

MIGRATORY SMALL OWL BANDING IN THE WESTERN DAKOTAS

2018 Report for Collections of Protected Birds for Scientific Purposes
 Permit # GNF04814512

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In 2012, Bird Conservancy of the Rockies established owl banding stations during the fall migration period along the Little Missouri River corridor, focusing on the Northern Saw-whet Owl *Aegolius acadicus* (NSWO). In 2018 owls were banded at Peaceful Valley Ranch (PVR) in the south unit of Theodore Roosevelt National Park (N46.77773, W103.51591), Billings County. Owls also were banded at two South Dakota sites in Custer and Black Hills National Forests. A banding station consisted of an audiolure which broadcast the NSWO territorial call surrounded by mist nets.

Between October 1 and October 27, banders caught 34 NSWO (Table 1) and one Eastern Screech-owl *Megascops asio* in 21 nights of banding. Although 2018 was predicted to be a low owl year because of the four-year cycle (Fig. 1), this capture rate is the lowest on record at the PVR site. Of the NSWO, 65% were female, 15% male, and 20% unknown sex. One-third (35%) of the NSWO were juvenal (hatch-year) birds.

Table 1. Summary of effort and Northern Saw-whet Owl captures at the Peaceful Valley banding station during fall 2018. One net-hour is equal to one six-meter net open for one hour.

2018 dates	Num nights	Total Num hours	Num net-hrs	Total Num owls	Num owls/hour	Num owls/net-hour
10/1 - 10/27	21	84.3	419.3	34	0.40	0.08

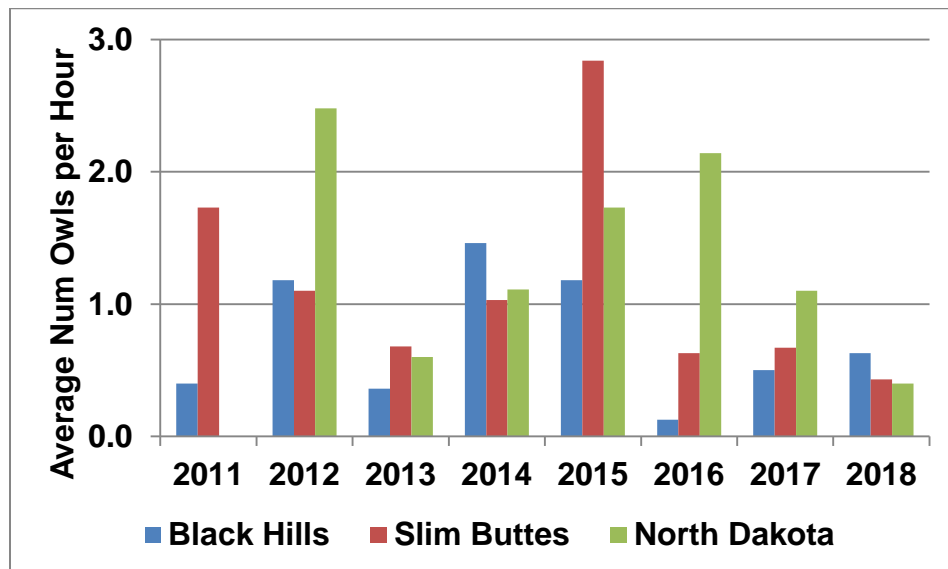


Figure 1. Average number of Northern Saw-whet Owls captured per hour by year and location.

Two NSWOW caught at Peaceful Valley Ranch in 2018 were already banded (Table 2). One had been banded in Fall 2017 at Peaceful Valley Ranch. The second bird was banded in 2015 at Beaverhill Bird Observatory in eastern Alberta.

In 2018, 45 visitors observed banding at Peaceful Valley Ranch.

Table 2. Dates and time elapsed between captures for Northern Saw-whet Owl recaptures at Peaceful Valley Ranch, Theodore Roosevelt National Park, ND in 2017.

Original Banding Location	Original Banding Date	Recapture Date	Time Elapsed (days)
Peaceful Valley Ranch, ND	10/1/2017	10/1/2018	365
Beaverhill Bird Observatory, Alberta	9/27/2015	10/21/2018	1120

The Peaceful Valley site on the Little Missouri River continues to be a major and active corridor for migrating owls. From 2012 to 2018, 737 NSWOW have been banded during fall migration and 18(2.4%) have been recovered in subsequent years either at Peaceful Valley Ranch (14 birds) or by other banders (4 birds). Recoveries show that owls moving through this area appear to be almost entirely from the north in most years (2014-2018), while in other years, are from a very large area and appear not to follow a particular pathway (2013). Unfortunately, there are no banding stations to the west or south of the Dakotas and we don't know where most (98%) of our owls come from. Nevertheless, continued owl banding in North Dakota will not only help us understand owl migration patterns in the Great Plains, but will continue to fill a gap in the continent-wide NSWOW monitoring project.

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Capture Table abbreviations:

Species: NSWO = Northern Saw-whet Owl
EASO = Eastern Screech-owl

Capture: 1 = new band
2 = repeat – caught previously this fall
3 = foreign recapture – banded at a different site
4 = return – banded at the same site in a previous year

Fat: 0 = none
1 = trace
2 = thicker line

Age: 0 = unknown age
1 = after-hatch year (adult)
2 = hatch-year (juvenile)
5 = second-year
6 = after second-year

Species	Date	Capture	Band Number	Wing (mm)	Weight (g)	Tail (mm)	Fat	Age	Sex
NSWO	10/1/2018	1	1253-67434	131	84.1	65	1	2	U
NSWO	10/1/2018	4	1104-28102	141	90.1	66	1	5	F
NSWO	10/3/2018	1	1104-28201	130	80.1	62	1	6	M
NSWO	10/3/2018	1	1104-28202	140	99.7	70	1	5	F
NSWO	10/5/2018	1	1104-28203	140	91.2	70	1	5	F
NSWO	10/5/2018	1	1104-28204	140	95.9	70	2	5	F
NSWO	10/6/2018	1	1104-28205	126	80.8	65	1	5	M
NSWO	10/8/2018	2	1104-28203	141	88.5	70	1	5	F
NSWO	10/10/2018	1	1104-28206	131	83.7	61	2	2	U
NSWO	10/12/2018	1	1104-28207	144	94.9	63	2	6	F
NSWO	10/15/2018	1	1104-28208	140	97.9	71	2	2	F
NSWO	10/15/2018	1	1253-67435	135	83.4	69	1	6	U
NSWO	10/16/2018	1	1104-28209	129	82.9	62	1	2	U
NSWO	10/16/2018	1	1104-28210	143	96.4	71	2	5	F
NSWO	10/16/2018	1	1104-28211	141	91.5	72	2	1	F
NSWO	10/16/2018	1	1253-67436	129	77.4	65	1	1	M
NSWO	10/17/2018	1	1104-28212	143	88	72	2	2	F
NSWO	10/17/2018	1	1104-28213	142	80.4	70	2	6	U
NSWO	10/18/2018	1	1104-28214	144	104.6	72	2	6	F
NSWO	10/18/2018	1	1104-28215	144	89.3	71	2	6	F
NSWO	10/18/2018	1	1104-28216	140	88.1	75	1	1	F
NSWO	10/18/2018	1	1104-28217	131	74.5	72	1	2	M
NSWO	10/18/2018	1	1104-28218	132	82.1	62	2	2	U
EASO	10/18/2018	1	1705-32131	159	165.5	80	2	0	U
NSWO	10/19/2018	1	1104-28219	140	92.7	65	1	2	F

Species	Date	Capture	Band Number	Wing (mm)	Weight (g)	Tail (mm)	Fat	Age	Sex
NSWO	10/19/2018	1	1104-28220	140	104.4	72	2	6	F
NSWO	10/19/2018	1	1104-28221	142	91	72	1	2	F
NSWO	10/19/2018	1	1104-28222	138	96.7	70	1	2	F
NSWO	10/21/2018	1	1104-28223	140	105.7	69	2	6	F
NSWO	10/21/2018	1	1104-28224	145	93	72	1	6	F
NSWO	10/21/2018	1	1104-28225	133	82.7	65	2	2	U
NSWO	10/21/2018	3	1014-91890	140	91.3	71	1	6	F
EASO	10/21/2018	2	1705-32131		160.8				
NSWO	10/23/2018	1	1104-28226	132	91.2	62	2	2	F
NSWO	10/24/2018	1	1104-28227	132	75.9	70	1	1	M
NSWO	10/24/2018	1	1104-28228	143	98.7	68	2	6	F
NSWO	10/27/2018	1	1104-28229	141	98.9	71	1	6	F

Date: December 28, 2018

Signed: Nancy Drilling