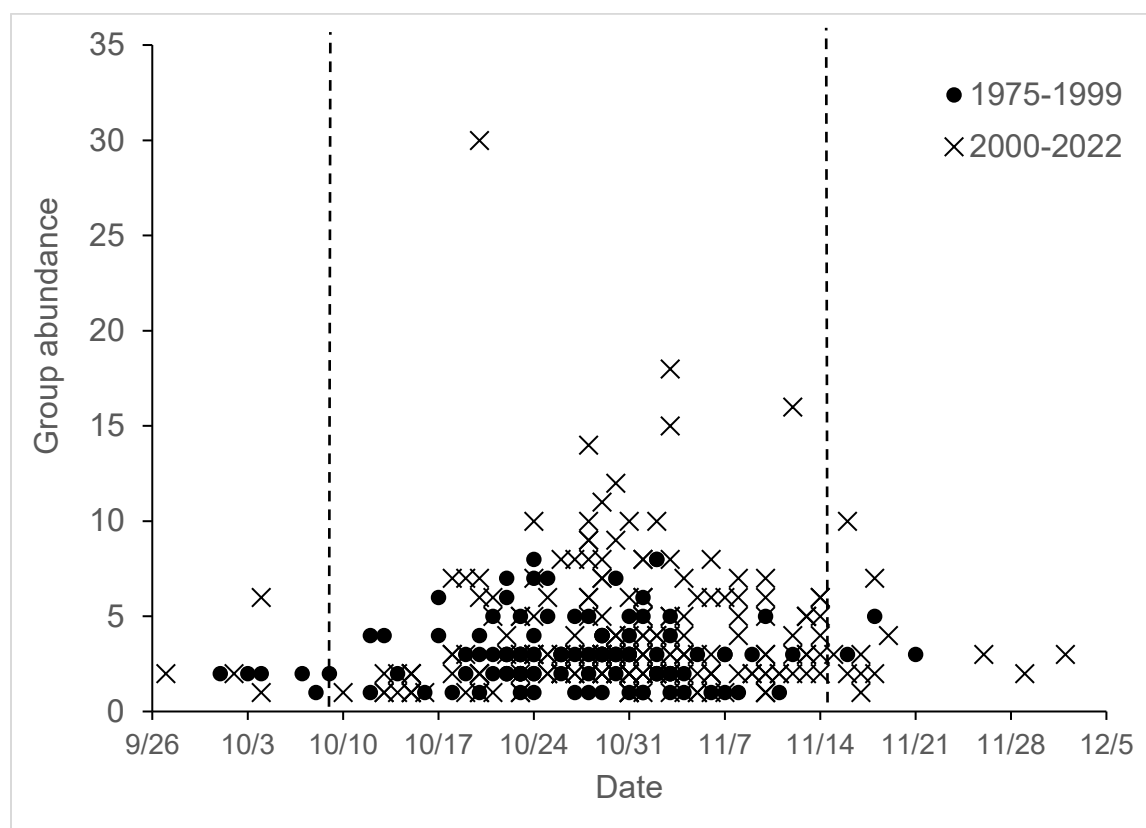


Figure 2. Whooping crane group abundance by date for observations recorded during fall 1975–1999 (denoted by circle) and 2000–2022 (denoted by x) from the USFWS public sighting database. The current dates of PRRIP fall systematic aerial surveys (October 9–November 15) are depicted with vertical dashed lines.



III. TAC RECOMMENDATIONS

A. Change in Monitoring Period

Based on the data for the prior 10 years, the TAC's recommendation was to modify PRRIP's systematic aerial surveys for whooping cranes in 2024 to occur between March 5 and April 19 for spring and October 15 and November 18 for fall. These dates encompass the 2.5th - 97.5th percentiles of dates of whooping crane observations. The working group wanted to increase the likelihood that the survey dates encompassed the 5th - 95th percentiles; and establishing survey dates that included the broader 2.5th - 97.5th percentiles provides a buffer should the timing and duration of migration shift over time. These changes would shorten the spring survey from 55 to 46 days and the fall survey from 38 to 35 days.

These recommendations were based on: (1) shifts in the 5th and 95th percentiles of dates of whooping crane group observations for spring and fall from the USFWS public sighting database over time; (2) no observations after April 20 of any year during PRRIP spring systematic aerial surveys; (3) no observations before October 15 of any year during PRRIP fall systematic aerial surveys; and (4) an increase in observations on and after November 15 during PRRIP fall systematic aerial surveys over the past several years.

B. Annual Evaluation of Spring and Fall Survey Dates

The TAC recommended using the USFWS public sighting database to calculate the 2.5th - 97.5th and 5th - 95th percentiles of the dates of whooping crane group observations in 10-year rolling periods on an annual basis based on the most recent 10 years of available data.

The EDO will analyze percentiles of dates of group observations, draft a summary of results, and provide the information to the TAC on an annual basis. Annual assessments will occur in January after the USFWS has completed their database review and provided data to the EDO. The annual assessment will afford a better understanding of changes in the timing and duration of whooping crane use of the central Platte River that have occurred over the most recent 10 years, and will serve as an annual check in to see if observation dates approach or surpass the 5th - 95th percentile window of group observations. If so, this will serve as a trigger for another formal assessment by the TAC of whether or not to adjust survey dates.

C. Process for Comparing Previous Data Collected Using Shorter or Different Survey Season Lengths and Modifications to Whooping Crane Reports

The number of survey days within PRRIP's systematic aerial monitoring period has changed over time ([PRRIP 2023a](#)). This should be considered when evaluating performance metrics over time. The working group recommended reporting each season's performance metrics as those observed within the dates that encompass the 5th - 95th percentiles of group observations over the previous 10-year window. Upon reevaluation of this 10-year rolling window for all survey seasons, if the survey period did not fully encompass the 5th - 95th percentile of group observations in the USFWS public sighting database, the report will clearly denote these seasons as such. This procedure



would afford a more direct comparison across years for which survey season dates and lengths changed.

In future versions of the spring and fall whooping crane reports, the EDO will provide a figure in the report that depicts proportion of population and number of crane use days recorded only between dates that correspond to the 5th - 95th percentiles of group observations for the preceding 10 years for all years dating back to 2007. To help visualize what this change means in terms of previously reported performance metrics, over the 2024 monitoring seasons the EDO will also include the previous version of [Figure 3](#) in the report that presents proportion of population and number of crane use days unadjusted to include only those observations that occurred within the 5th – 95th percentile window.

IV. LITERATURE CITED

- PRRIP. 2021. Platte River Recovery Implementation Program Cooperative Agreement, Attachment 3 – Adaptive Management Plan. Appendix F. Protocols. pp. 233.
https://platteriverprogram.org/sites/default/files/2021-09/PRRIP%20Full%20Program%20Document%20Updated%209_14_2021.pdf
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<https://platteriverprogram.org/sites/default/files/2022-11/Implementation%20of%20the%20Whooping%20Crane%20Monitoring%20Protocol%20-%20Spring%202022%20FINAL.pdf#page=13>.
- PRRIP. 2023a. Platte River Recovery Implementation Program: 2023 JAN TAC whooping crane update. Slides 15-20. https://platteriverprogram.org/system/files/2023-01/07_2023%20Jan.%20TAC%20WC%20update.pdf.
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