An update on the surveys of birds using the Penticton Oxbows, March to November 2017
Compiled by Rick McKelvey
November 2017

Introduction

A third year of surveys of birds using the Penticton oxbows has been completed, thanks to the efforts of the South Okanagan Naturalists Club, in particular Charmaine Foster. Procedures and the locations of the oxbows were described in last year's report (http://pentictonoxbows.ca/wordpress/wp-content/uploads/2017/04/16DecBirdCountReport.pdf), with counts being conducted at approximately monthly intervals. Due to the cold wet spring experienced in 2017, surveys started a bit later than in previous years. As of the final survey in November, mild weather had returned to the South Okanagan, and birds were still to be seen in some numbers. While these vagaries in weather no doubt affected bird phenology to some extent, the survey effort was approximately the same and the results presented here are felt to be a good approximation of what actually happened this year.

Species diversity

The number of species seen in total in 2017 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 and 60, respectively.

The number of species seen per survey seemed to be lower during the summer of 2017 (Fig 2.) perhaps as a result of the hot, smoky weather experienced then. A peak in the number of species seen during spring migration remains fairly clear in each year, while there appears to be more variation as to when peak diversity occurs during fall migration. The relative peak in fall 2017 was delayed from those in the previous two years, again likely as a result of the long hot summer and mild fall weather.

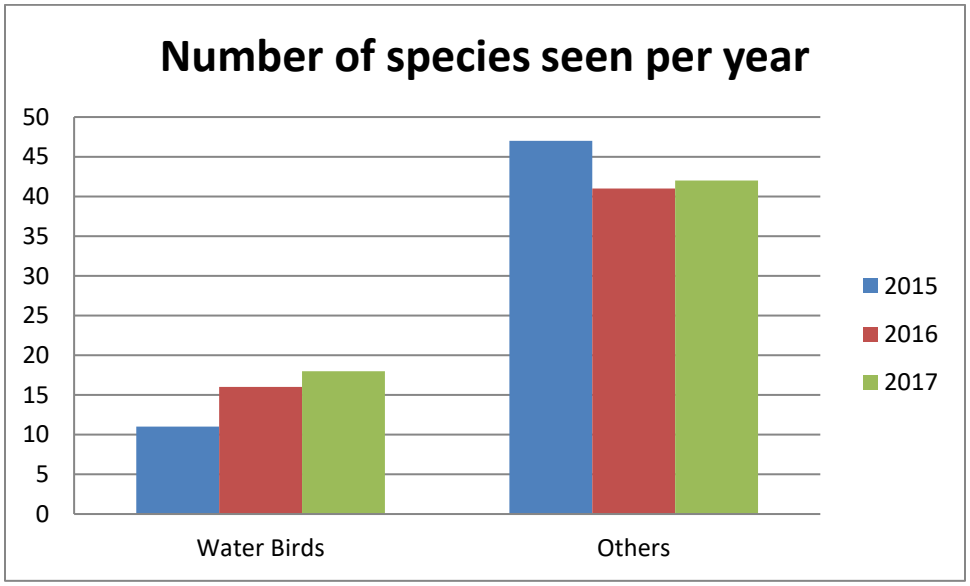

Figure 1. Number of species per year of survey.

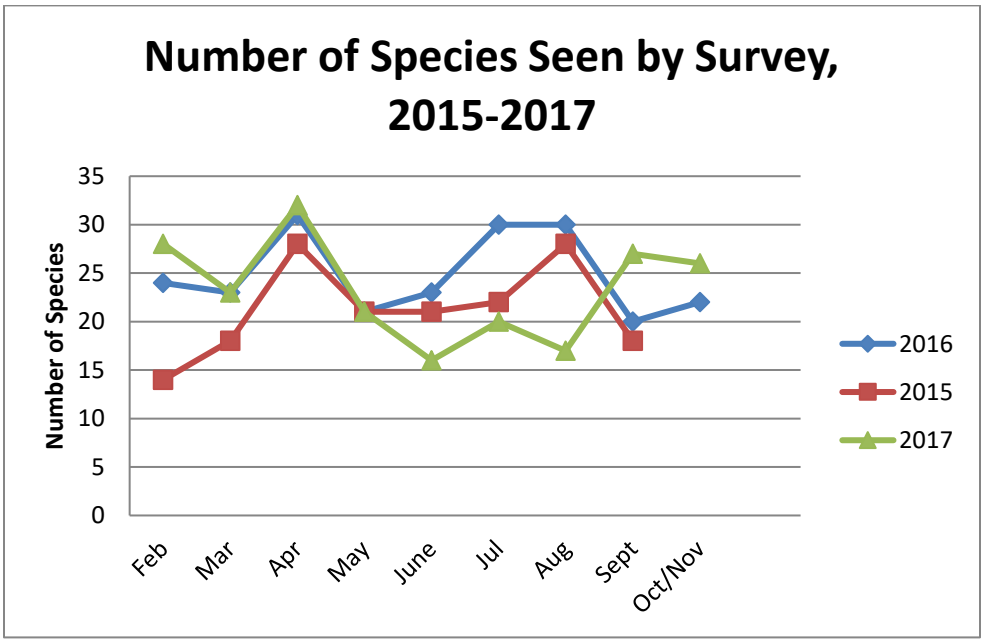

Figure 2. Number of species seen on each survey on the Penticton oxbows.

Total numbers birds seen

The total number of birds seen in 2017 was slightly lower than the numbers seen in the previous two years (Fig. 3.). Because survey effort has been somewhat different between years, in terms of both number of surveys and observability of birds, it is difficult to determine which group of birds (waterbirds or non-waterbirds) was primarily responsible for this change. However, in reference to Figures 4 and 5, waterbirds seemed to be fewer in number until late summer, while non-waterbird numbers were similar until late summer, when they were lower, with an increase in the fall. More years of data may allow more definitive analyses of these apparent trends. The actual number of birds seen on each survey on each oxbow for all three years of data is attached as Appendix 1.

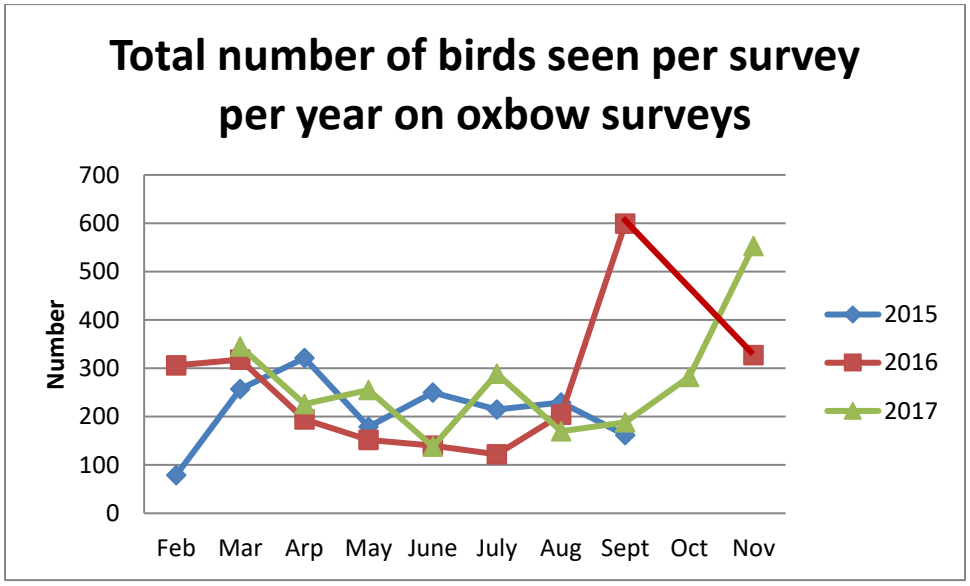

Figure 3. Total number of birds seen per survey for each survey year.

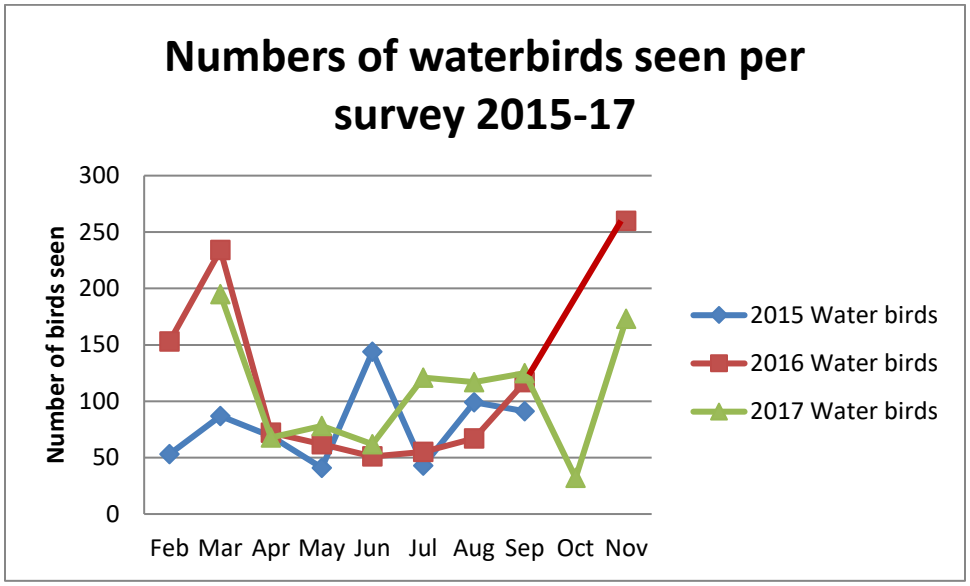

Figure 4 Number of waterbirds seen per survey for each survey year.

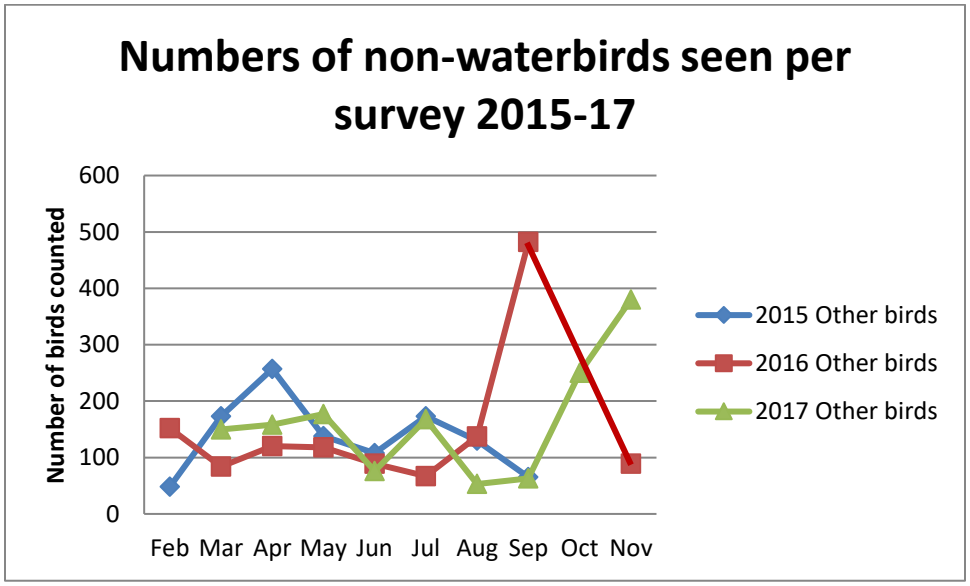

Figure 5 Number of non-waterbirds seen per survey for each survey year.

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 are shown in Figures 6 to 8. Again with the caution that there is some variation in survey effort between years, it appears that there was a general increase in the use of each oxbow, except the Ellis Creek impoundment. Waterbird use was higher everywhere except Ellis Creek (lower), and Kinney Avenue oxbow (similar). The later receives very little use in any event as it is the smallest of the oxbows.

Non-waterbird use was higher in the Warren Avenue, Falcon Court, Brandon Avenue and Yorkton Avenue oxbows. The large increase in the rate of use of the latter was due primarily to the observation of a large flock of starlings on the November survey. If that flock was not present on that survey date, or it was seen somewhere else, the rate of usage would likely have been similar to that seen previously. This once again shows the variation that survey effort can introduce into the results, and without more years of effort, and perhaps increased yearly effort, trends will be difficult to detect in the short term.

These data are summarized in table form in Appendix 2.

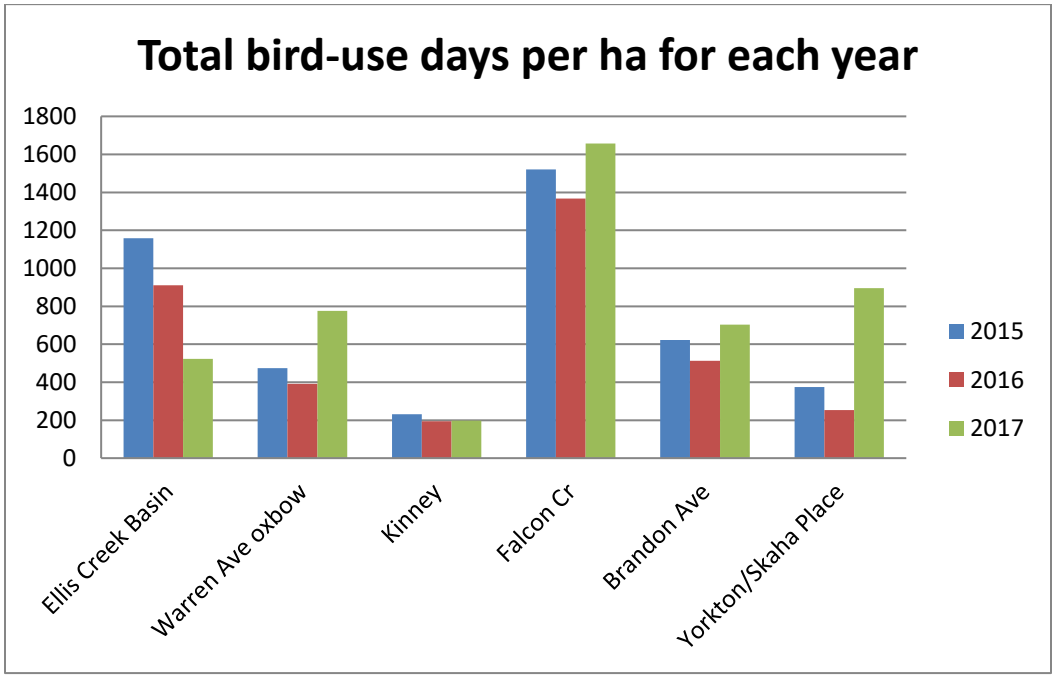

Figure 6. Total bird-use days per hectare for each oxbow for each survey year.

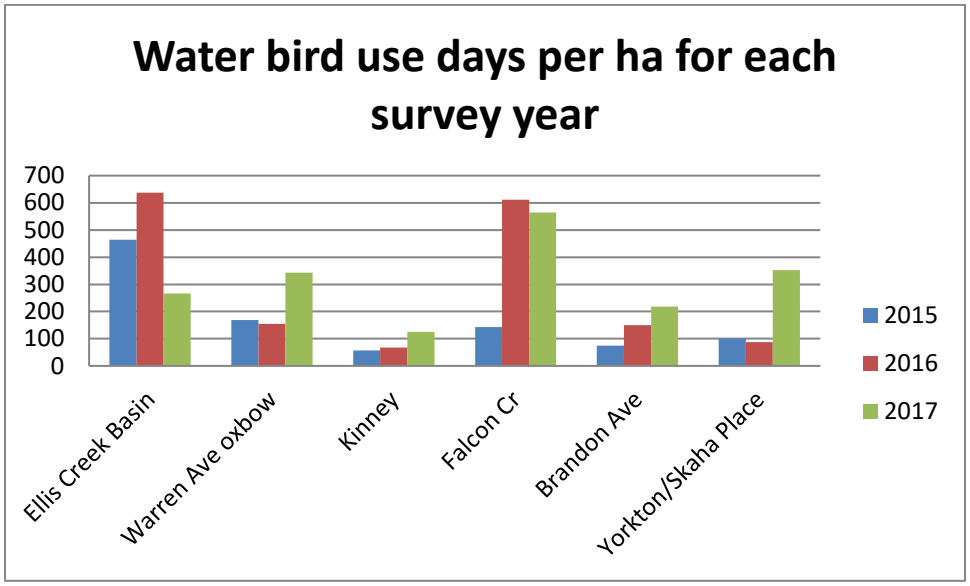

Figure 7. Waterbird-use days per hectare for each oxbow for each survey year.

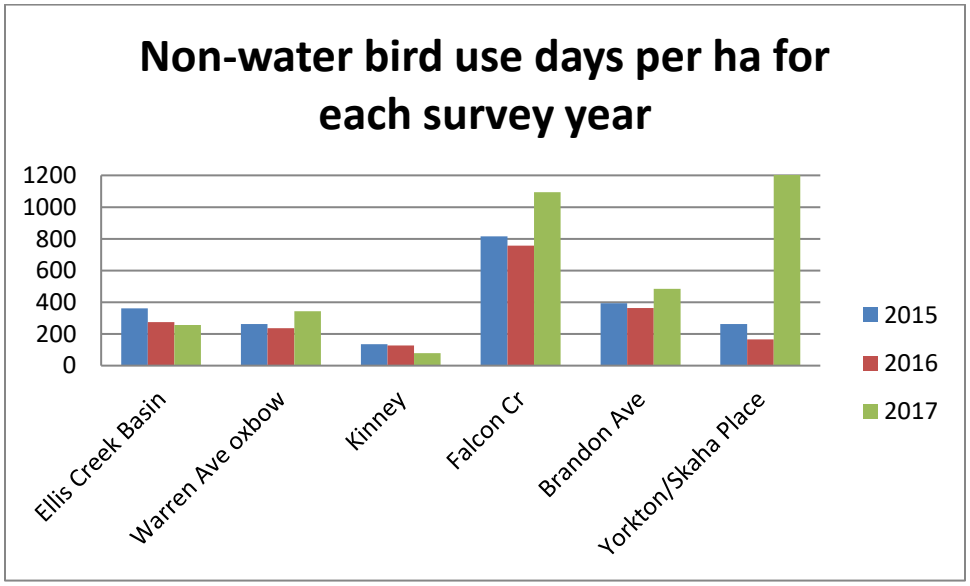

Figure 8. Non-waterbird-use days per hectare for each oxbow for each survey year.

Turtle counts.

The peak number of turtles seen in 2017 was higher than in previous years (Fig 9.). Kinney Avenue oxbow continued to be the most important wetland for turtles, but Warren Avenue oxbow revealed numerous turtles as well (Fig. 10). Numbers were also up on the Brandon Avenue oxbow, most likely as a result of increased visibility following last year's cleanup, rather than an actual population increase. Future surveys should probably attempt to rate the size of the turtles seen, as more small turtles could be the result of population recruitment. Also this year, Red-eared Sliders, an introduced species, were identified regularly. Most were of a large size, so they have likely been present for some time, and not recent arrivals. More emphasis on speciation in future surveys would be a worthy objective.

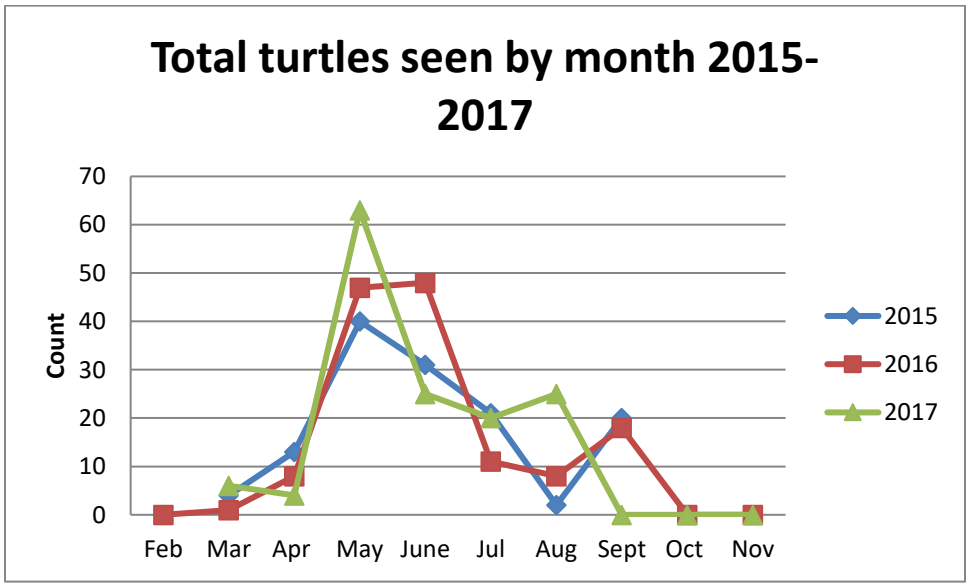

Figure 9. Total number of turtles seen per month, 2015-2017.

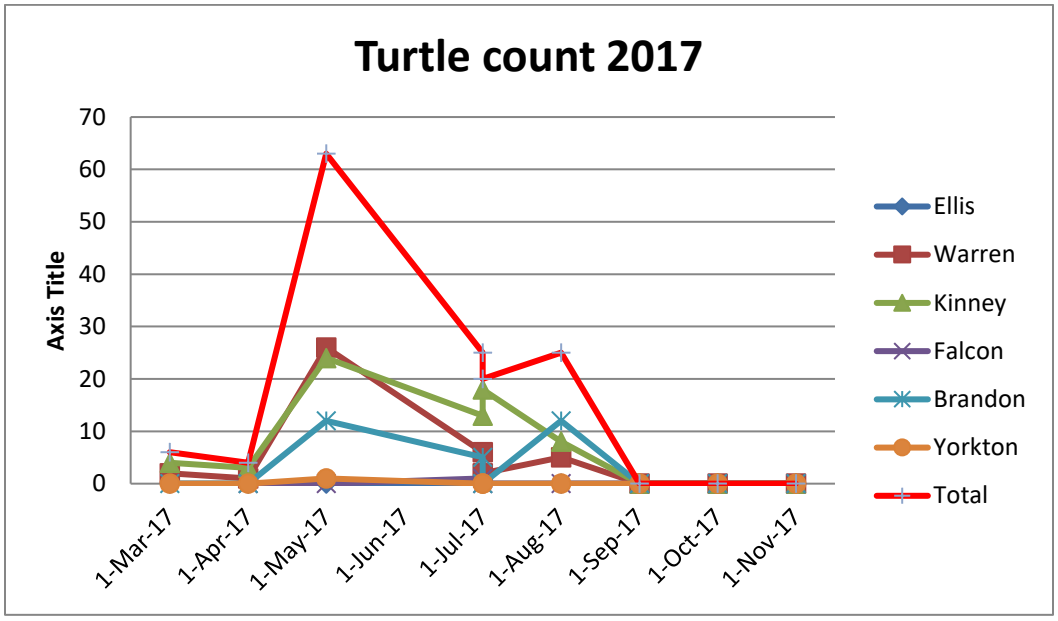

Figure 10. Number numbers seen in each oxbow for each survey 2017.

Appendix 1. Number of waterbirds and non-waterbirds seen each survey on the Penticton oxbows 2015-2017.

	2015 Water birds	2016 Water birds	2017 Water birds	2015 Other birds	2016 Other birds	2017 Other birds
Feb	53	153		48	152	
Mar	87	234	195	173	84	150
Apr	69	72	68	257	120	158
May	41	62	78	138	118	177
Jun	144	51	62	108	89	76
Jul	43	55	121	173	67	168
Aug	99	67	117	130	137	53
Sep	91	117	125	65	482	63
Oct			32			250
Nov		260	173		89	380

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

Oxbow	Total Bird use days/ha 2015	Total Bird use days/ha 2016	**Total Bird use days/ha 2017**	Waterbird use days/ha 2015	Waterbird use days/ha 2016	**Waterbird use days/ha 2017**	Non-waterbird use days/ha 2015	Non-waterbird use days/ha 2016	**Non-waterbird use days/ha 2017**
Ellis	1107	911	**523**	464	637	**266**	643	274	**257**
Warren	637	391	**775**	173	155	**343**	464	236	**432**
Kinney	170	195	**204**	57	68	**125**	113	127	**79**
Falcon	629	1367	**1657**	143	611	**564**	486	756	**1093**
Brandon	412	513	**703**	75	150	**218**	337	363	**485**
Yorkton	201	254	**896**	101	88	**353**	100	166	**543**
Total	3156	3631	**4758**	1013	1709	**1869**	2143	1922	**2889**