

Sterling Wildlife Biology

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Kern Water Bank

Interim Bird Survey Report: August - March 2013

18 April 2013

Introduction

The property managed by the Kern Water Bank Authority supports a wealth of native wildlife, especially an abundance of water birds and raptors attracted to the recharge ponds and/or the upland habitats. In order to document and quantify this natural resource value, John Sterling of Sterling Wildlife Biology conducted bird surveys from late August 2012 to late March 2013. Surveys will continue until early June 2013 to complete the current field season after which a full report will be prepared providing additional analyses and incorporating data from the April, May and early June surveys. These surveys were intended to capture a snapshot of the bird use of the project area during the winter, spring migration and the start of the breeding seasons. The resulting data serve to document the regional importance of habitats on the Kern Water Bank for raptors and upland birds during this period. The data may also be used to inform management practices with regard to productive bird habitat.

Methods

For the raptor/Loggerhead Shrike and upland bird surveys, John Sterling visited the sites every two weeks for a total of fifteen surveys. The dates of the surveys were 31 August, 20-21 September, 10 & 13 October, 24-25 October, 8-9 November, 20-21 November, 8 & 10 December, 17-18 December, 2-3 January, 15-16 January, 27-28 January, 9-10 February, 24-25 February, 11-12 March, and 25-26 March. Upland bird surveys were conducted on fixed, one-half mile long transects (Figure 1). Mr. Sterling conducted upland bird surveys by walking transects and recording all birds heard or seen within 200 meters of the transect line (Figure 1). He tabulated the numbers of each species. Each transect was surveyed fifteen times with the exception of new transects that were created in October and surveyed twelve times. Transects were 0.5 miles long with the exception of Transect G which was 0.25 miles long due to the small size of that habitat fragment. For fifteen sets of raptor surveys, Mr. Sterling drove most roads to cover the entire project area and kept running tallies of numbers of individuals of all raptor species and Loggerhead Shrike. All data were compiled onto spreadsheets (See attached Appendix A & B files).

Results

Upland Birds

The results as well as habitat descriptions will be presented in the final report in June.

Raptors and Shrikes

The comprehensive survey for raptors and Loggerhead Shrikes (*Lanius ludovicianus*) on the entire project area resulted in high numbers of raptors including Red-tailed Hawks (*Buteo jamaicensis*) and Loggerhead Shrikes (Figures 20-22), but also documented fourteen species of raptors using upland habitats during the surveys (Appendix B). Overall numbers of raptors dipped sharply on 20 November, then rebounded on 2 December and declined steadily to 40% of the peak number by 26 March. Conversely, Loggerhead Shrikes maintained a relatively stable and consistent number (Figure 21). The increase to a peak of 64 shrikes on 18 December was likely due to an influx of winter visitors from breeding grounds outside of the study area. The extent of immigration to the Central Valley is unknown, but it is likely that some shrikes breeding eastern Washington, Oregon and the Great Basin winter in the Central Valley. Other changes in numbers may be due to shrikes moving off temporarily to areas adjacent to the survey area. It is remarkable that the number of shrikes increased to 50 in late August from 17 counted on the previous 1 April. This increase likely represents successful local breeding and perhaps immigration of adults and juveniles that bred from other regions. The 17 counted on 1 April 2012 is also much lower than the 55 counted on 26 March 2013 (and 48 on 12 April 2013). The primary difference among the habitat conditions between the two dates is that many of the ponds had been full for the previous winter in 2012 and were all dry throughout the following year to date. The greater acreages of dry, upland habitat may be higher quality habitat for wintering as well as breeding shrikes. Much needs to be learned about this species.

Rare Birds

A few rare birds were discovered during the surveys. During fall migration a Black-throated Sparrow was found on Transect A. This desert species is very rare in the Central Valley. A fall migrant Clay-colored Sparrow was in mesquite and cottonwoods between transects A and B. This is a midwestern species is rare anywhere in California and especially in the Central Valley from which there are fewer than ten documented records. Surprisingly, no fewer than eight Brewer's Sparrows were found wintering as there are very few documented records of this Great Basin and desert species during winter months in the Central Valley. The Kern Water Bank has exceptional habitats for birds and many rare birds will likely be found and documented in the future dependent upon survey efforts.

Figure 1. Locations of Upland Bird Survey Transects on the Kern Water Bank

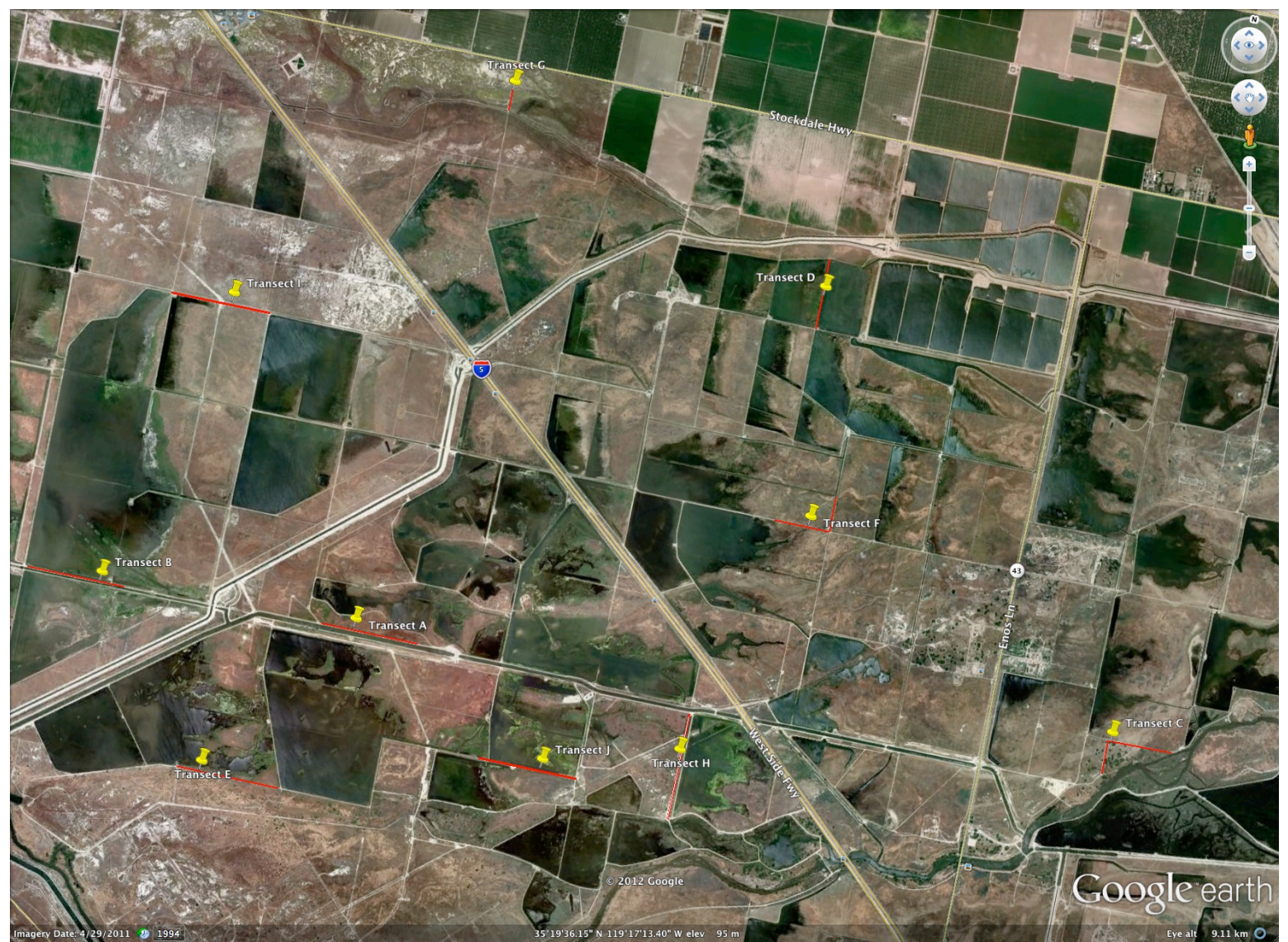


Figure 2. Number of Bird Species: Transect A.

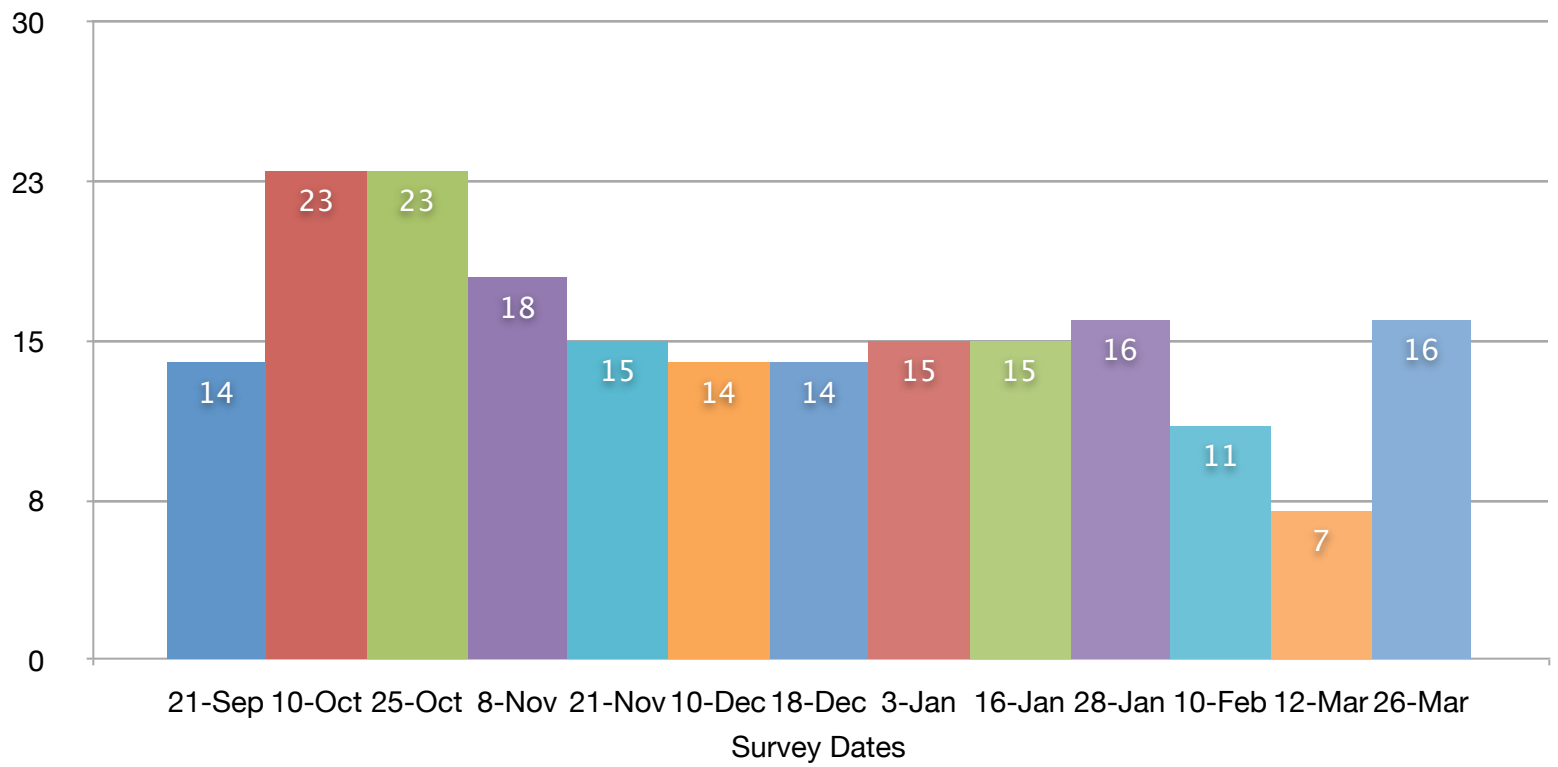


Figure 3. Number of Birds Counted: Transect A.

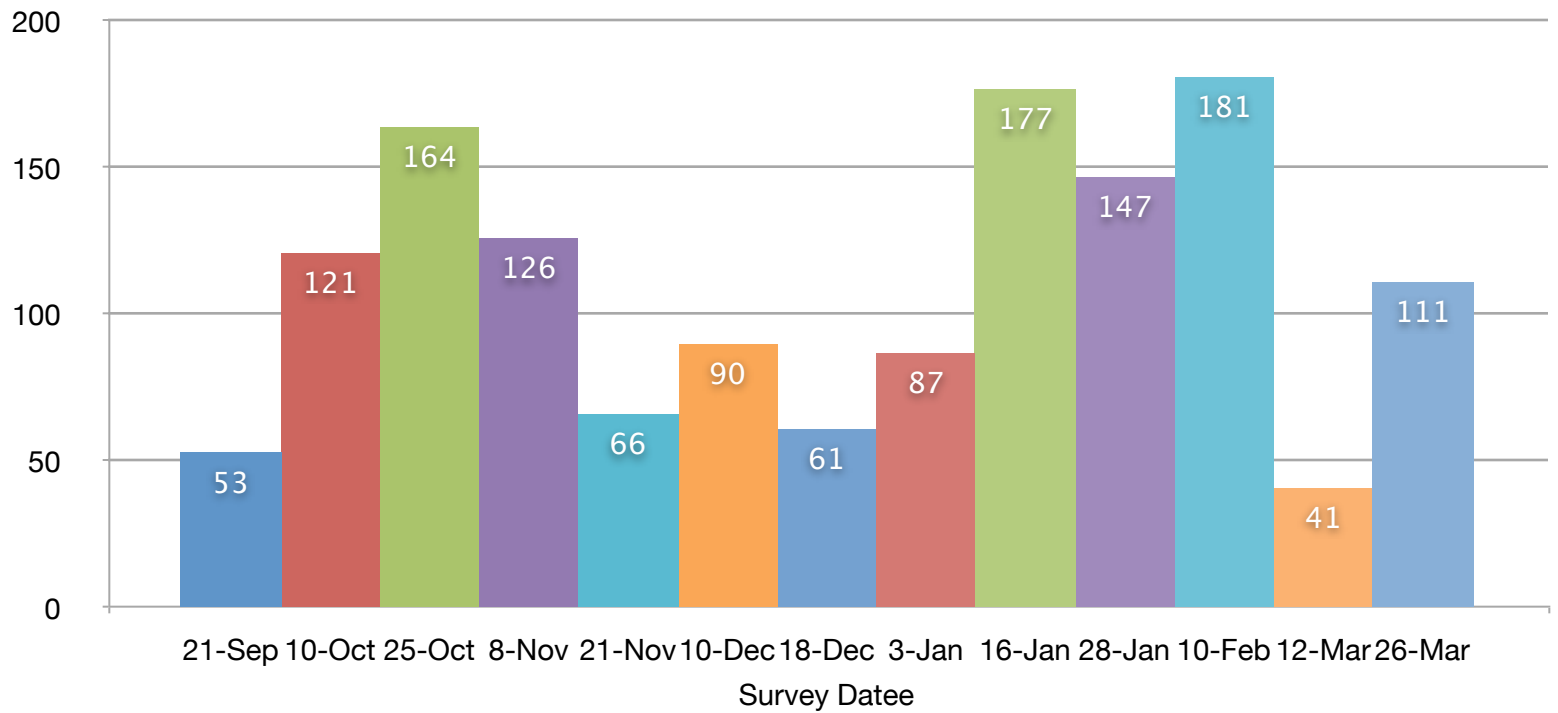


Figure 4. Number of Bird Species: Transect B.

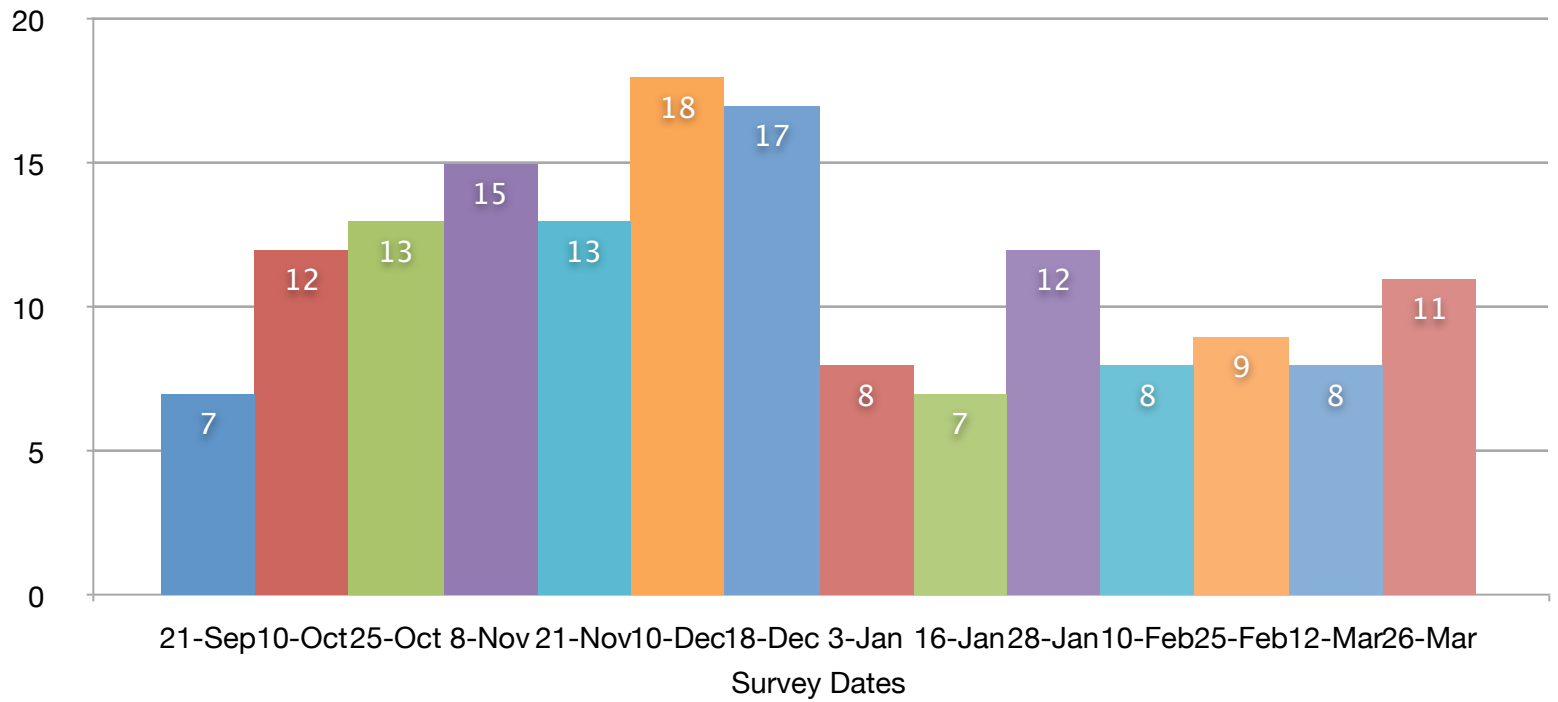


Figure 5. Number of Birds Counted: Transect B.

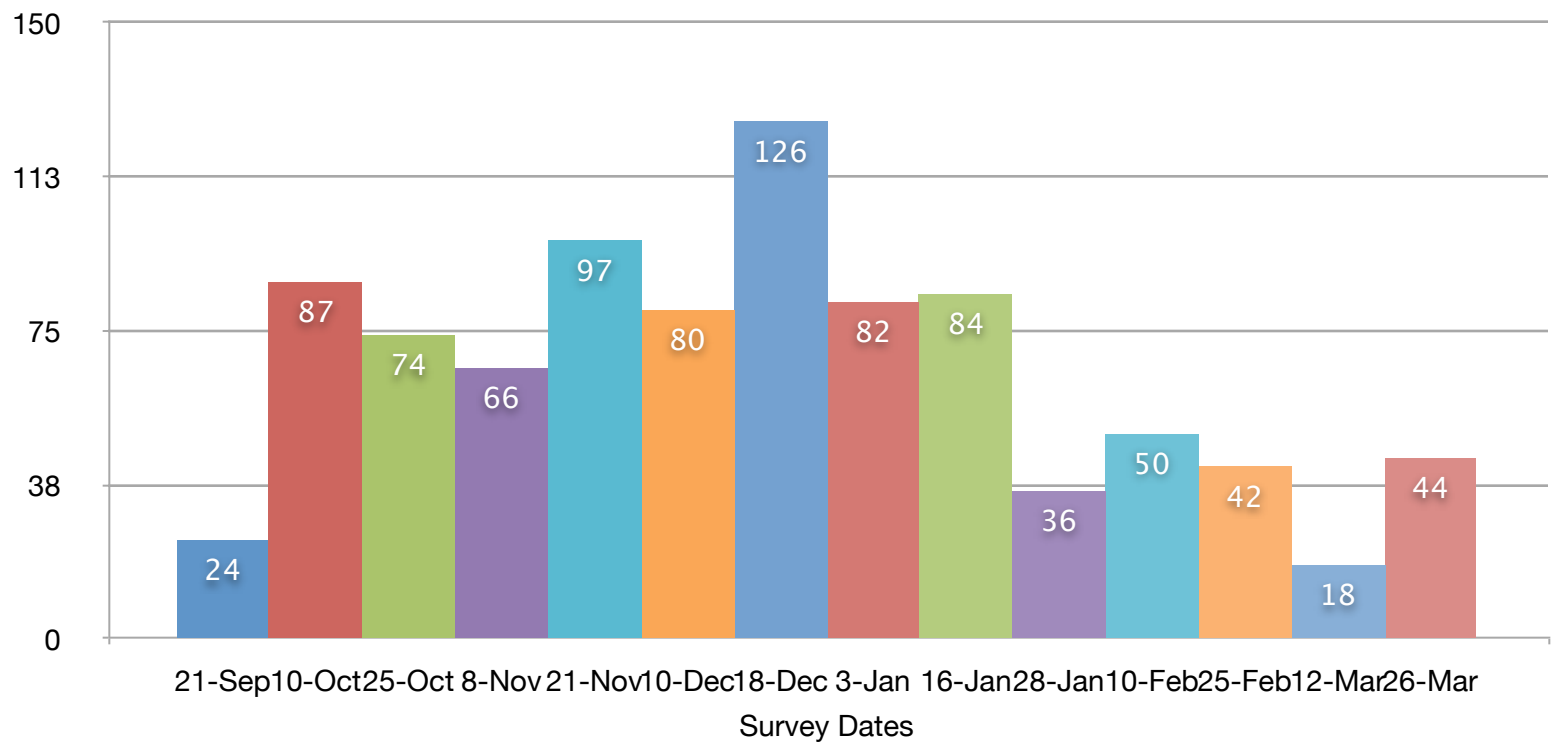


Figure 6. Number of Bird Species: Transect C.

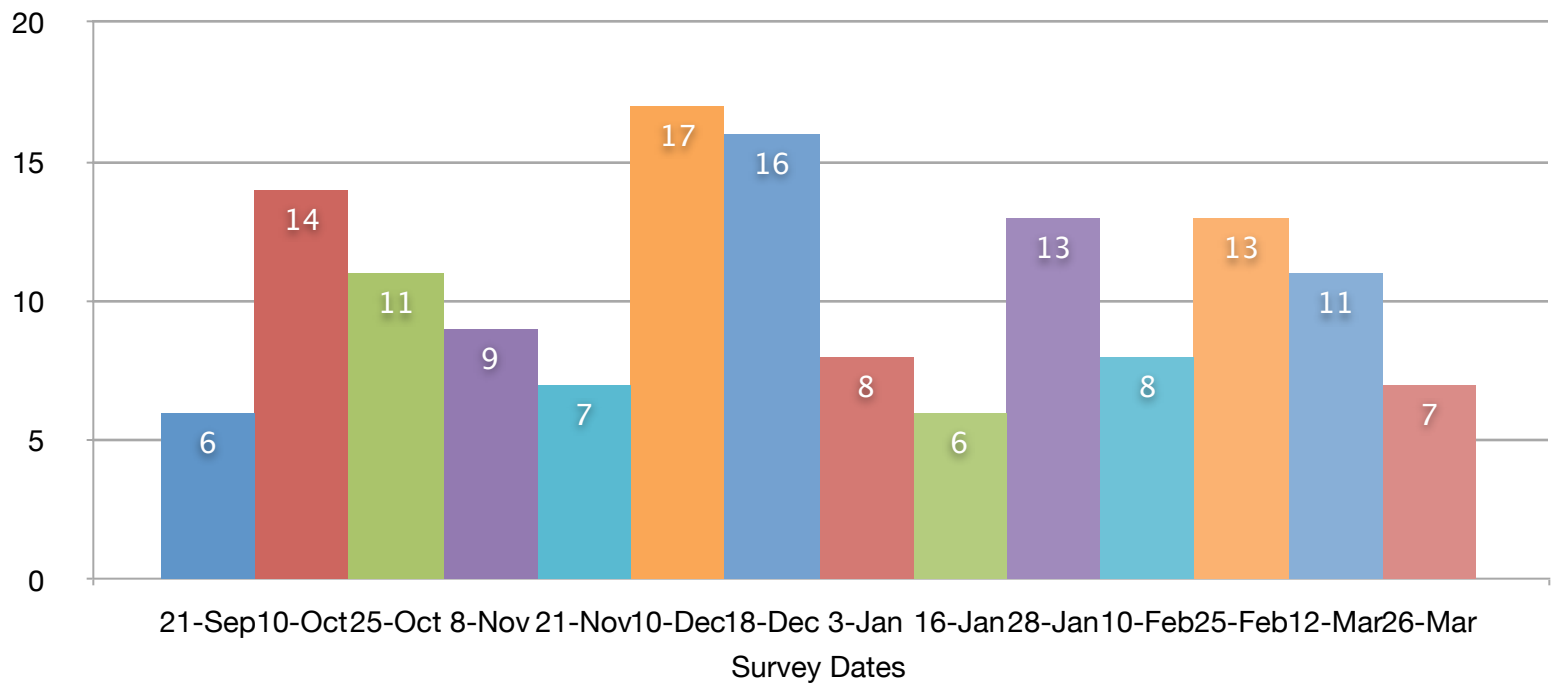


Figure 7. Number of Birds Counted: Transect C.

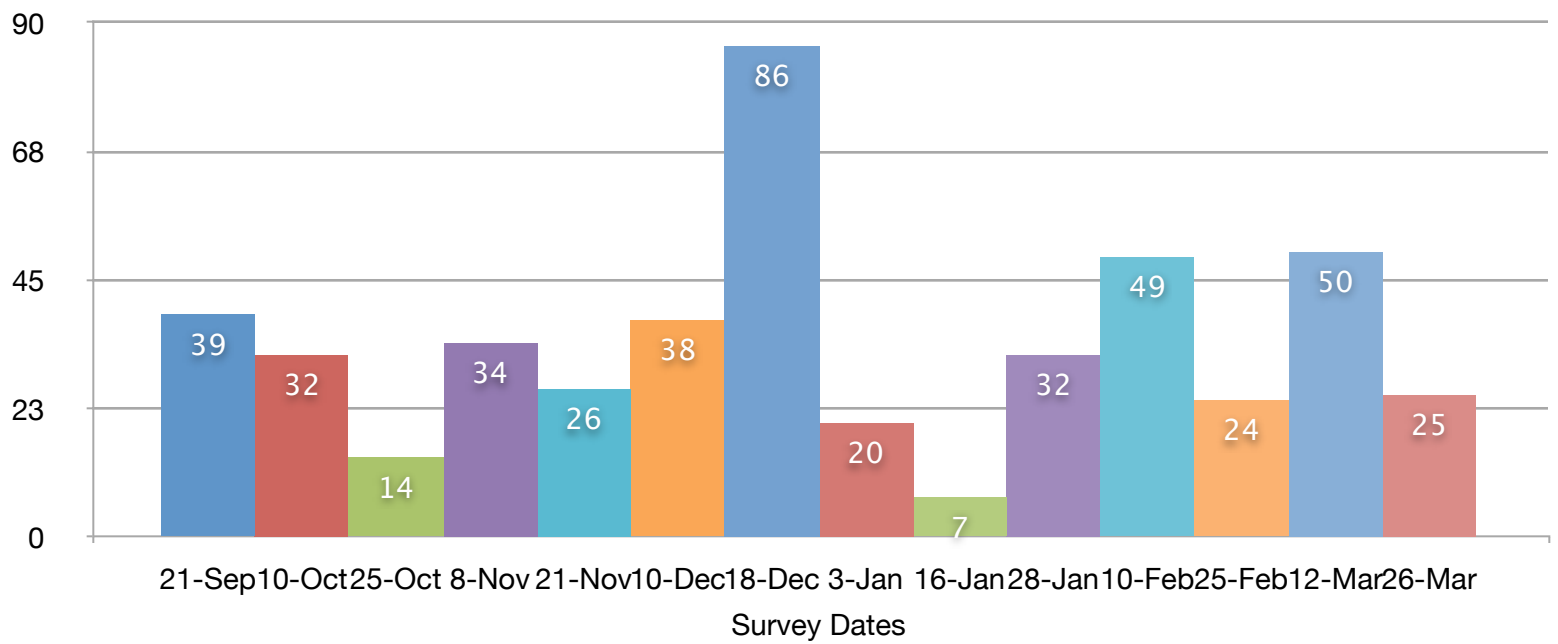


Figure 8. Number of Bird Species: Transect D.

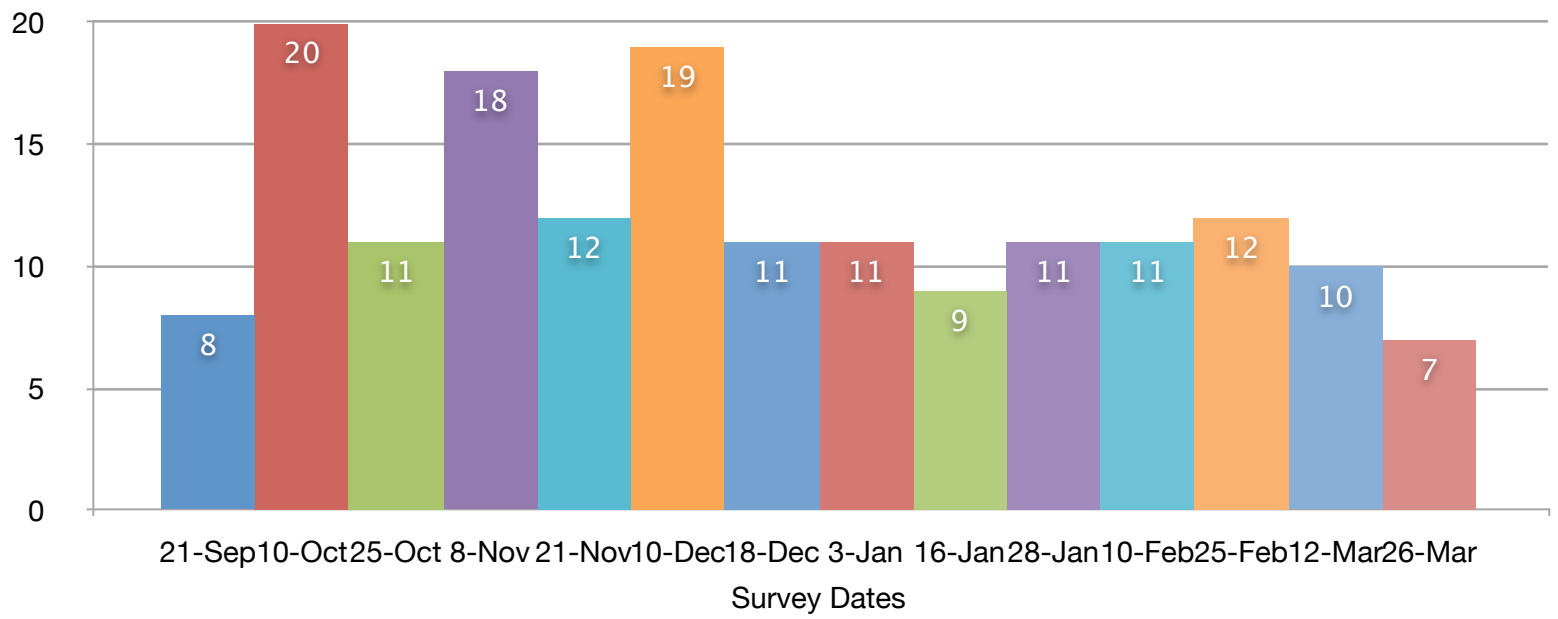


Figure 9. Number of Birds Counted: Transect D.

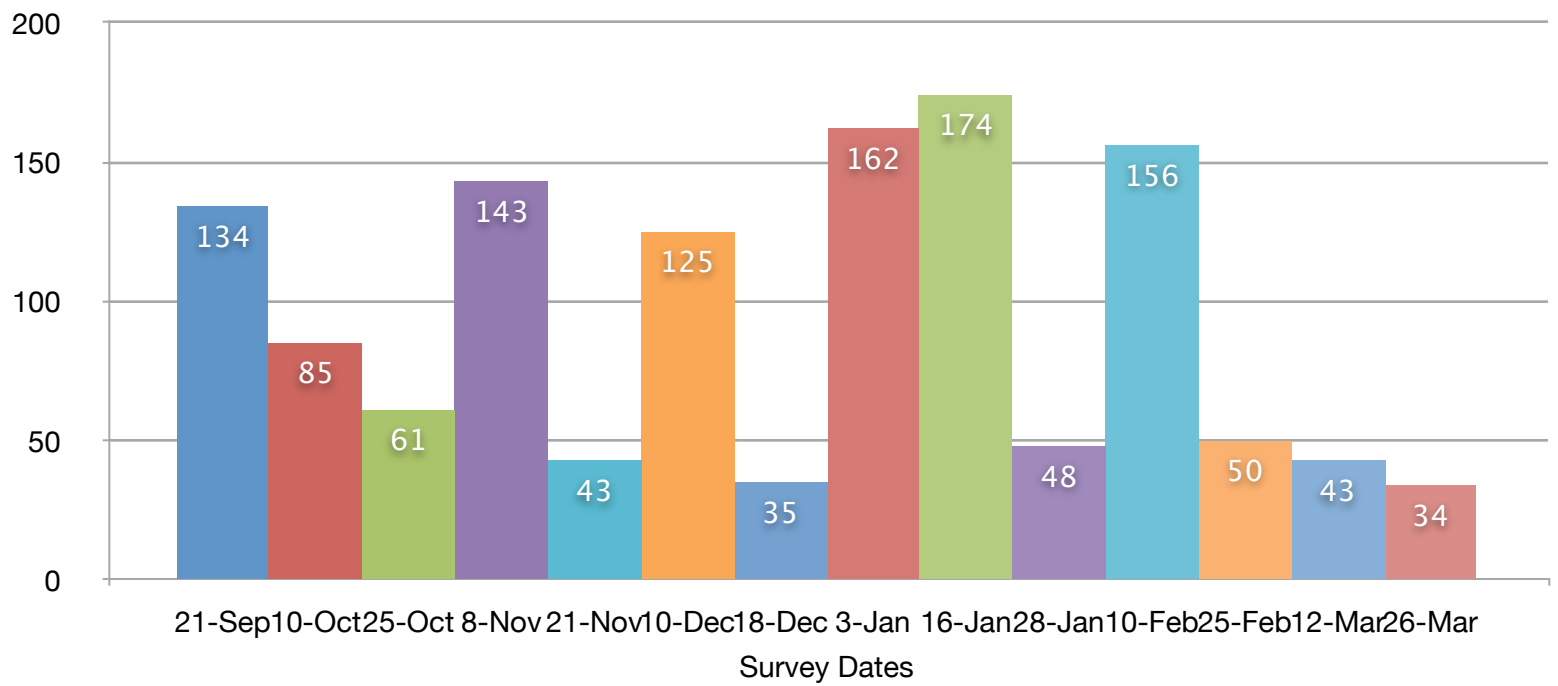


Figure 10. Number of Bird Species: Transect E.

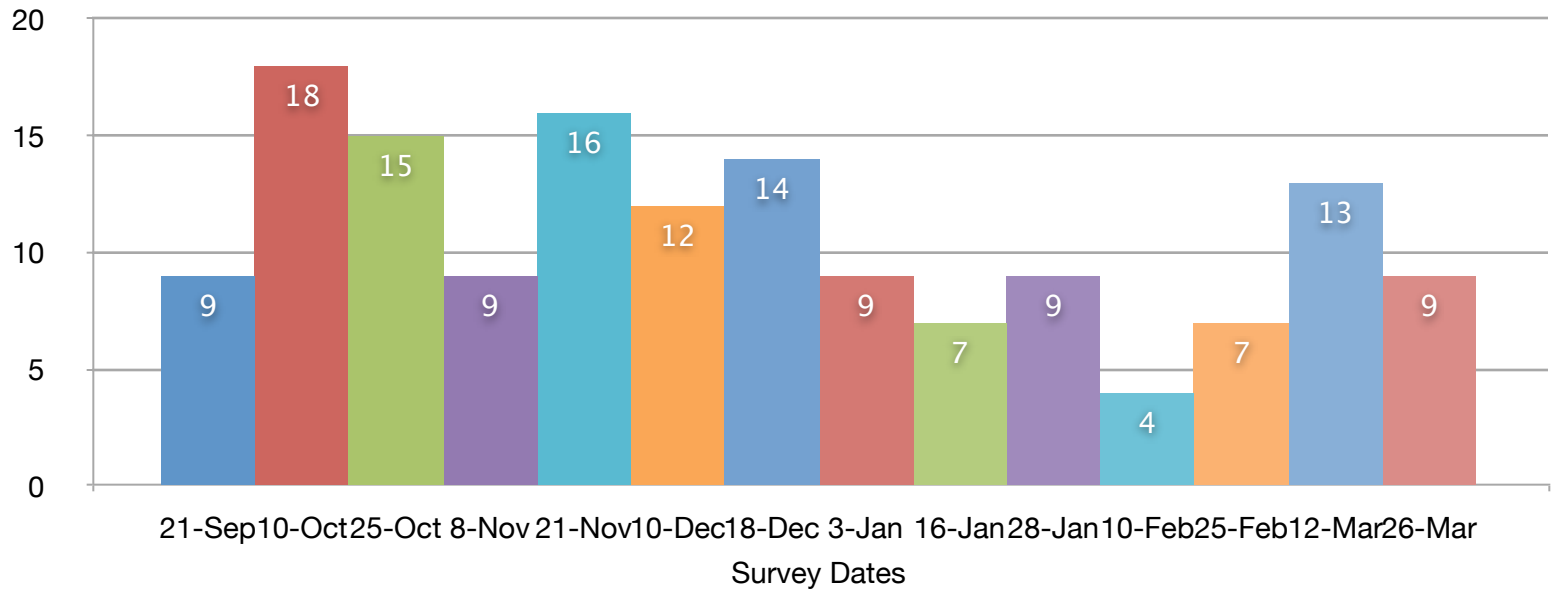


Figure 11. Number of Birds Counted: Transect E.

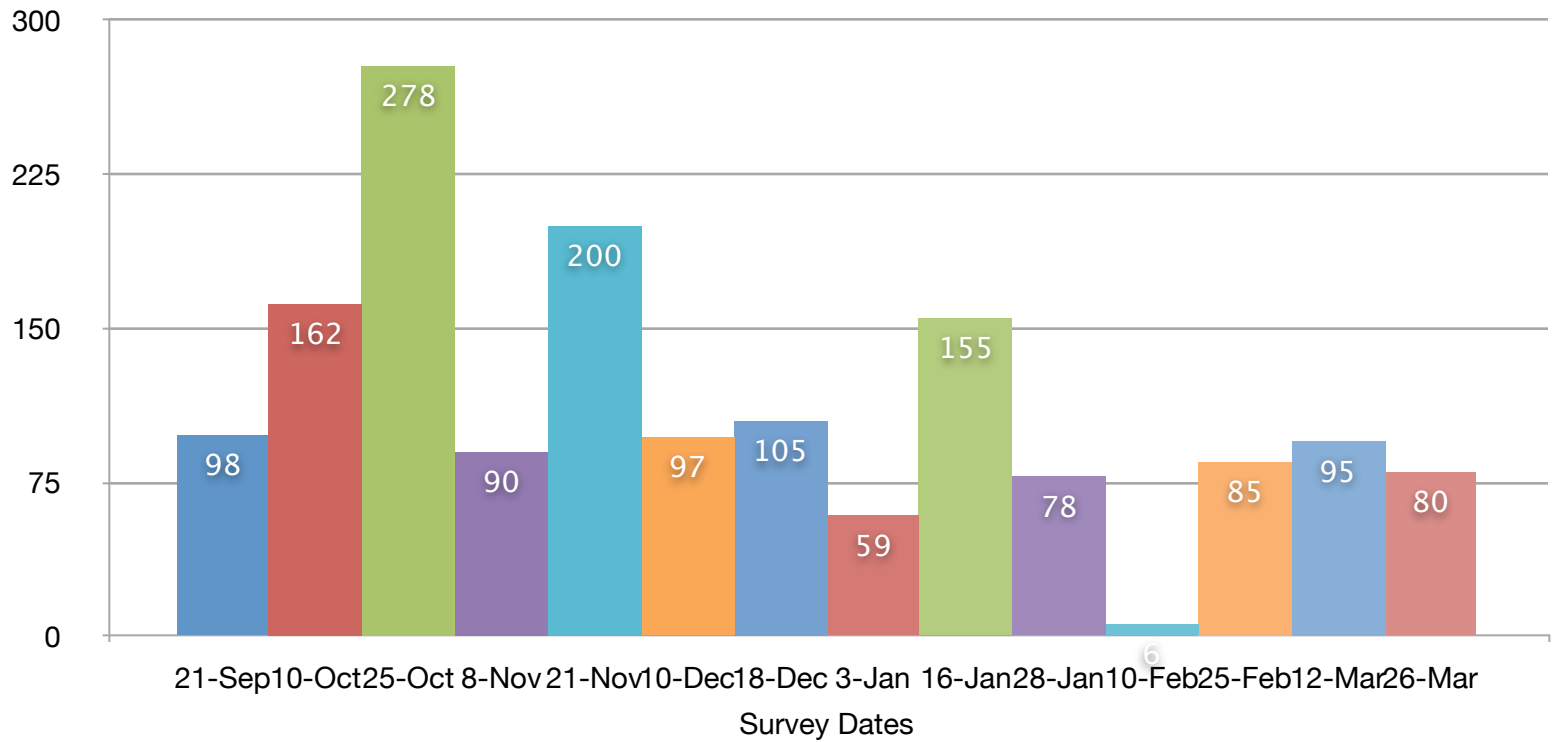


Figure 12. Number of Bird Species: Transect F.

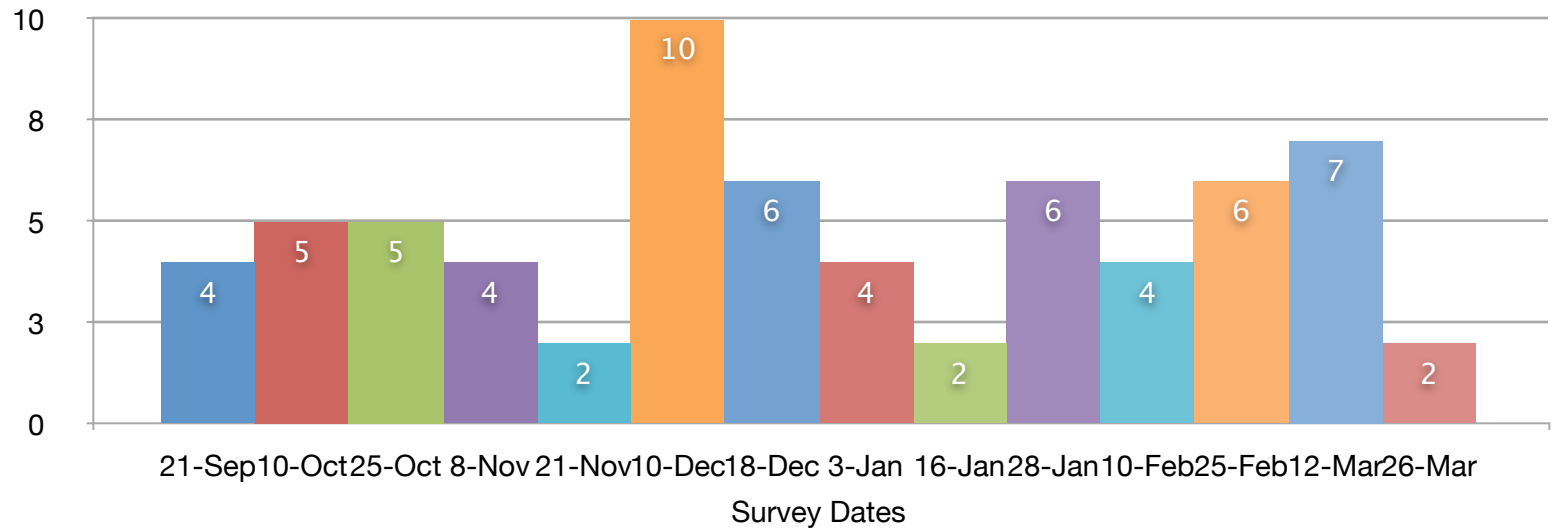


Figure 13. Number of Birds Counted: Transect F.

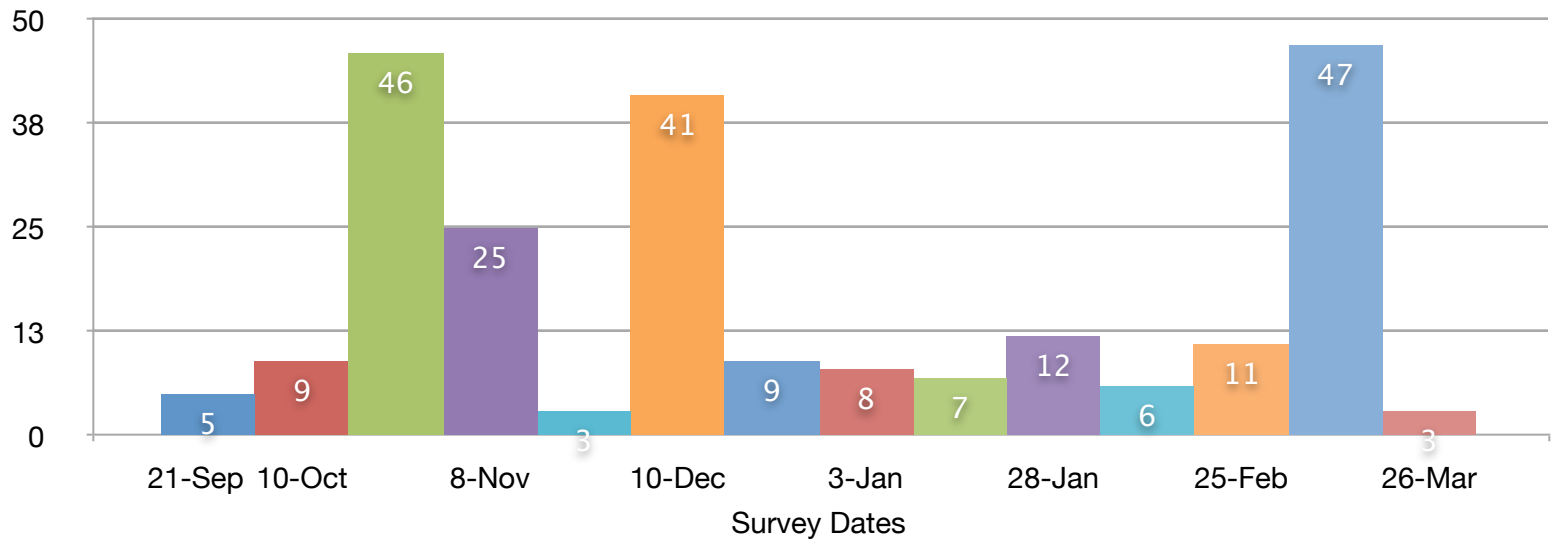


Figure 14. Number of Bird Species: Transect G.

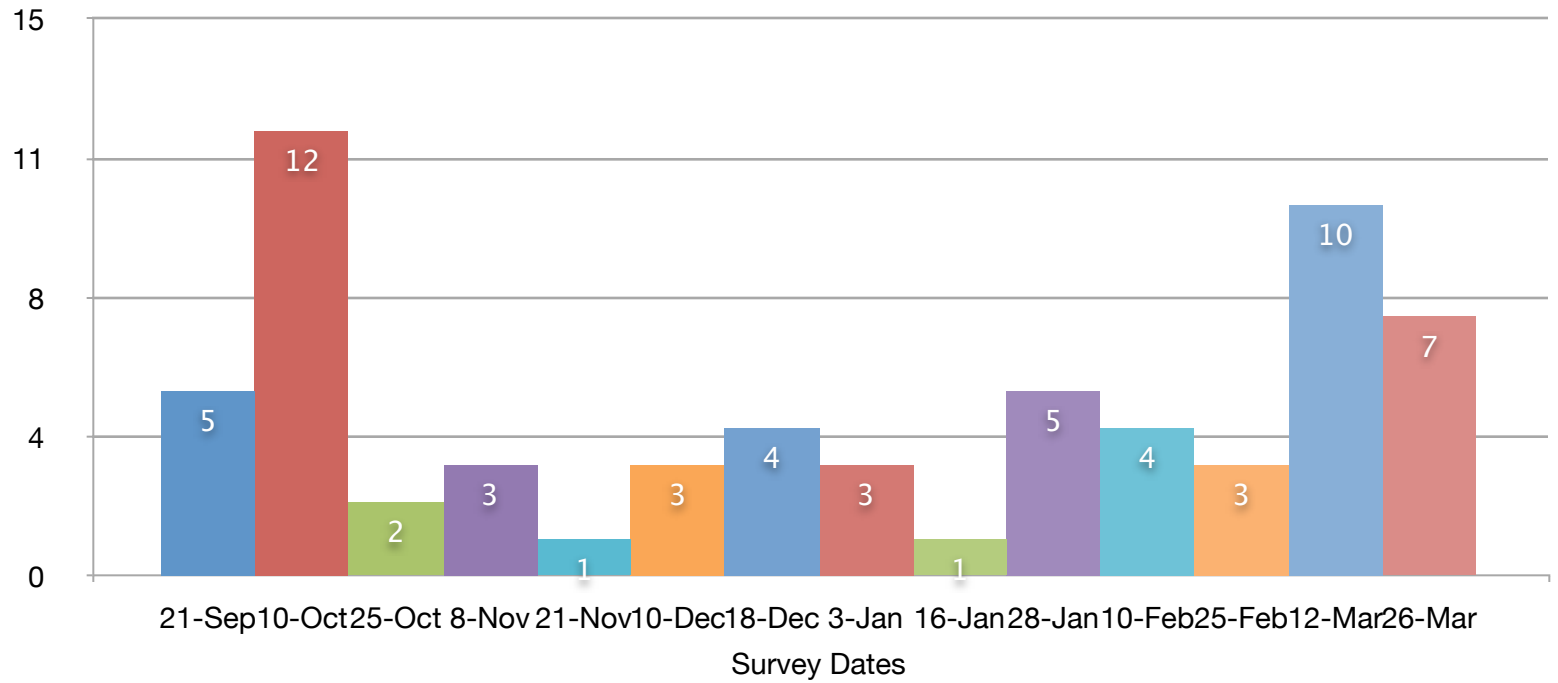


Figure 15. Number of Birds Counted: Transect G.

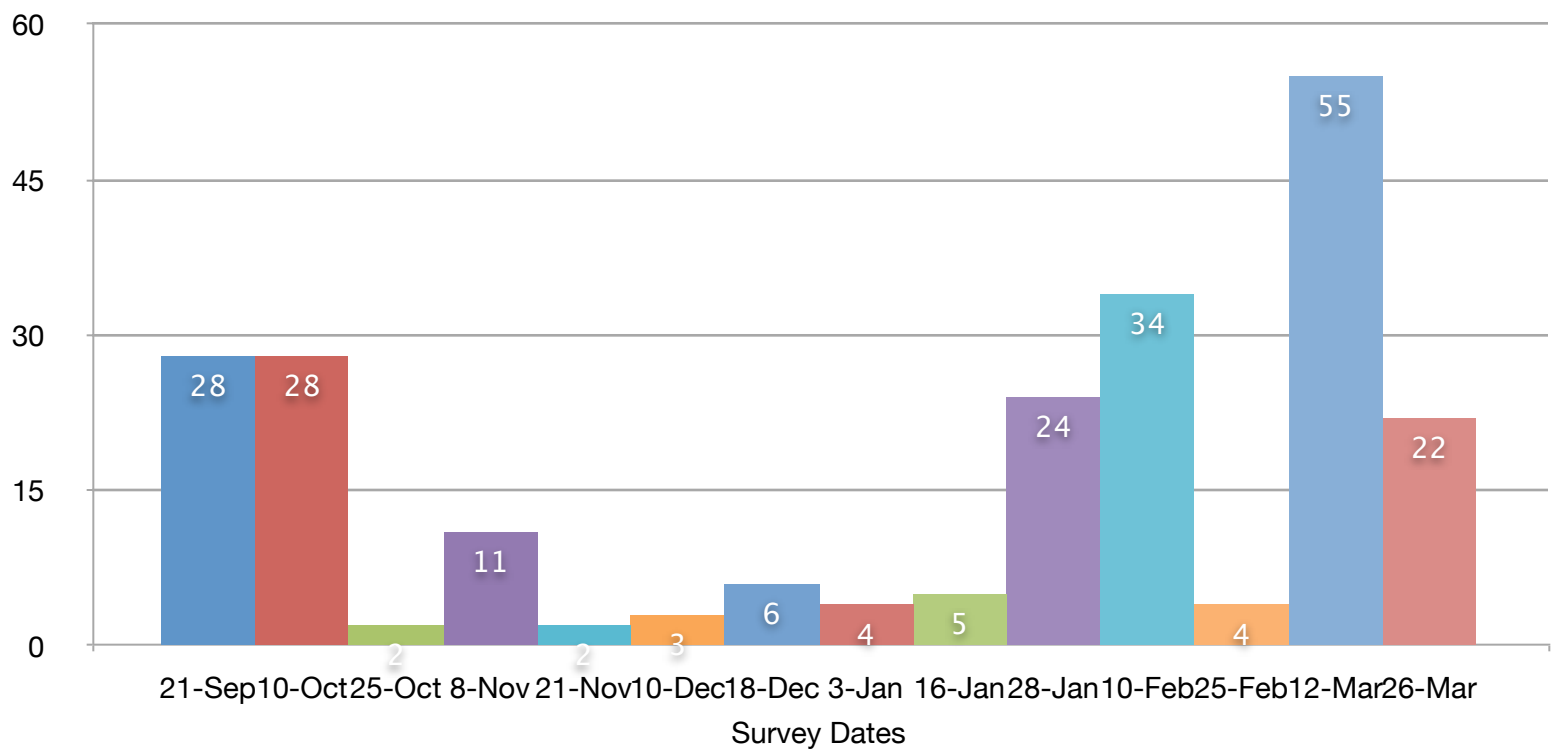


Figure 16. Number of Bird Species: Transect H.

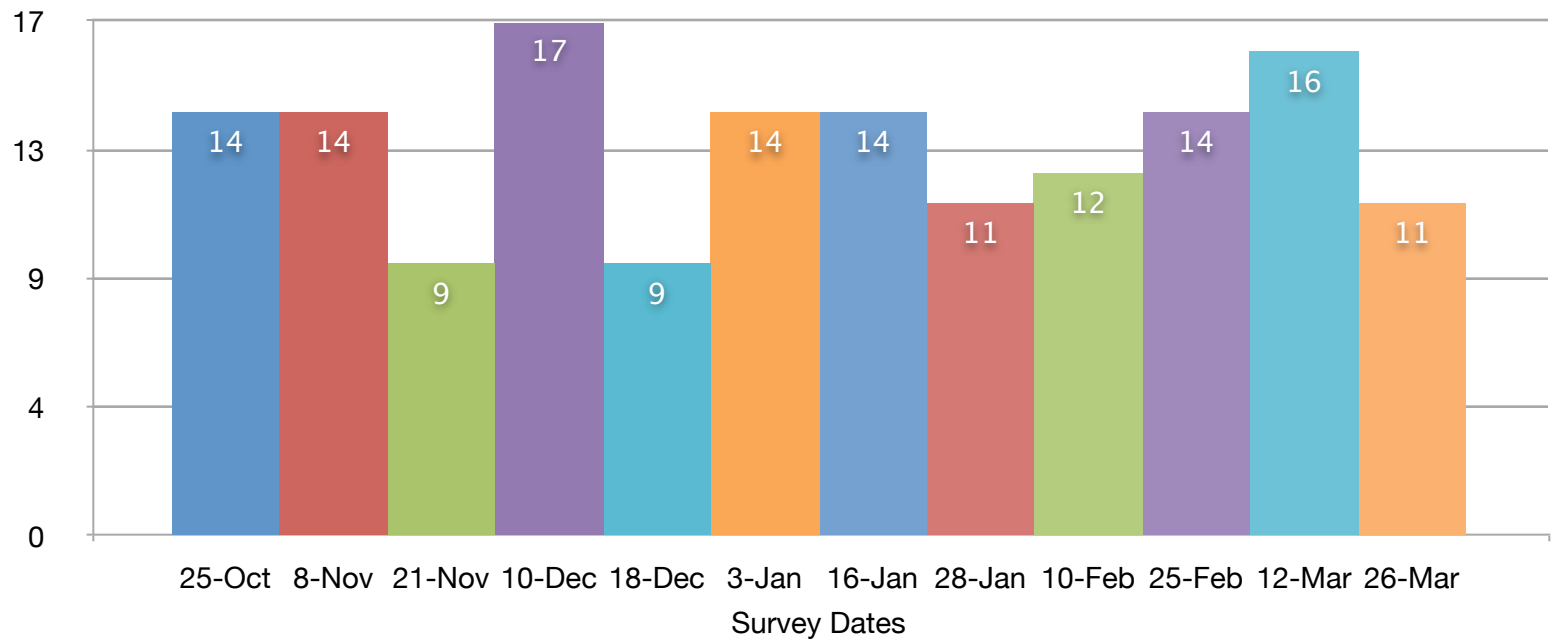


Figure 17. Number of Birds Counted: Transect H.

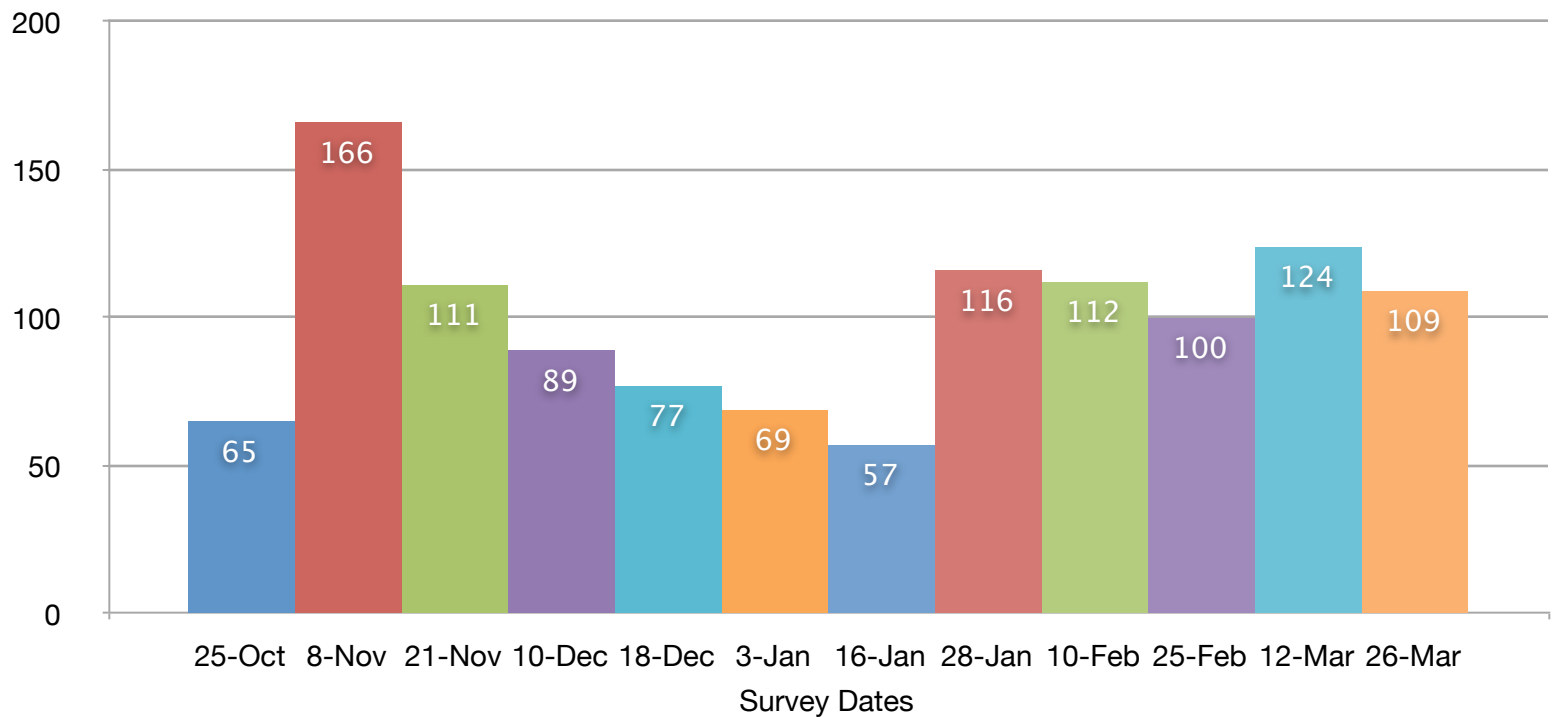


Figure 18. Number of Bird Species: Transect I.

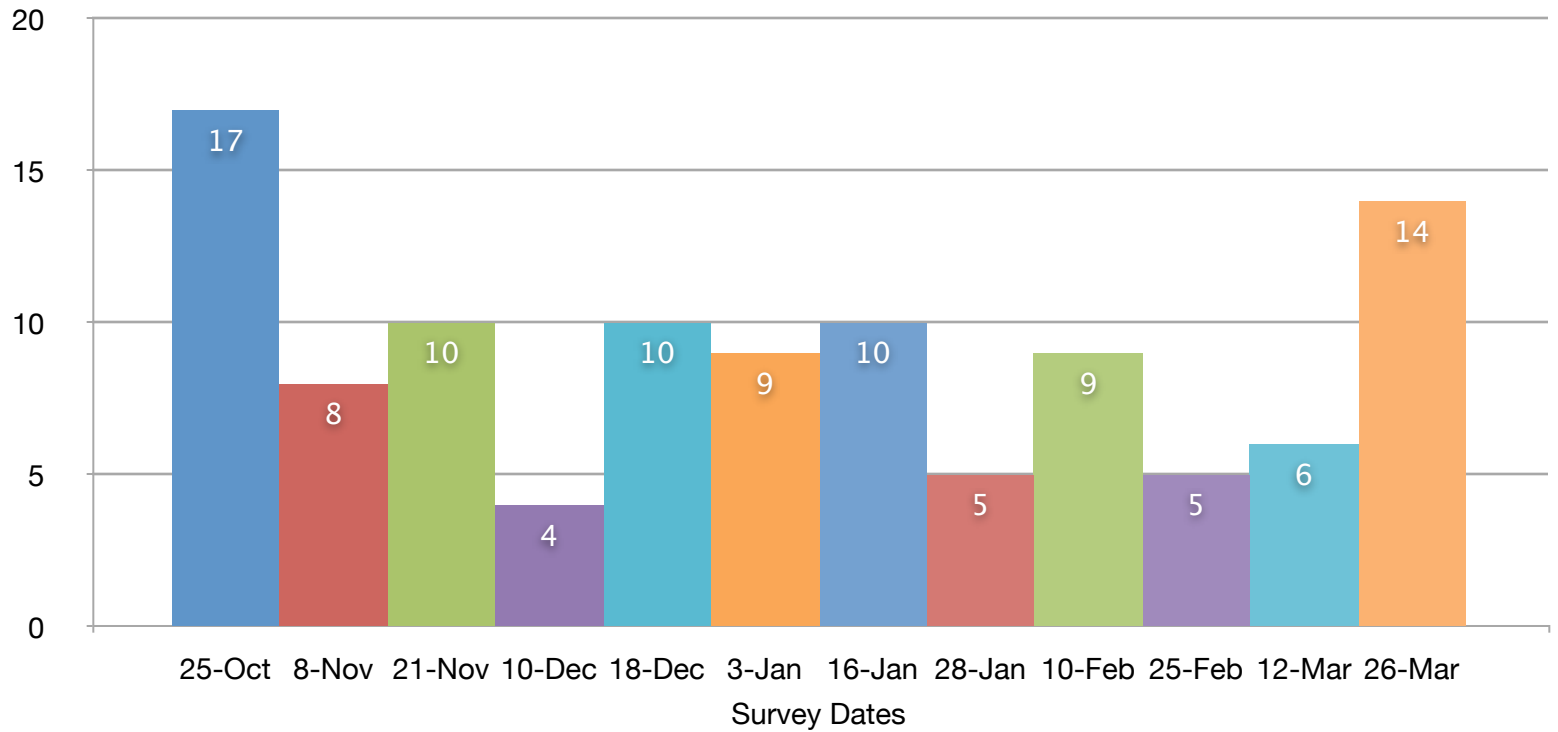


Figure 19. Number of Birds Counted: Transect I.

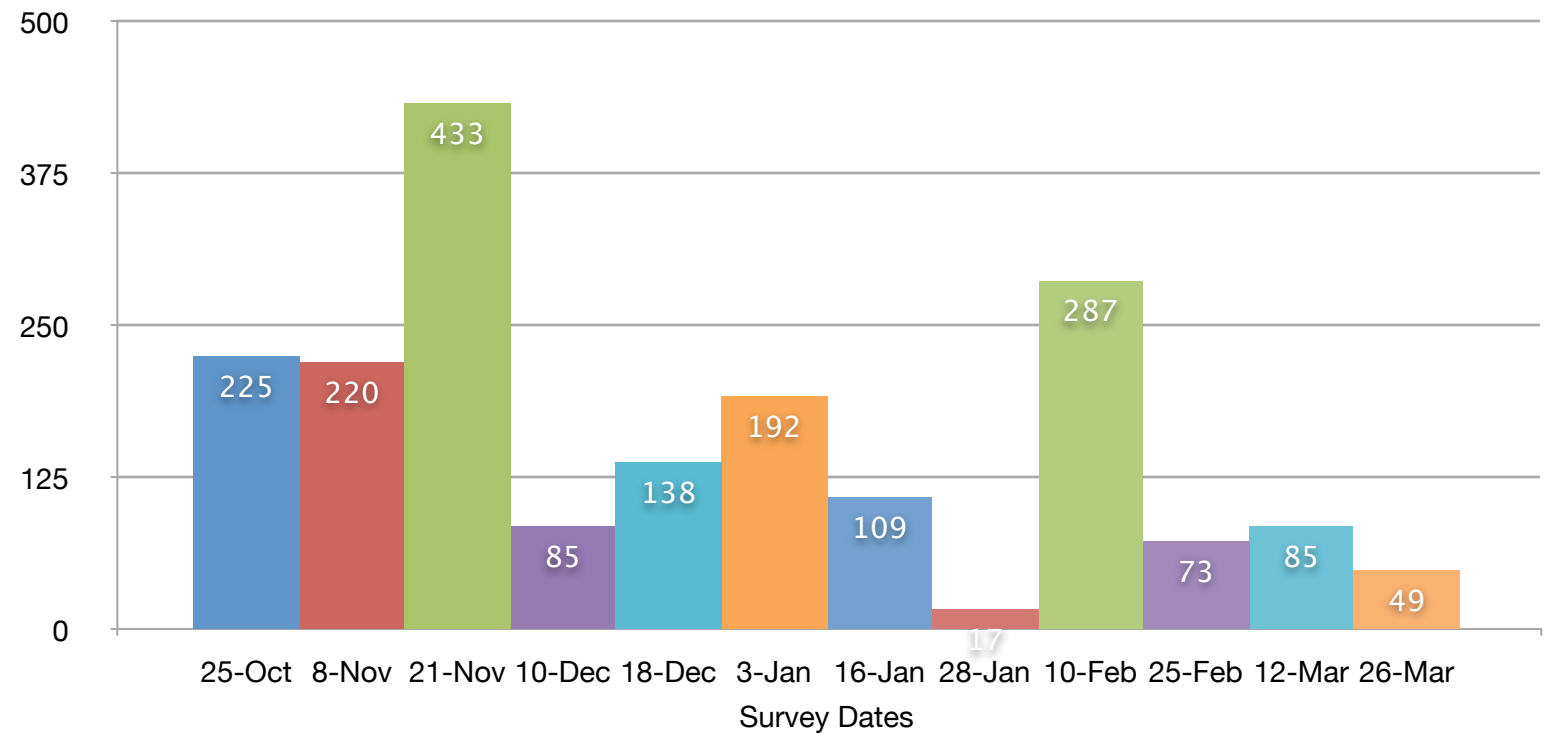


Figure 20. Number of Raptors Surveyed.

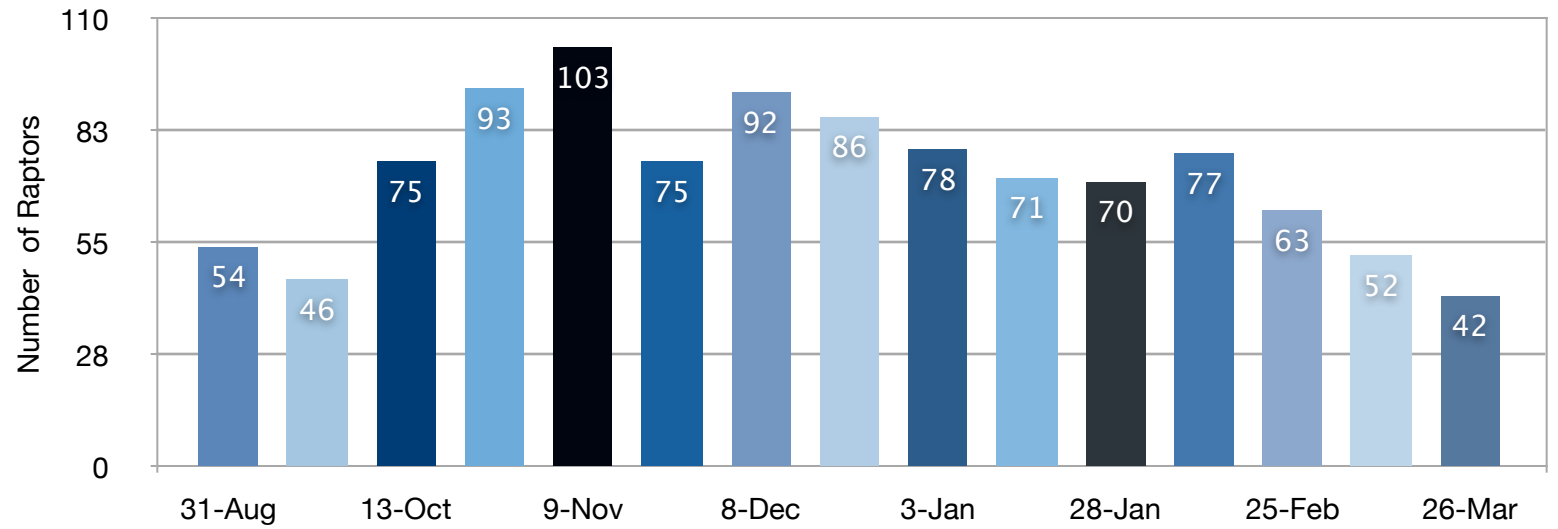


Figure 21. Number of Loggerhead Shrikes Surveyed.

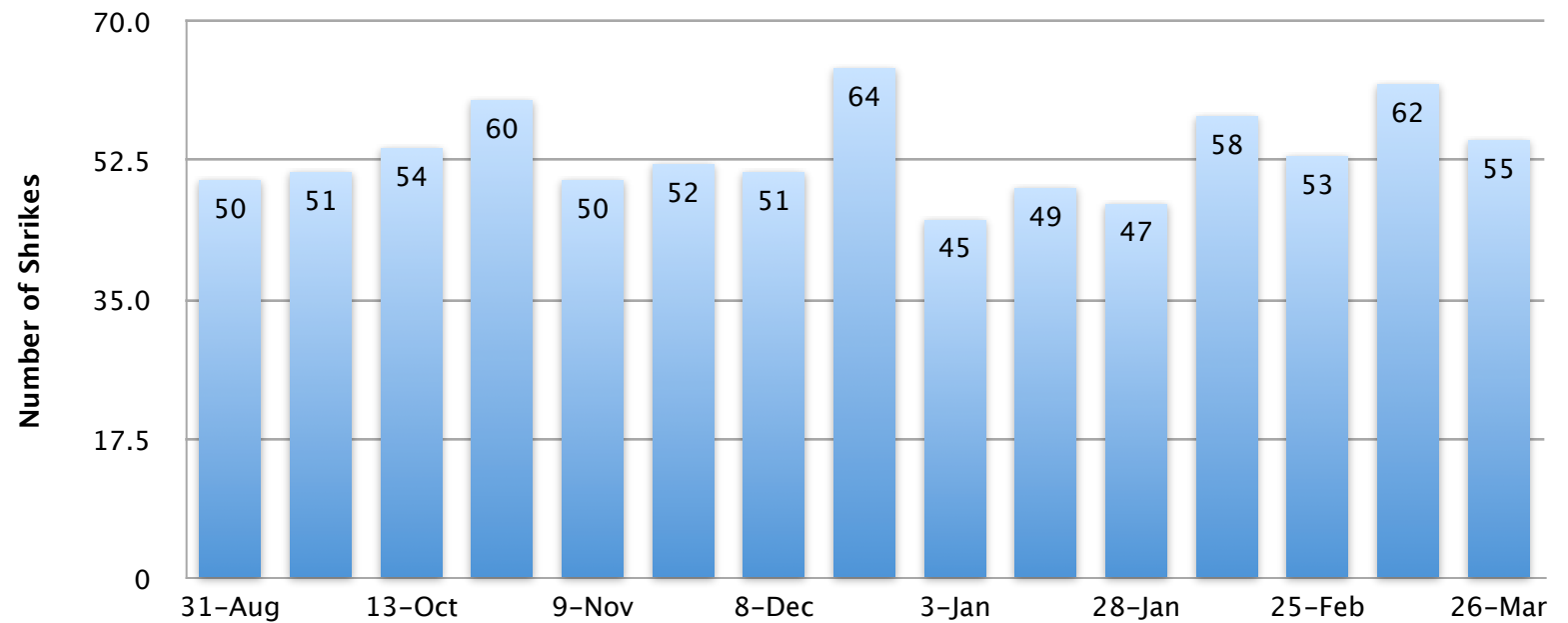
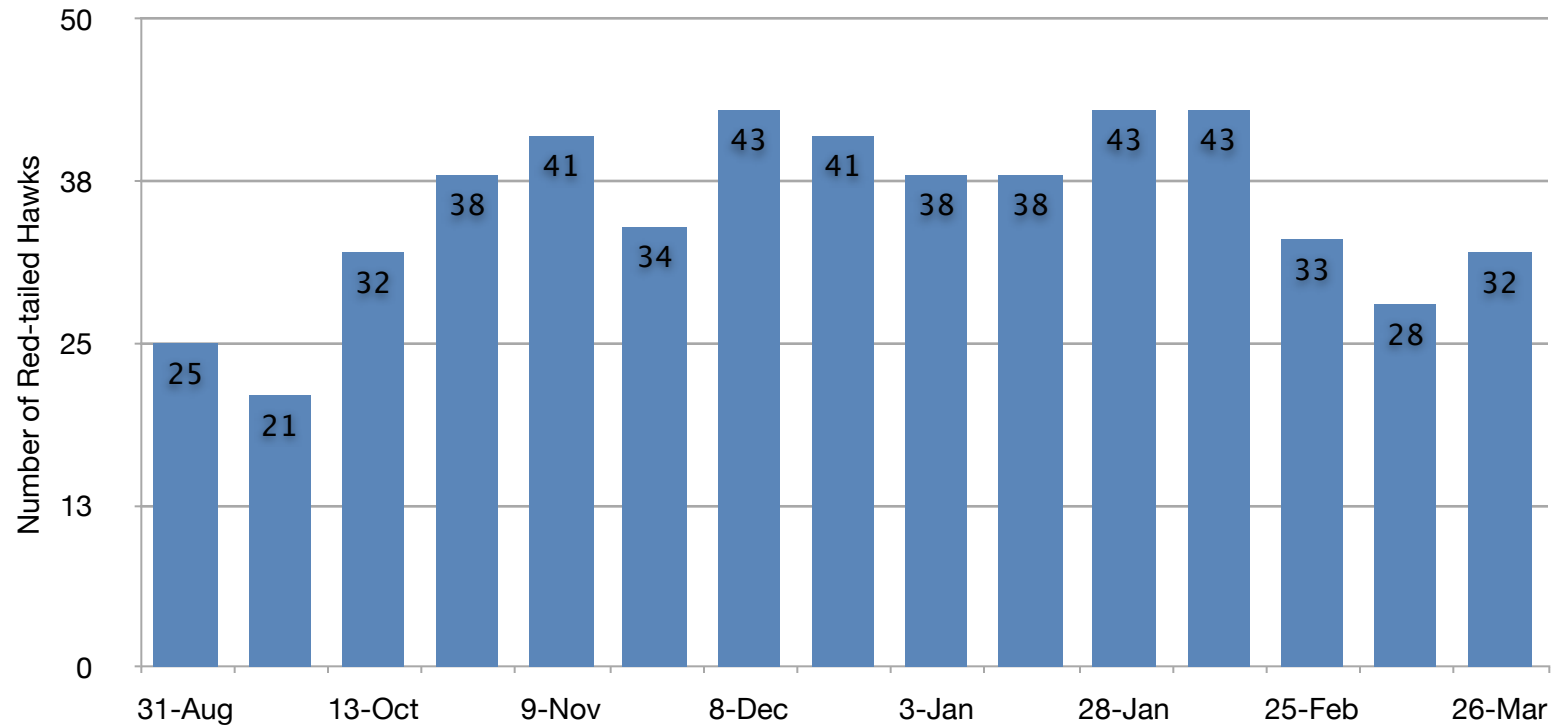


Figure 22. Number of Red-tailed Hawks Surveyed.



Discussion

The bird use of property managed by the Kern Water Bank Authority is clearly very high in accordance to the large acreages of upland habitats. Overall, in terms of bird abundance, species diversity, acreage, location and habitat diversity, it is an important area of upland habitat, especially when compared to surrounding agricultural lands. These surveys documented particularly large populations raptors and shrikes, sparrows, and many other species typical of native upland habitats on the San Joaquin Valley floor.