Surveys of birds using the Penticton Oxbows, March 2025 through February 2026 Compiled by Rick McKelvey March 2026

Introduction

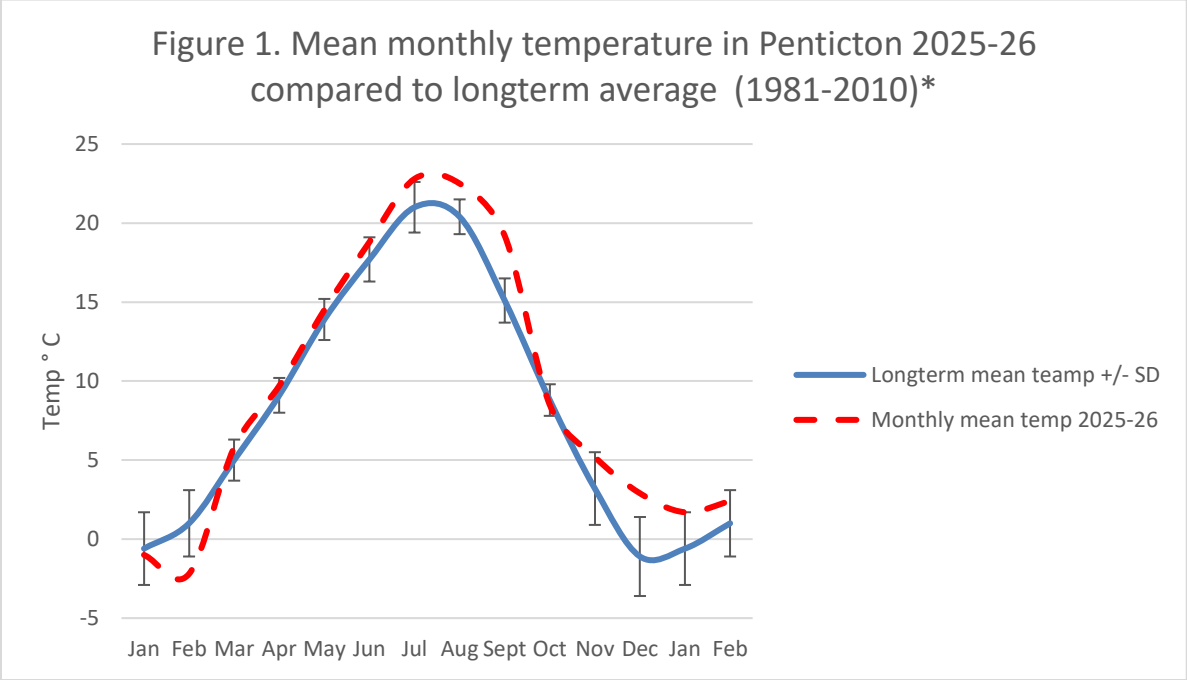
This report marks the 11th year of bird surveys on the Penticton oxbows conducted by the Friends of the Oxbows and the South Okanagan Naturalists' Club. As for the past couple of years, data have been summarized over what is considered a more accurate reflection of the seasonal use of the oxbows, namely Spring (March through May), Summer (June through August), Fall (September through November), and Winter (December through February of the next calendar year). The phenology of bird use of the oxbows varies between years but the importance of the oxbows is better reflected on a seasonal basis. General procedures and locations have been described previously in other reports, available on the Friends of the Oxbow's website (www.pentictonoxbows.ca) or directly from the link below. Counts in 2025-26 were conducted by A. Bodden, A. Garland and R. McKelvey at monthly intervals.

https://pentictonoxbows.ca/wordpress/wp-content/uploads/2017/04/16DecBirdCountReport.pdf

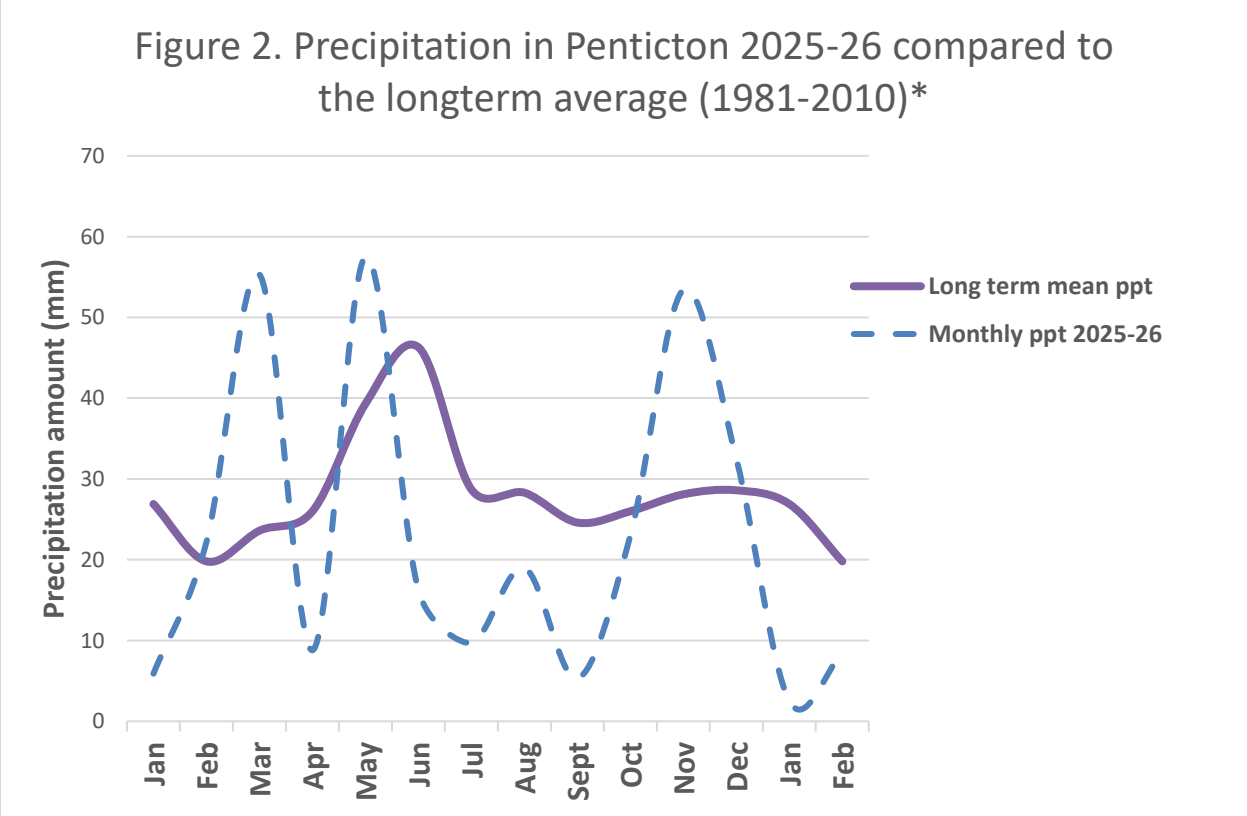
Climate in 2025-26

Temperatures in 2025-26 were very close to the norms, with slightly higher temperatures in summer and in winter (Fig. 1). Temperature norms from Environment and Climate Change Canada now include standard deviations, which also are plotted in Figure 1.

Precipitation was quite different from the norm and generally quite erratic (Fig. 2). March, May and November were wetter than normal while summer, early fall, and most of the winter were substantially dryer than normal. Comparing the total precipitation received this year (319.7 mm) with the amount normally received (392.9 mm, sum of average precipitation from monthly climate norms) indicates it was as dry this year as last (318.6mm).



*Data for Penticton Airport from Environment Canada data base.



* Data for Penticton Airport from Environment Canada data base.

Species diversity

The number of species seen in 2025-26 seemed to have reversed the trend we had seen in the previous four years and was higher this year than in the last two years. This held for both waterbirds and non-waterbirds (Fig 3). Waterbird species diversity (22) was more consistent with the longterm average (~20) and was very similar to the numbers seen since 2019 (average ~ 21). Non-waterbird species diversity (57) was also consistent with the longterm average (~56), but still well below the peak numbers seen in 2021-22.

Percentage of species comprising approximately 90% of the birds seen over the past five years of surveys are shown in Appendix 1.

The number of species seen per month in 2025-26 compared to the average numbers seen in previous years is shown in Fig. 4. Species diversity was above average in spring and early summer, below average in fall, and near the norm in winter.

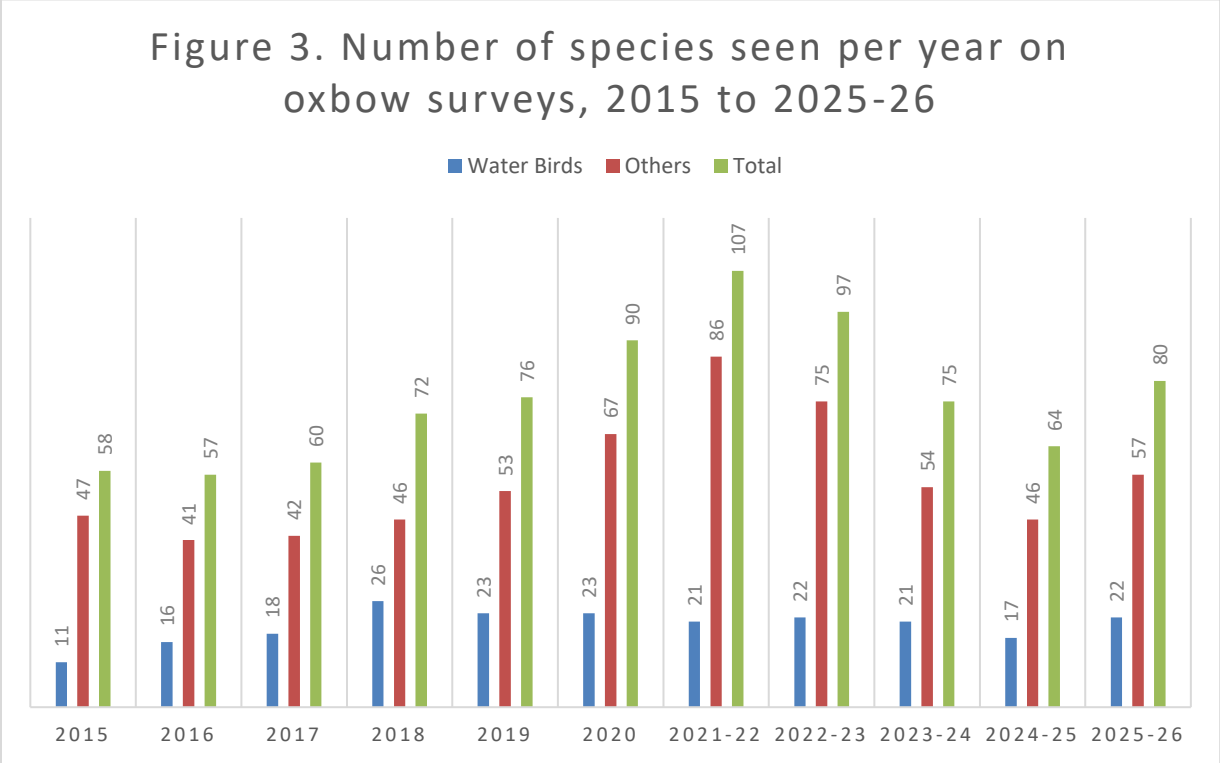
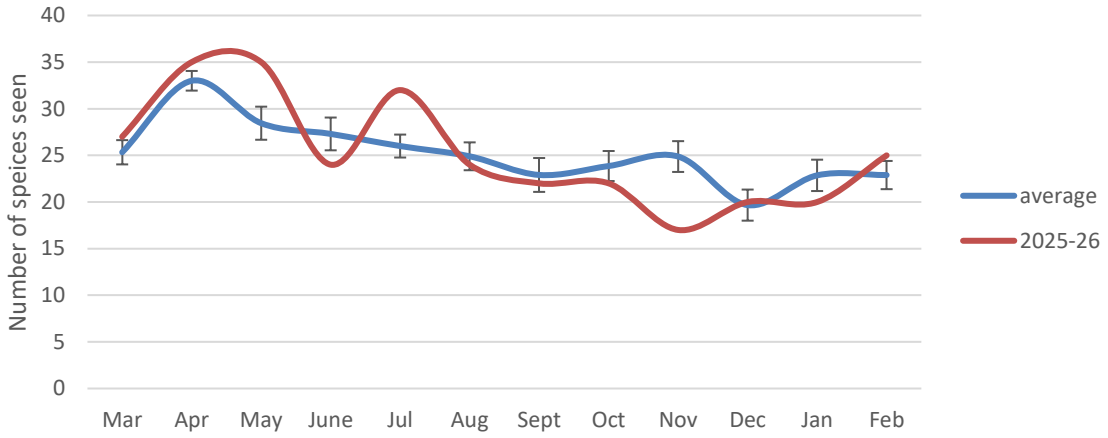


Figure 4. Number of species seen per month in 2025-26 compared to the 10-year average number of species seen per month (+/- SE) , on a seasonal basis.



Numbers of birds seen

As has been mentioned in previous reports, there is much variation in the numbers of birds seen both between months and between years and 2025-26 was no exception. Numbers of waterbirds and non-waterbirds seen per month in 2025-26 compared to the mean numbers seen per month in previous surveys are shown in Figs. 5 and 6. Actual numbers of those two groups seen this year can be found by month in Appendix 2. Data from the previous winter period are included in the two figures to give context for the data trends for the current year. For clarity, the spring period for 2025-26 was March through May 2025, the winter period was December 2025 through February 2026. Data on the left side of the graph therefore are from the previous winter period (December 2024 through February 2025).

Waterbird numbers in 2025-26 were below the mean of previous years in late winter and spring, close to the mean in late summer, fall and early winter and then fell again in late winter (Fig. 5). Averages of previous surveys indicate winter numbers have been similar between years, with declines to lower numbers in spring and summer, and an increase through fall back to higher numbers in winter. In 2025-26 numbers were below average for spring and early summer, average for late summer and fall and below average for winter.

Numbers of non-waterbirds seen were above average in spring, below average for summer and early fall, and above average for mid-winter. Peak numbers were seen in both spring and fall migration periods, in both cases above the means seen in previous years (Fig. 6).

Our observations indicate that most non-waterbirds wintering near the oxbows are essentially non-migratory introduced species, such as House Sparrows, European Starlings, Rock Doves and European Collared Doves. Native species do occur, but their numbers are generally overwhelmed by those of the non-native species.

Our impression of surveys over the past several years has been that we are seeing fewer birds each year, in spite of the variability noted elsewhere in this report between years, months and oxbows. When trends in the numbers of waterbirds and non-waterbirds are examined from the last five years of surveys it appears our impressions are accurate (Fig. 7). The oxbows continue to silt in and deteriorate, and each year more impacts from adjacent developments and squatters have been observed. We are assuming that the declines we are seeing are a result of local changes to habitat. We have no comparable data from elsewhere to say whether there has also been an overall decline in regional numbers of birds, however.

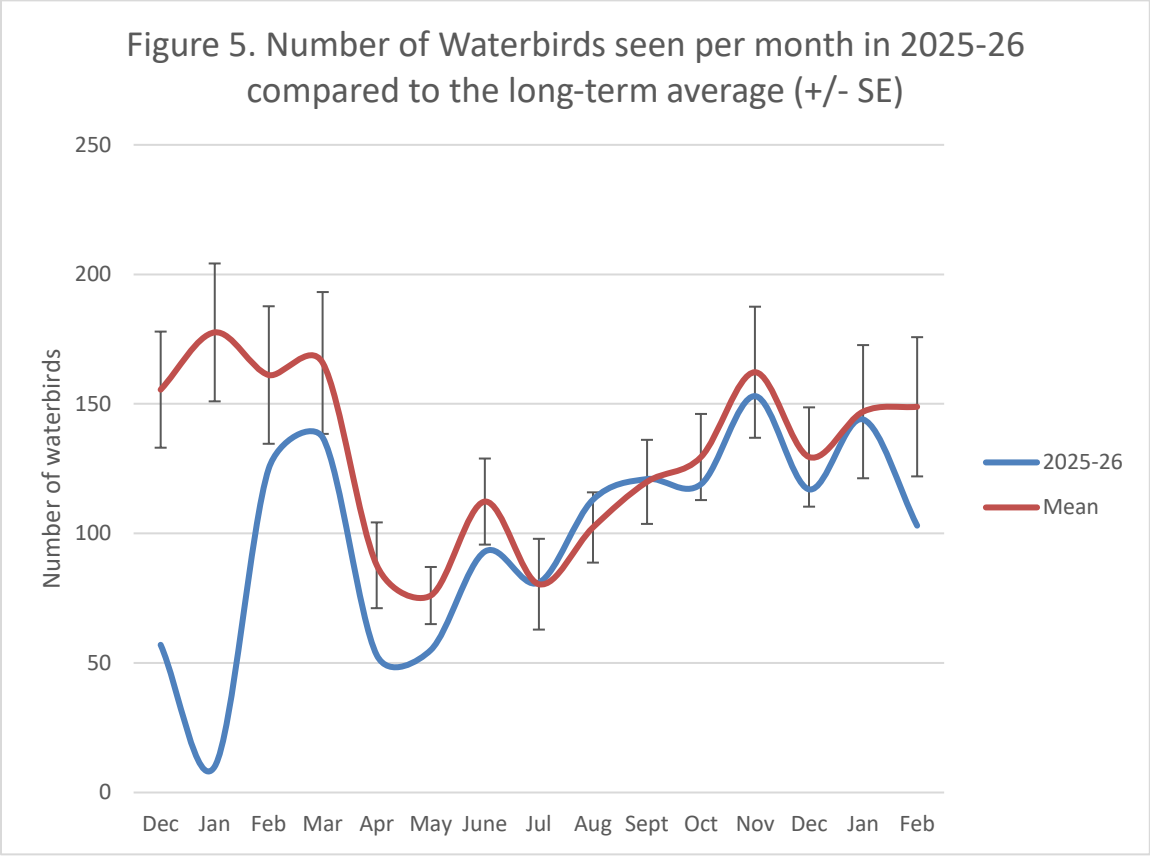


Figure 6. Number of Non-waterbirds seen per month in 2025-26 compared to the long-term mean (+/- SE)

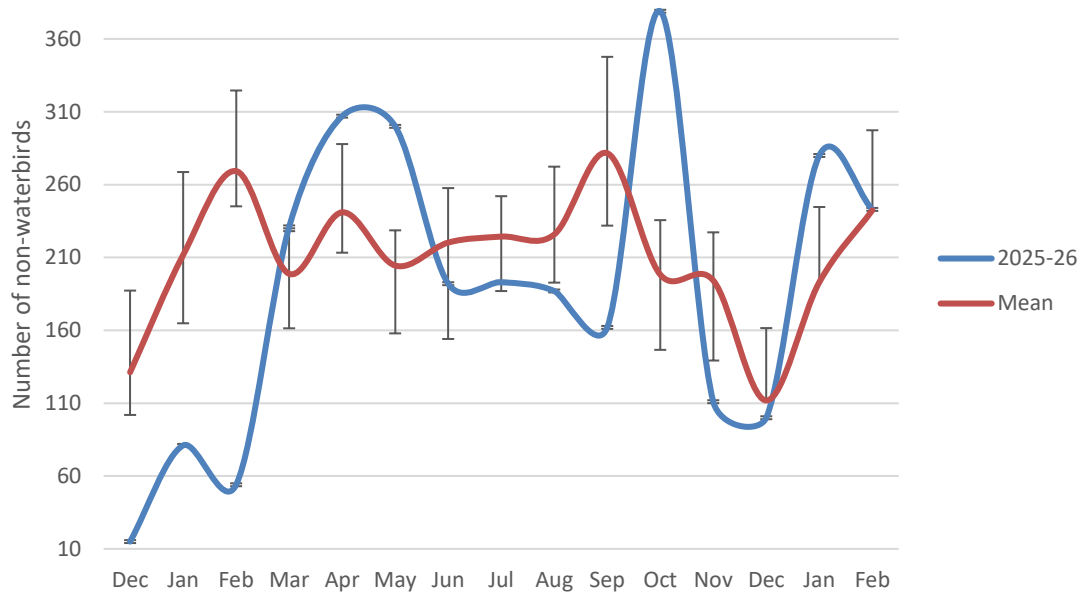
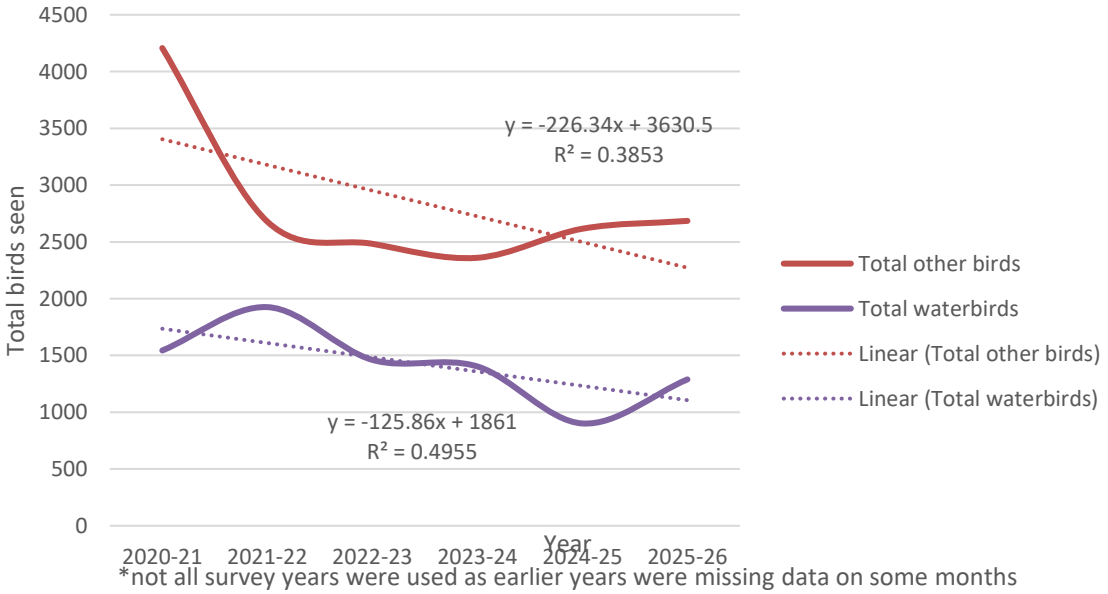


Figure 7. Trends in total numbers of waterbirds and non-waterbirds seen on oxbow surveys, 2020-21 to 2025-26*



*not all survey years were used as earlier years were missing data on some months

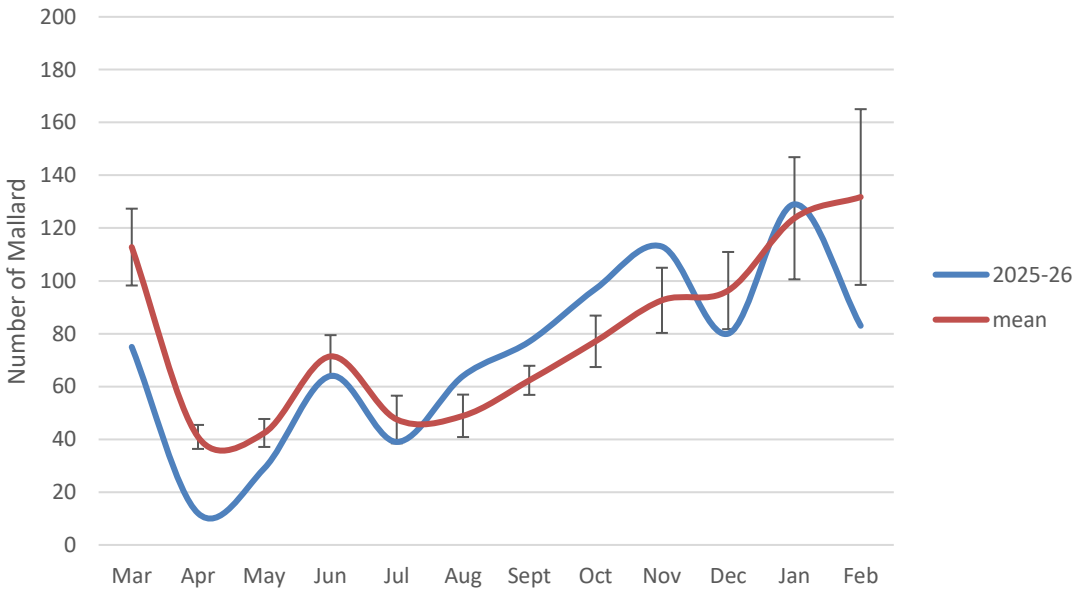
Resident Waterfowl and Productivity

Mallard numbers in 2025-26 were slightly below average in spring and early summer, above average in late summer and early fall and somewhat variable in late fall and winter (Fig. 8). Winter counts are generally quite variable as cold weather can affect open water on the oxbows. No influx during migration or over winter was noted. Wood ducks were below average in spring, above average in summer, and below average in fall and through the winter. (Fig. 9).

Productivity was higher this year than last for Mallard and Wood Duck, with no productivity being recorded for Canada Goose. (Table 1). Productivity for ducks seems to have reversed recent downward trends, though numbers are variable year to year.

Since we began collecting data on brood sizes, Mallard productivity has declined, while Wood Duck productivity remains high, though brood numbers are variable. Canada Goose productivity is also variable; geese do not seem to breed on the oxbows every year, or at least to bring their young to the oxbows. Number and size of broods seen on oxbows in 2025-26 by survey date is shown in Table 2.

Figure 8. Number of Mallards seen per month in 2025-26 compared to monthly mean numbers (+/-SE) , 2015-16 - 2024-25.



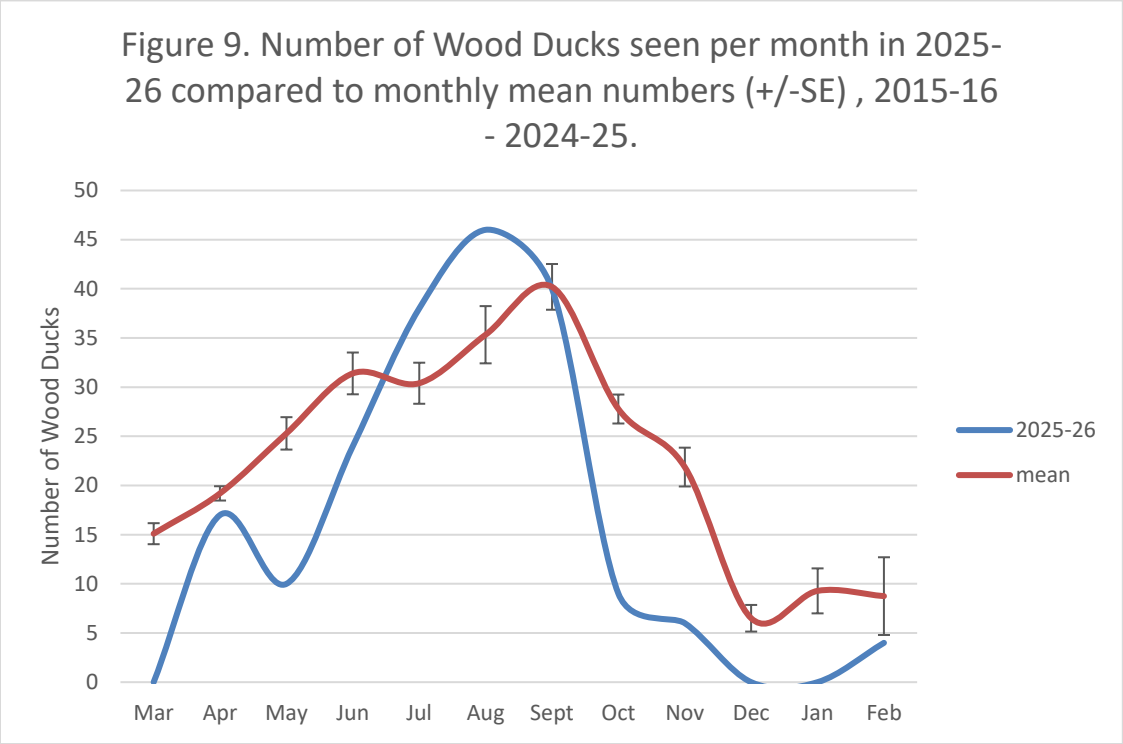


Table 1. Number of broods and young seen on the oxbows by survey date in 2025-26.

Date	Mallard broods	Mallard young	Wood Duck broods	Wood Duck young	Canada Goose broods	Canada Goose young
21-May-25	2	4	O	0	0	0
18-Jun-25	6	22	2	7	0	0
23-Jul-25	2	11	6	14	0	0
20-Aug-25	0	0	3	12	0	0
17-Sep-25	0	0	0	0	0	0

Table 2. Maximum number of broods and young observed in oxbow surveys since 2020-21

Year	Max Mallard broods	Max ducklings	Max Wood Duck broods	Max ducklings	Max Canada Goose broods	Max goslings
2025-26	6	22	6	14		
2024-25	5	15	2	8	1	18
2023-24	2	10	3	34	2	20
2022-23	2	6	5	15		
2021-22	9	40	8	26		
2020-21	9	46	5	23	1	11

Rates of use of oxbows by birds

The rate of use of each oxbow by waterbirds and non-waterbirds is reported here as a function of the area of water on each oxbow as determined by measurements on Google Earth. Although non-waterbird use of the oxbow environs is more likely a function of the area of the surrounding riparian habitat, it has not been possible to delimit and measure that habitat area. Many non-waterbirds will use habitats in the surrounding neighbourhoods as well as those close to the oxbows; riparian vegetation and neighbourhood habitats blend together and remain ill defined. For this report, rates of use of the oxbows by non-waterbirds also uses the area of open water as a surrogate for the actual, unmeasured habitat base.

In this report the rates of use of the wetland habitats are reported as bird-use months per hectare, corrected for unequal number of months of surveys each year, and all data are again reported from March through February. Relative rates of use of each oxbow for waterbirds and non-waterbirds are shown in Figs. 10 & 11, respectively.

The rates of use of the oxbows by waterbirds continues to be similar one oxbow to the other, though variable between years, except for the Falcon Avenue oxbow. That oxbow has in the past received disproportionately high use by both waterbirds and non-waterbirds. That is likely because the habitat on that oxbow is quite varied on both sides of the waterbody, there is good riparian development and coarse woody debris, and because there are several backyard bird feeders near the wetland. In some years, some landowners have also grain-fed the ducks, which keeps the numbers of waterbirds high even in the coldest parts of the winter. Direct feeding of the ducks was not evident this winter, although ducks were seen to be landing in one yard where bird feeders were present. The trend of high use rates on the Falcon Ave oxbow by waterfowl have trended downward since 2020-21. That oxbow appears to be silting in very rapidly, and the larger patches of open water that once attracted so many ducks are filling in with Cattail and Yellow Flag Iris.

The rate of use of the Falcon Ave oxbow by non-waterbirds continues to be much higher than the other oxbows as well. We attribute this again to the presence of well-used backyard feeders. While some native birds use those feeders the most abundant species are again those well adapted to the city, such as European Starlings, House Sparrows, European Collared Doves, and Rock Pigeons.

Figure 10. Rates of use of oxbows (bird-use months / ha) by Waterbirds for surveys from 2015-16 to 2025-26

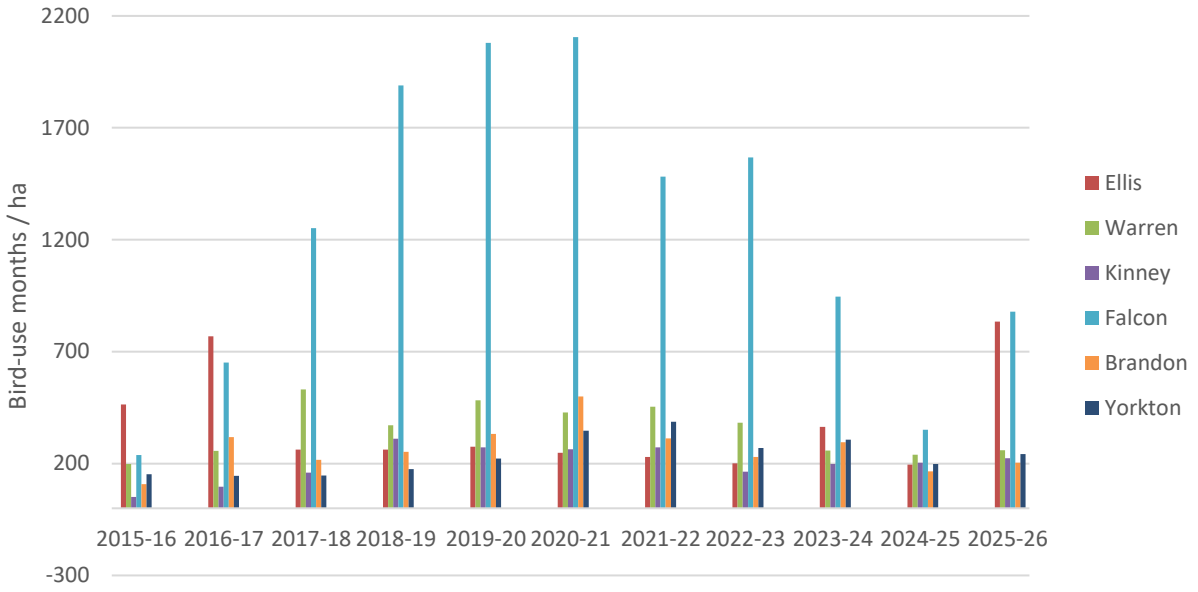
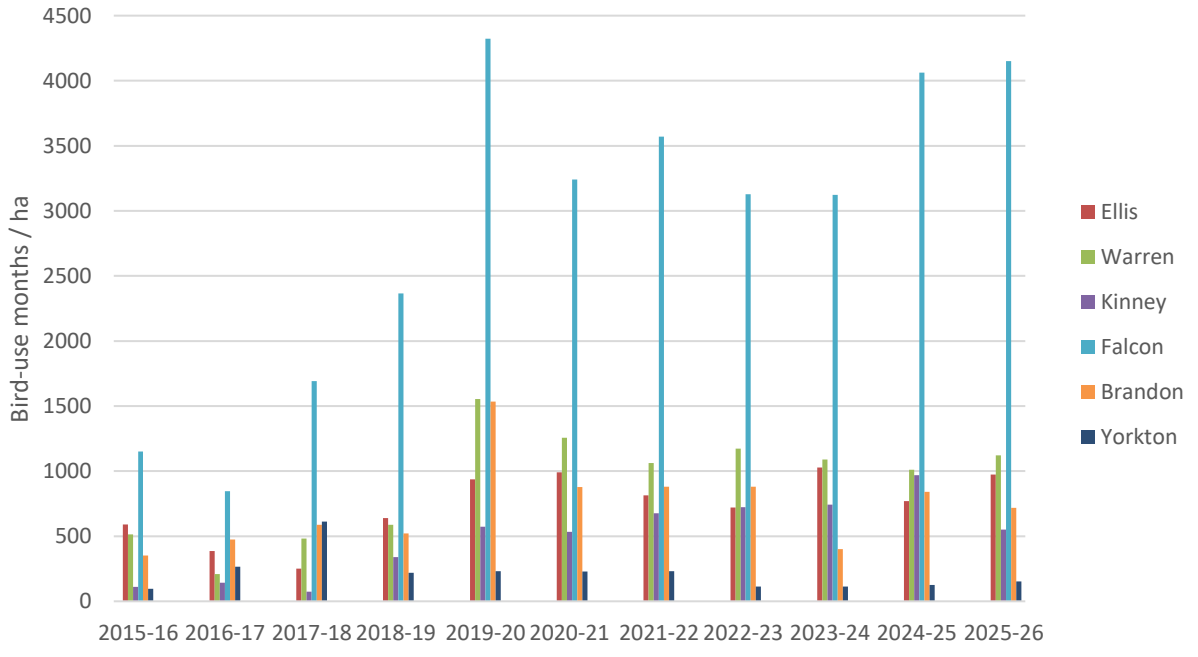
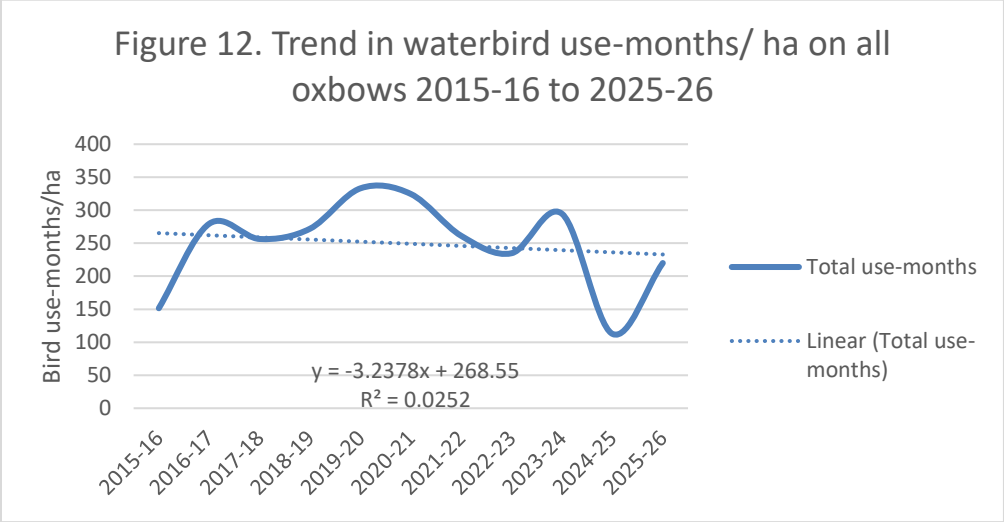
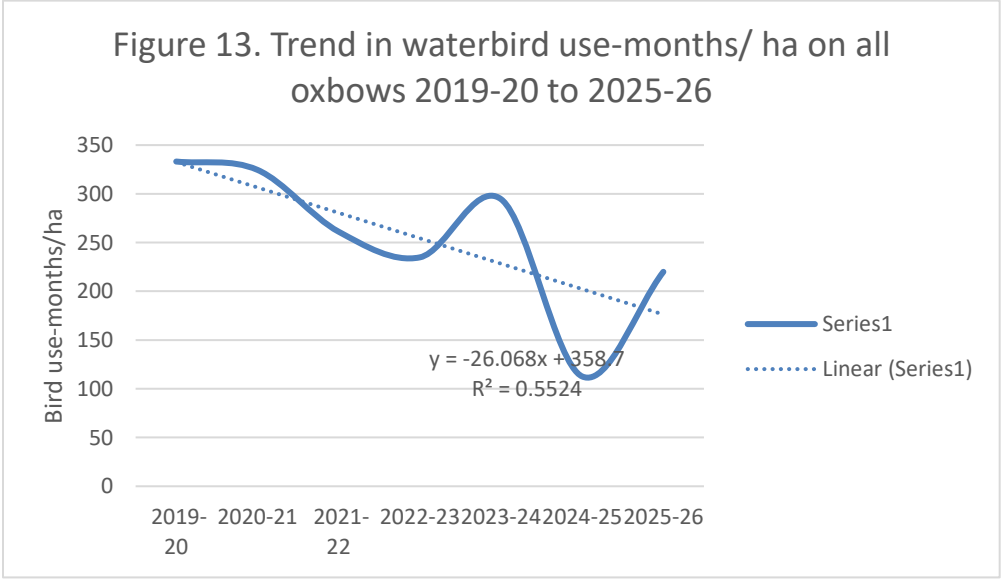


Figure 11 . Rates of use of oxbows (bird-use months / ha) by Non-waterbirds for surveys from 2015-16 to 2025-26

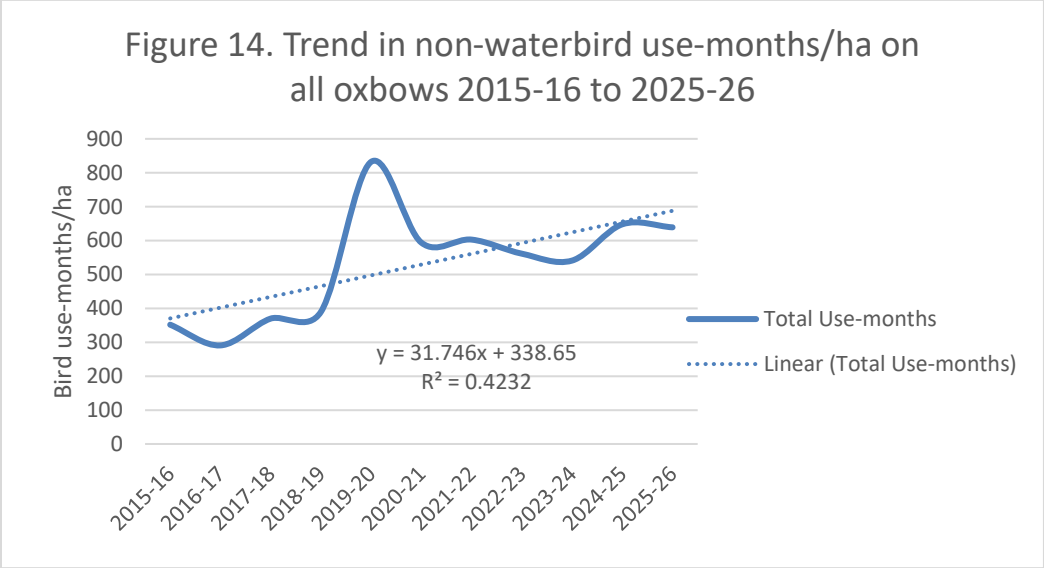


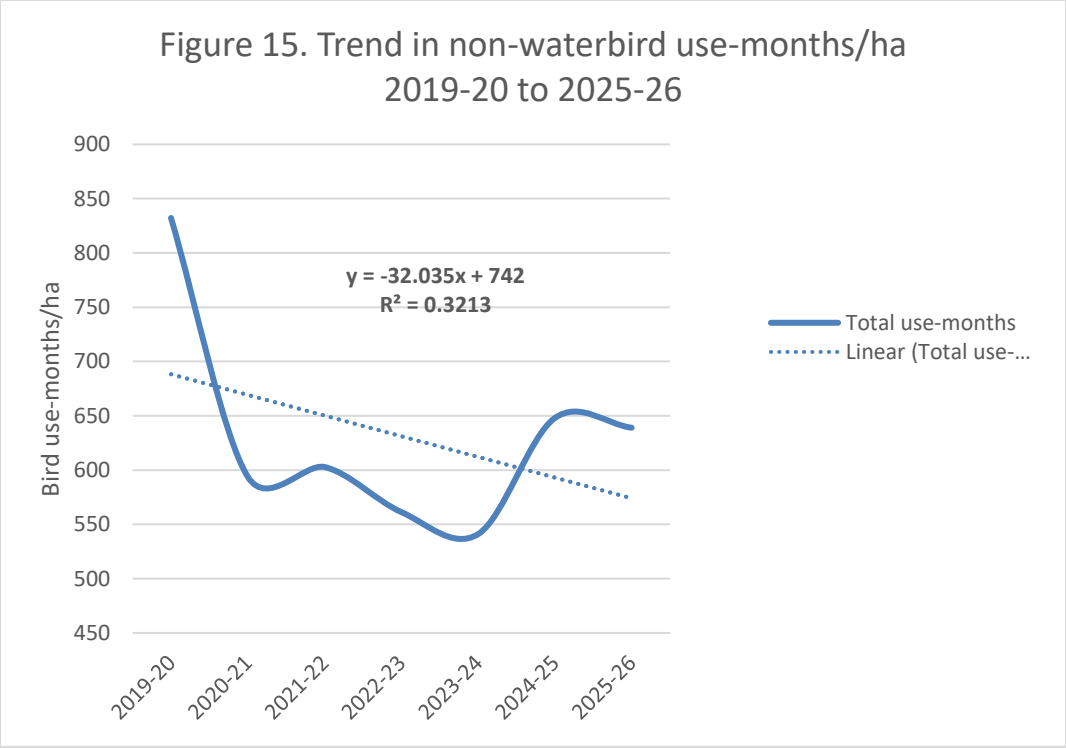
As explained in previous reports, survey effort for the first four years of this project may not have been as consistent as one might have wished, owing to the numbers of people involved, individual abilities to identify and count birds, and the tendency to not attempt counts in the winter period. Since 2019-20 the same three people have conducted the survey, so from the point of view of effort those surveys are much more consistent than surveys before that time, with one exception. In 2019-20 there was no count in December, a hold over from the protocol of the first four survey years. When data from all surveys are used, corrected for the number of surveys each year, the trend in usage of the oxbows by waterbirds is slightly negative. However, the data are variable and the trend line has a low r value (lower than last year) (Fig.12). When data from the first four surveys are excluded, the trend in waterbird usage is negative though again with considerable variability (Fig. 13).





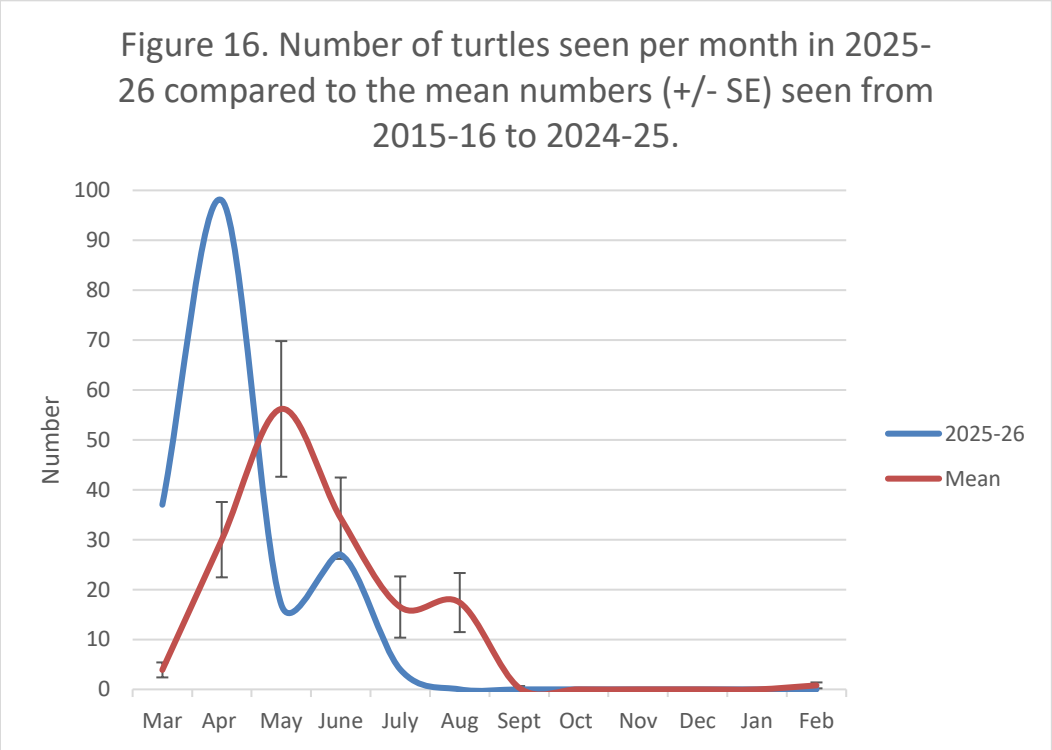
The trends in non-waterbird usage are shown in Figures 14 and 15, for data from all 11 surveys, and for data from only the last six years, respectively. Data from all 11 surveys seems to indicate an upward trend. However, the first four surveys show a relatively low rate of use, while the latter seven surveys, with what is believed to be more consistent effort and likely less error, show a declining rate of use and the trend is negative. With the assumed better precision in surveys of the last seven years, it would seem that the trend in both waterbird and non-waterbird usage is downward over all the oxbows combined.





Turtle counts.

Turtles were first seen in March 2025, and reached peak numbers in April, one month earlier than last year and well above the average for the previous 10 years. Numbers diminished into late summer and turtles were not seen after late August (Fig. 16).



Appendix 1. Species comprising approximately 90% of the birds seen on oxbow surveys by year since 2021-22.

2021-22	%	2022-23	%	2023-24	%	2024-25	%	2025-26	%
Mallard	25.1	Mallard	21.5	Mallard	21.9	Mallard	14.4	Mallard	21.7
Starling	15.2	Starling	11.8	Starling	13.9	Starling	12.9	Starling	15.6
Wood Duck	10.2	Wood Duck	8.4	California Quail	8.1	Red-winged Blackbird	12.7	Red-winged Blackbird	10.2
Red-winged Blackbird	10.0	California Quail	7.7	Wood Duck	7.4	House Sparrow	8.6	California Quail	6.6
House Sparrow	5.7	Red-winged Blackbird	6.9	Red-winged Blackbird	6.7	Collared Dove	7.9	House Sparrow	6.4
California Quail	4.2	House Sparrow	5.4	House Sparrow	6.0	California Quail	7.4	Wood Duck	4.9
Collared Dove	3.9	Collared Dove	5.2	Collared Dove	5.3	Wood Duck	6.5	Rock Pigeon	3.7
Rock Pigeon	2.2	Rock Pigeon	3.9	Cedar Waxwing	3.0	Rock Pigeon	3.6	Collared Dove	3.6
Song Sparrow	1.9	House Finch	3.5	Canada Goose	3.0	American Goldfinch	2.2	American Goldfinch	2.3
Northern Flicker	1.8	Canada Goose	2.5	Rock Pigeon	2.8	Canada Goose	2.2	House Finch	2.1
Cedar Waxwing	1.7	Dark-eyed Junco	2.5	House Finch	2.2	Song Sparrow	2.1	Dark-eyed Junco	2.1
House Finch	1.7	Cedar Waxwing	2.3	Song Sparrow	1.9	Dark-eyed Junco	1.8	Song Sparrow	1.9
American Goldfinch	1.3	Northern Flicker	2.0	Dark-eyed Junco	1.9	House Finch	1.7	American Robin	1.9%
Canada Goose	1.0	American Robin	1.7	Northern Flicker	1.4	Northern Flicker	1.7	Canada Goose	1.7
American Robin	1.0	Song Sparrow	1.7	Bufflehead	1.4	Yellow-rumped Warbler	1.6	Bufflehead	1.6
American Crow	0.9	American Goldfinch	1.5	American Robin	1.2	Bufflehead	1.3	Northern Flicker	1.5
Pine Siskin	0.9	Bufflehead	1.1	American Crow	1.1	Cedar Waxwing	1.1	Brewer's Blackbird	1.3
Bufflehead	0.8			American Goldfinch	1.0			Yellow-rumped Warbler	1.0

Appendix 2. Number of waterbirds, non-waterbirds and turtles seen each survey month on Penticton oxbows in 2025-26.

Month	Waterbirds	Non-waterbirds	Turtles
Mar	137	231	37
Apr	53	307	98
May	55	300	17
June	93	192	27
July	81	193	4
Aug	113	187	0
Sept	121	162	0
Oct	119	379	0
Nov	153	111	0
Dec	117	100	0
Jan	144	280	0
Feb	103	243	0