An update on the surveys of birds using the Penticton Oxbows, March to December 2018
Compiled by Rick McKelvey
December 2018

Introduction

A fourth year of surveys of birds using the Penticton oxbows has been completed, once again thanks to the efforts of the South Okanagan Naturalists Club, in particular Charmaine Foster. Procedures and the locations of the oxbows were described earlier (available on our website www.pentictonoxbows.ca), with counts being conducted at approximately monthly intervals. The spring in 2018 was cool and wet, similar to 2017. The final "official" survey occurred in October, as cold weather arrived early. It warmed up however in mid-November, so another survey was conducted in December. The survey effort was approximately the same as in previous years.

Species diversity

The number of species seen in total in 2018 continued an upward trend for waterbirds, and was similar to previous years for other species (Fig 1). Total number of bird species seen in each year was 58, 57, 60 and 72, respectively.

The number of species seen per survey was higher in late spring and early summer than in previous years (Fig. 2), and then dropped off more in late summer prior to another average rise during fall migration. The lower numbers in summer may have occurred in response to the hot and quite smoky weather experienced in 2018. The spring migration peak is still quite evident, while during the rest of the year the species diversity continued the trend of being quite variable.

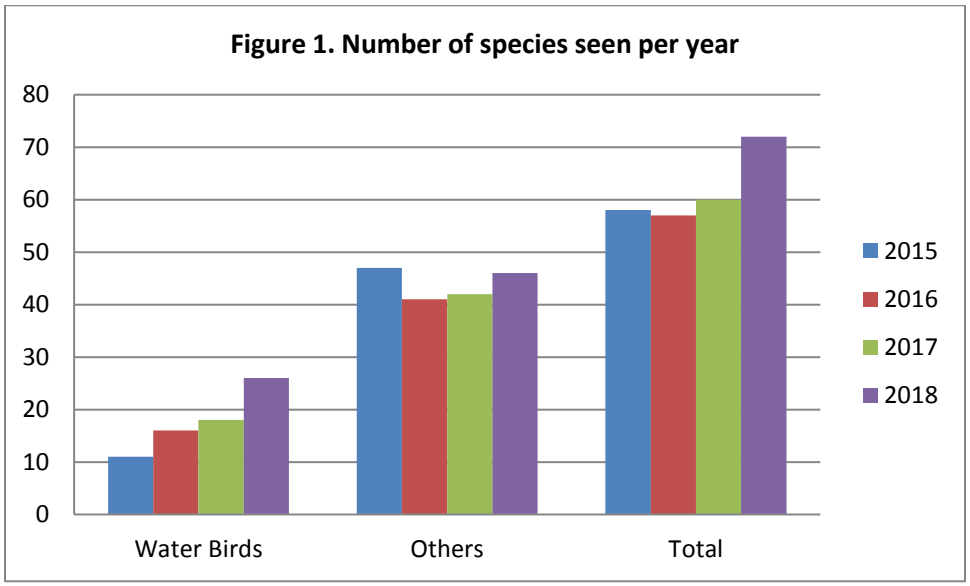


Figure 1. Number of species seen per year
80
70
60
50
40
30
20
10
0
Water Birds
Others
Total
2015
2016
2017
2018

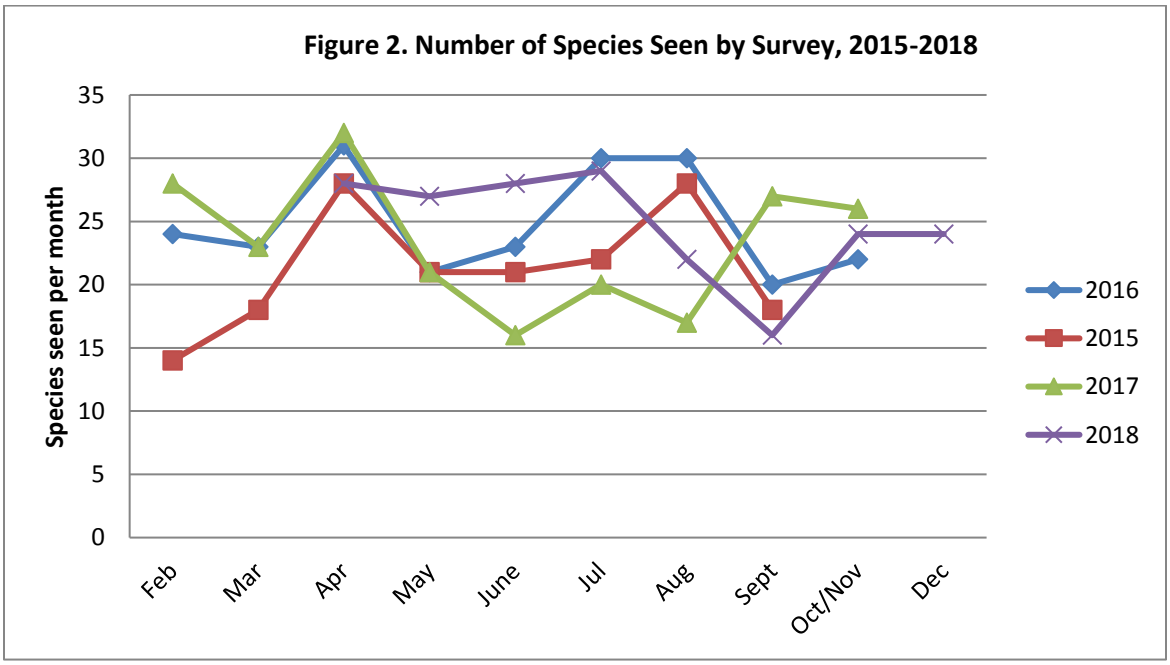
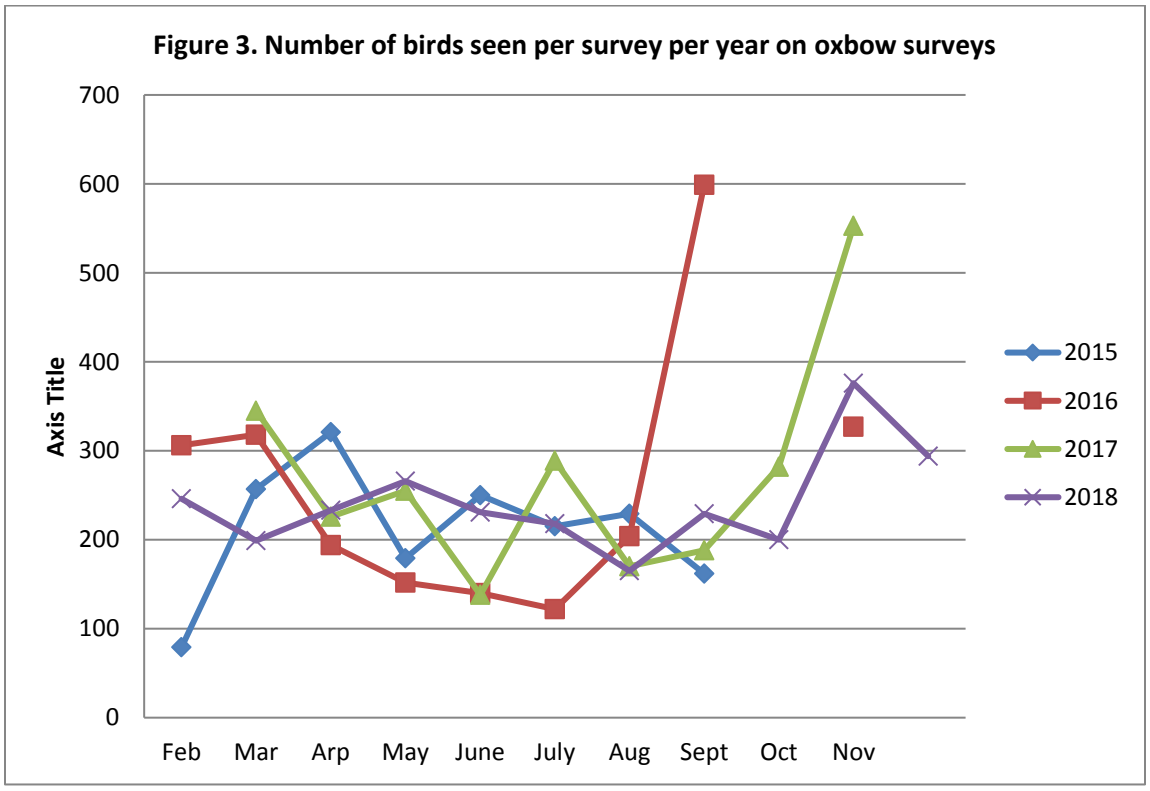


Figure 2. Number of Species Seen by Survey, 2015-2018
Species seen per month
35
30
25
20
15
10
5
0
Feb
Mar
Apr
May
June
Jul
Aug
Sept
Oct/Nov
Dec
2016
2015
2017
2018

Total numbers birds seen

The total number of birds seen in 2018 was similar to those seen in previous years in spring and summer but appeared lower in the fall period (Fig. 3). Water birds were more abundant in late fall than were other birds (Figs. 4 & 5), likely reflecting the cool early fall weather and subsequent warming in late fall. Most of the small birds likely had migrated, while waterfowl still remained and used whatever open water was available.

The actual number of birds seen on each survey on each oxbow for all years of data is attached as Appendix 1.



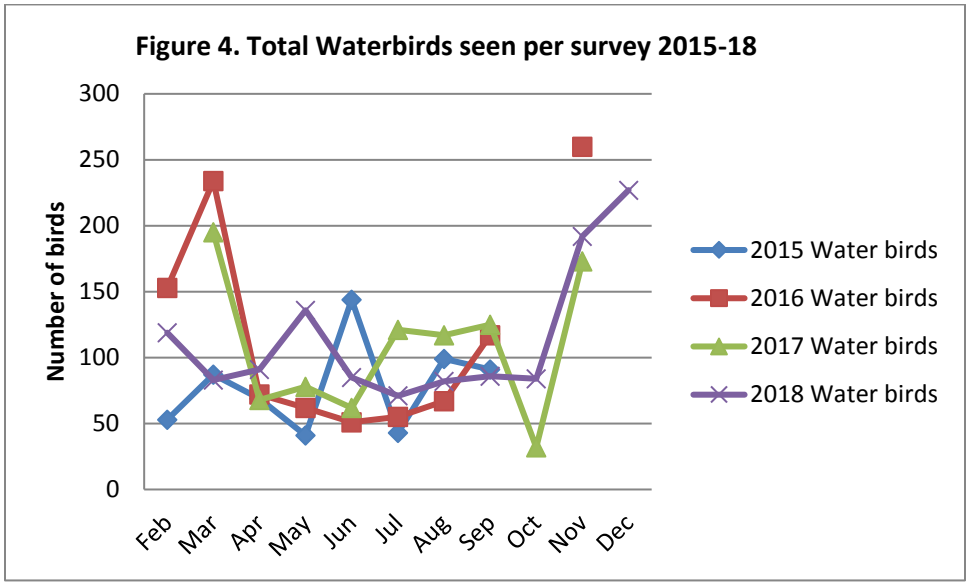


Figure 4. Total Waterbirds seen per survey 2015-18
Number of birds
300
250
200
150
100
50
0
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2015 Water birds
2016 Water birds
2017 Water birds
2018 Water birds

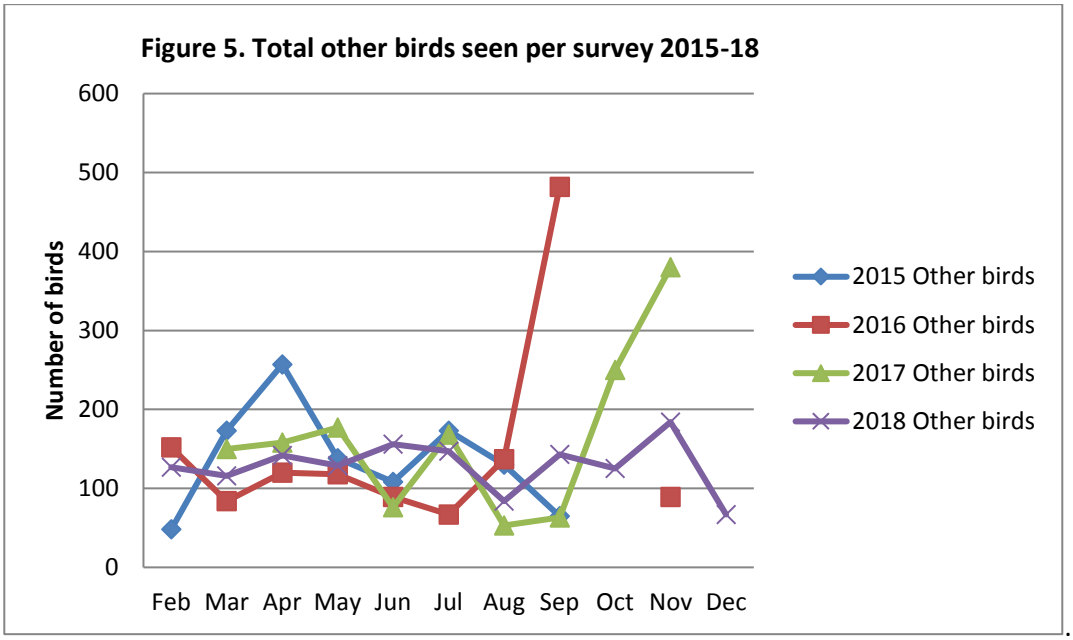


Figure 5. Total other birds seen per survey 2015-18
Number of birds
600
500
400
300
200
100
0
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2015 Other birds
2016 Other birds
2017 Other birds
2018 Other birds

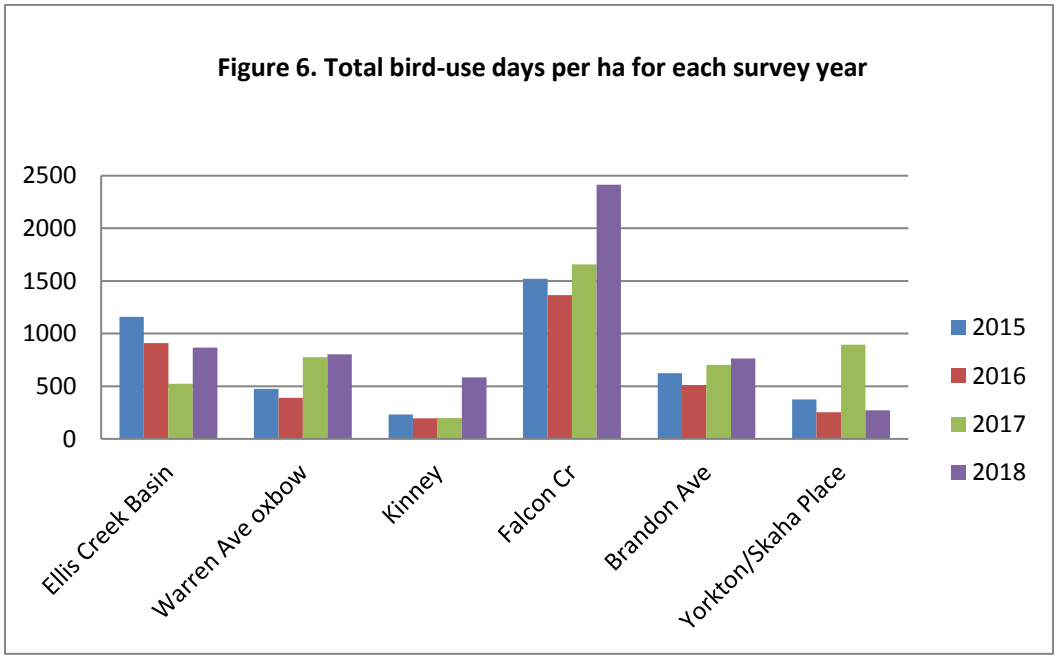
.

.

Rates of use of oxbows for water birds and other birds

The amount of use each oxbow received for total birds, waterbirds and non-waterbirds is shown in Figures 6 to 8. Total bird use per hectare of habitat potentially available was higher in 2018 than in previous years in all oxbows except the Yorkton/Skaha oxbow, which was lower in 2018. These data are summarized in table form in Appendix 2.

These data are presented in this fashion to attempt to show the relative importance of each oxbow and to look for trends in usage between years. If rates of usage were to change markedly between years one might suspect some change in the local habitat, which could warrant further examination. However, because the survey effort is not the same each year, and there may be actual differences in the visibility of the birds or the abilities of the surveyors, there is a lot of error inherent in this approach. The survey effort is also short (four years) so caution is warranted in interpreting trends at this point.



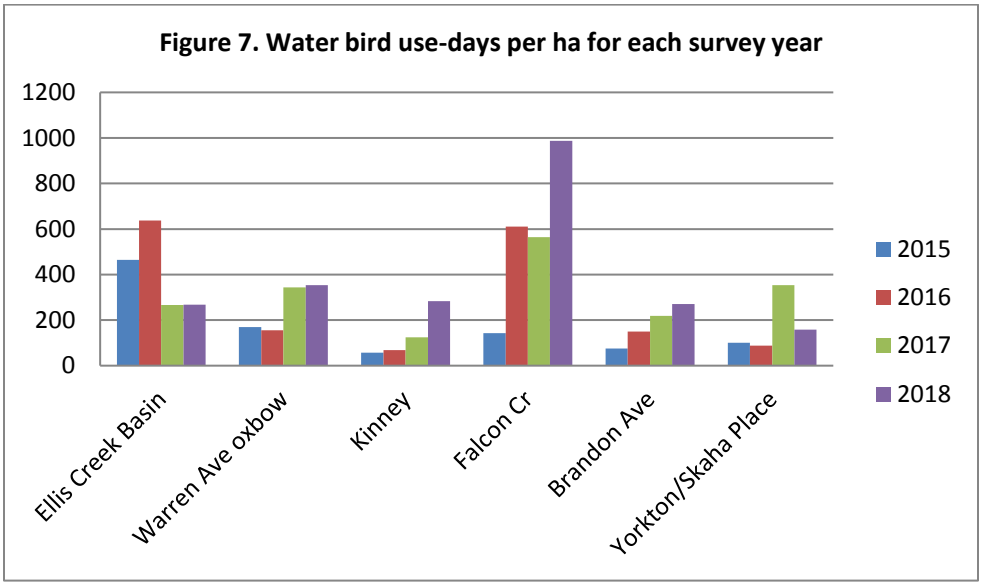


Figure 7. Water bird use-days per ha for each survey year
1200
1000
800
600
400
200
0
Ellis Creek Basin
Warren Ave oxbow
Kinney
Falcon Cr
Brandon Ave
Yorkton/Skaha Place
2015
2016
2017
2018

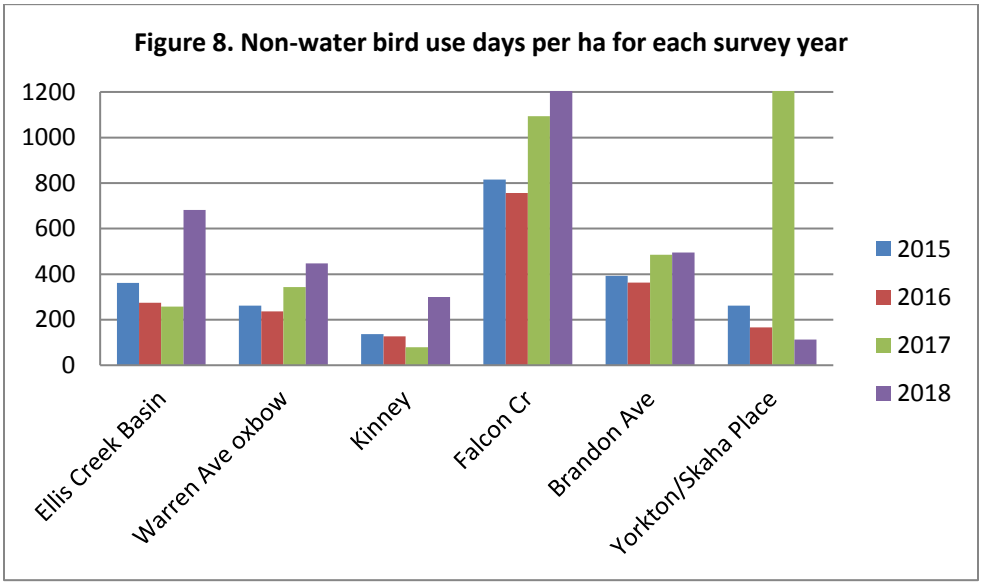
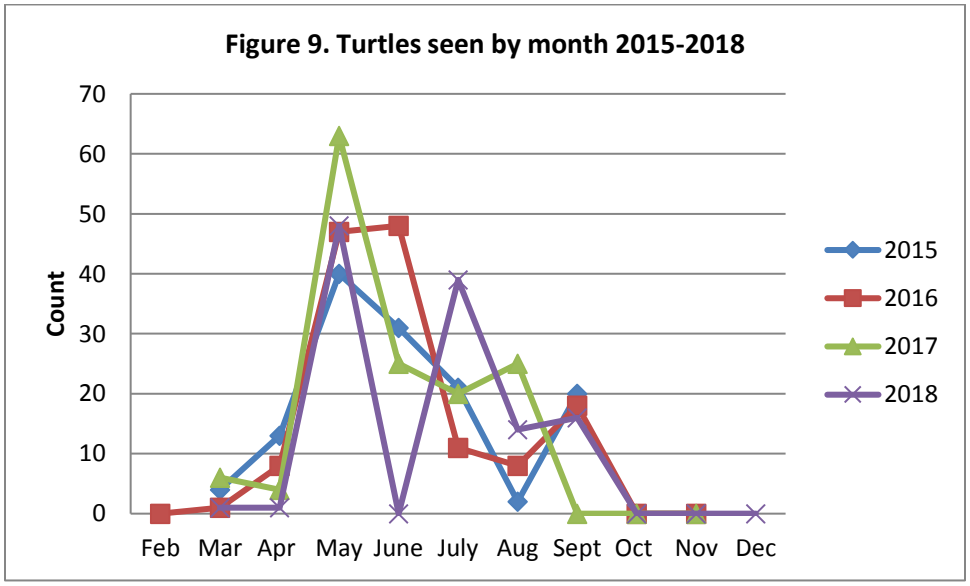


Figure 8. Non-water bird use days per ha for each survey year
1200
1000
800
600
400
200
0
Ellis Creek Basin
Warren Ave oxbow
Kinney
Falcon Cr
Brandon Ave
Yorkton/Skaha Place
2015
2016
2017
2018

Turtle counts.

Turtles were generally much harder to see in 2018 than in previous years, and on many surveys none were seen at all. The peak number of turtles seen in 2018 was lower than last year but higher than in the previous two years (Fig 9). Kinney Avenue oxbow was completely unproductive this year, while Warren Avenue oxbow and Brandon Avenue oxbow continued to provide more sightings (Fig. 10). Not many small turtles were seen in 2018 (pers. obs.). It seems unlikely that turtle numbers in total would fluctuate much between years, and given how secretive they can be more surveys are required before much definitive can be said about the population trends. Note that no turtles were seen in June in 2018, but at least some had reappeared by the July survey. Peak numbers tend to be seen in the spring according to these data, so a rough estimate of population would be in the range of 45 to 60 individuals.



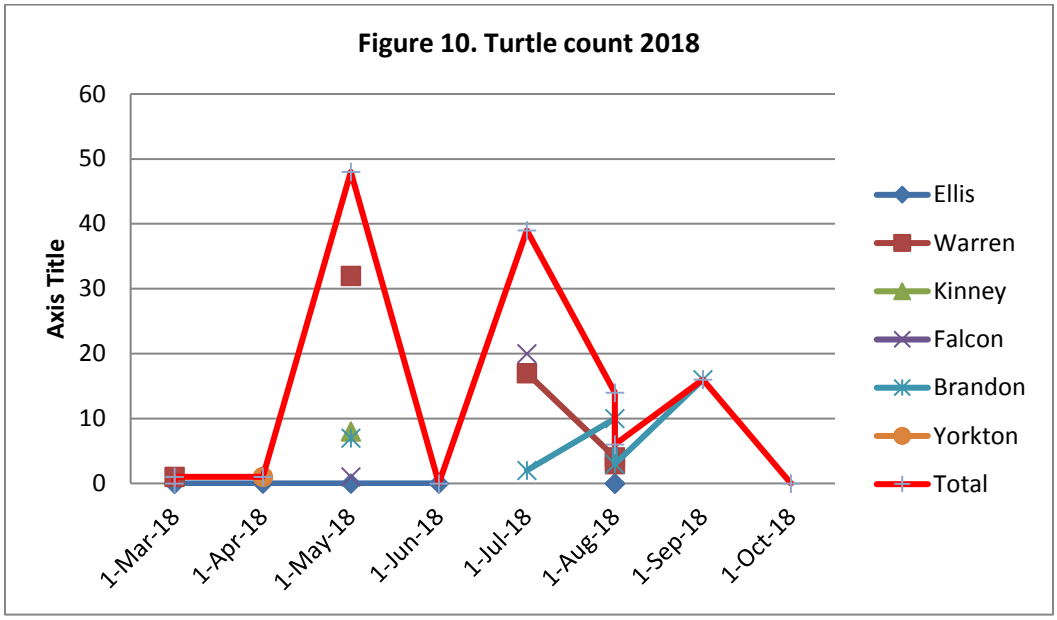


Figure 10. Turtle count 2018
60
50
40
30
20
10
0
Axis Title
1-Mar-18
1-Apr-18
1-May-18
1-Jun-18
1-Jul-18
1-Aug-18
1-Sep-18
1-Oct-18
Ellis
Warren
Kinney
Falcon
Brandon
Yorkton
Total

Appendix 1. Number of waterbirds and non-waterbirds seen each survey

on the Penticton oxbows 2015-2018.

	2015	2016	2017	2018	2015	2016	2017	2018
	Water birds	Water birds	Water birds	Water birds	Other birds	Other birds	Other birds	Other birds
Feb	53	153		119	48	152		127
Mar	87	234	195	83	173	84	150	116
Apr	69	72	68	91	257	120	158	142
May	41	62	78	136	138	118	177	129
Jun	144	51	62	85	108	89	76	156
Jul	43	55	121	71	173	67	168	147
Aug	99	67	117	82	130	137	53	84
Sep	91	117	125	86	65	482	63	143
Oct			32	84			250	125
Nov		260	173	192		89	380	184
Dec				227				67

Appendix 2. Bird-use day summaries by survey year for each oxbow surveyed.

Oxbow	Non-waterbird use days/ha 2015	Non-waterbird use days/ha 2016	Non-waterbird use days/ha 2017	Non-waterbird use days/ha 2018	Waterbird use days/ha 2015	Waterbird use days/ha 2016	Waterbird use days/ha 2017	Waterbird use days/ha 2018	Total Bird use days/ha 2015	Total Bird use days/ha 2016	Total Bird use days/ha 2017	Total Bird use days/ha 2018
Ellis	643	274	257	682	464	637	266	268	1107	911	523	950
Warren	464	236	432	447	173	155	343	354	637	391	775	801
Kinney	113	127	79	300	57	68	125	283	170	195	204	583
Falcon	486	756	1093	1465	143	611	564	987	629	1367	1657	2452
Brandon	337	363	485	495	75	150	218	270	412	513	703	765
Yorkton	100	166	543	113	101	88	353	158	201	254	896	271
Total	2143	1922	2889	3502	1013	1709	1869	2320	3156	3631	4758	5822