

# Trumpeter Swan (*Cygnus buccinator*) Restoration in the Blackfoot Watershed of Montana

## 2018 Progress Report

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January 2019

### Introduction

In 2004, the U.S. Fish and Wildlife Service, Montana Fish, Wildlife & Parks and the University of Montana completed a Trumpeter Swan Habitat Suitability Study for the Blackfoot Watershed. The study assessed over 400 wetlands and determined that nine wetland sites were suitable for release of trumpeter swans and 29 were deemed to be suitable as nesting territories.

In 2005, the U.S. Fish and Wildlife Service and Montana Fish, Wildlife and Parks, working with a committee of interested organizations and individuals, drafted an implementation and evaluation plan to guide restoration efforts for trumpeter swans in the Blackfoot Valley of Montana. Specifically, the goal of the restoration as stated in the plan is:

*“...to release trumpeter swans in the Blackfoot until such time as seven breeding pairs are established or until this evaluation suggests that the project should be terminated. (Established pairs are considered to be those that have fledged young at least twice from nests in the Blackfoot). Based on a 2004 habitat assessment in the Blackfoot, the maximum number of swans resulting from this reintroduction could approach 20 to 30 pairs, through pioneering and natural expansion of the flock. It is the intention of this restoration effort that this breeding flock be migratory, leaving the Blackfoot Valley in winter. This program has been approved by the Pacific Flyway Council and will be implemented in accordance with the Pacific Flyway Plan for the Rocky Mountain Population of Trumpeter Swans and the associated Trumpeter Swan Implementation Plan.”*

The U.S. Fish and Wildlife Service partners with the collaborative conservation nonprofit Blackfoot Challenge to implement the restoration plan.

### 2018 Update

From 2005-2018, 206 Trumpeter Swans have been released in the watershed. All birds are marked with USGS aluminum leg bands and a red plastic leg band with white number/letter/number sequence (i.e. 3P1). All one-year-plus birds are also fitted with red and white neck collars bearing codes that match the red plastic leg bands. Between 5 and 43 birds were released each year (Table 1), except for 2017 when a scheduled release had to be cancelled due to wildfire activity and smoke. Since 2005 there have been over 3700 sightings of TRUS reported by project personnel and almost 100 additional observers, and at least 35 marked individuals have returned to the watershed in one or more years after their release. Six marked swans were conclusively identified in the watershed in 2018; however, there were very likely several more birds that were not identified due to having only metal leg bands remaining.

Table 1. Numbers of Trumpeter Swans released in the Blackfoot Watershed of western Montana from 2005-2016.

<b>Year</b>	<b># Released</b>
2005	10
2006	17
2007	13
2008	43
2009	29
2010	30
2011	11
2012	15
2013	10
2014	5
2015	10
2016	8
2017	0
2018	5
All Years	206

There have been 43 confirmed mortalities, most of which occurred in the watershed in the first six years (Table 2). A variety of factors has contributed to mortalities, although causes of several are unknown (Table 3).

Table 2. Known mortalities of Trumpeter Swans released in the Blackfoot Watershed by year from 2005-2017.

<b>Year</b>	<b># Known Mortalities</b>
2005	3
2006	4
2007	6
2008	7
2009	13
2010	8
2011	1
2012	0
2013	0
2014	1
2015	0
2016	0
2017	0
All Years	43

Table 3. Known causes of mortalities of Trumpeter Swans released in the Blackfoot from 2005-2018.

<b>Causes of Mortalities</b>	<b>Number</b>
Parasites/emaciation	10
Powerline strikes	7
Legal Hunt	3
Illegal shooting	3
Predation	5
Unknown	15

In 2018, there were at least 64 individuals in the watershed during most of the summer (Table 4). Observations from the ground throughout the season were confirmed by a flight on 8/1/2018 by Kestrel Aerial Services (Figure 1).

Table 4. Swan numbers at known locations in the Blackfoot watershed in summer 2018.

<b>Location</b>	<b>Pairs</b>	<b>Hatched</b>	<b>Released</b>	<b>Other white birds</b>
Bandy Reservoir	1			4
Doney Lake				3
Doney Reservoir	1			
Seeley Lake north	1			
James				5
Mud			5	
Blackfoot WPA - 2	1	3		
Cotton Wood Creek	1	1		
Neudecker Lake	1	2		
Placid Lake	1	0		
Smith Lake	1	4		
Tommy Geary Pond	1			1
West Marsh/Widgeon	1	2		
NSC/Kleinschmidt Lk	1			7
Seeley Lake	1			
Rainy Lake	1			
Upsata Lake/Bandy				1
<b>Total swans</b>	<b>26</b>	<b>12</b>	<b>5</b>	<b>21</b>

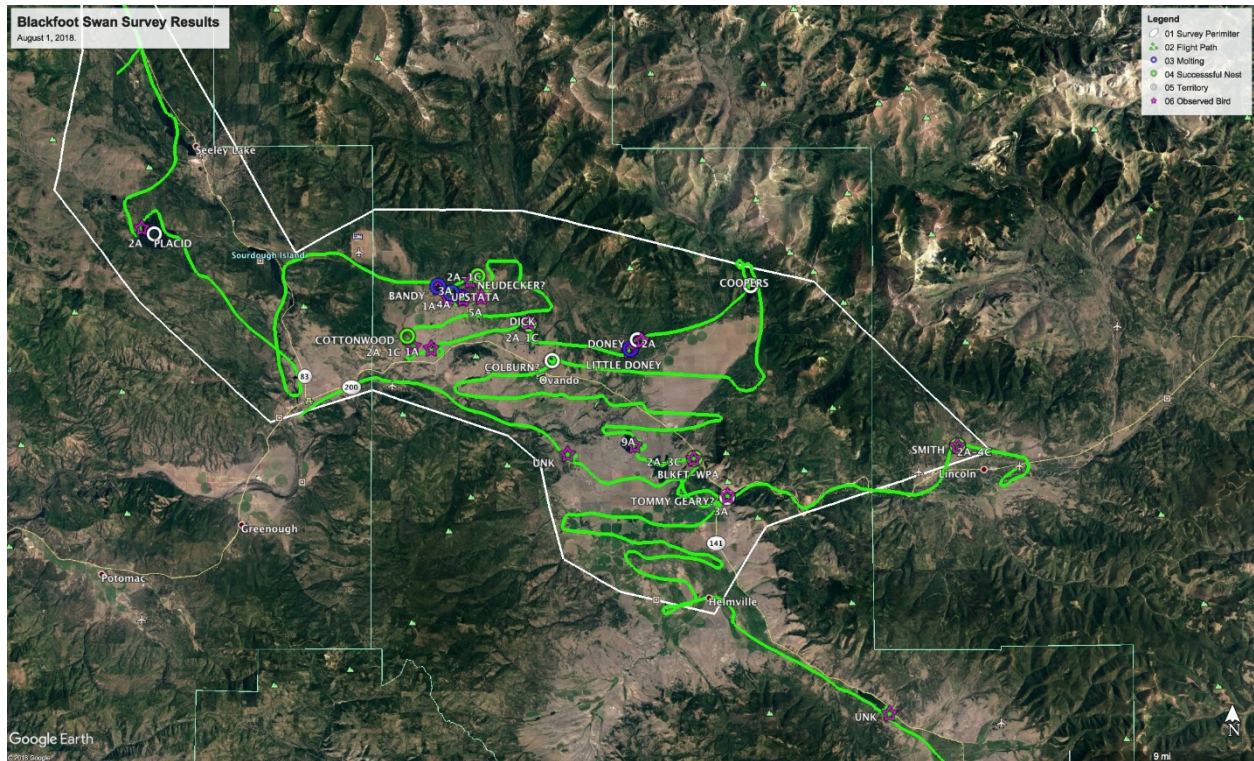


Figure 1 Aerial survey path and swan sightings on 8/1/2018.

## Nesting Activity

In 2010, the first territory was established in the Cottonwood Creek wetland and the first successful nesting occurred in 2011, when the Cottonwood Creek and Alkali Lake nests fledged a total of 6 cygnets. The numbers of pairs and territories have generally increased since 2010 (Table 5). In 2018, there were 11 territories and 6 confirmed active nests in the Blackfoot (Figure 1). The geographical range of territories continues to expand, with pairs establishing territories farther north in the Clearwater drainage. Nesting swans have included birds released every year from 2007- 2014 (Table 6).

Table 5. Numbers of Trumpeter Swan territories, nests, and cygnets in the Blackfoot Watershed 2010-2018.

Year	# pairs	# territories	# nests	# hatched	# fledged
2010	1	1			
2011	3	3	2	7	6
2012	4	4	3	9	7
2013	5	5	4	3	3
2014	5	5	4	10	5
2015	8	8	6	3	3
2016	13	11	8	24	17
2017	16	13	5	20	19
2018	13	11	6	12	11
<b>All Years</b>	<b>38</b>	<b>35</b>	<b>27</b>	<b>76</b>	<b>60</b>



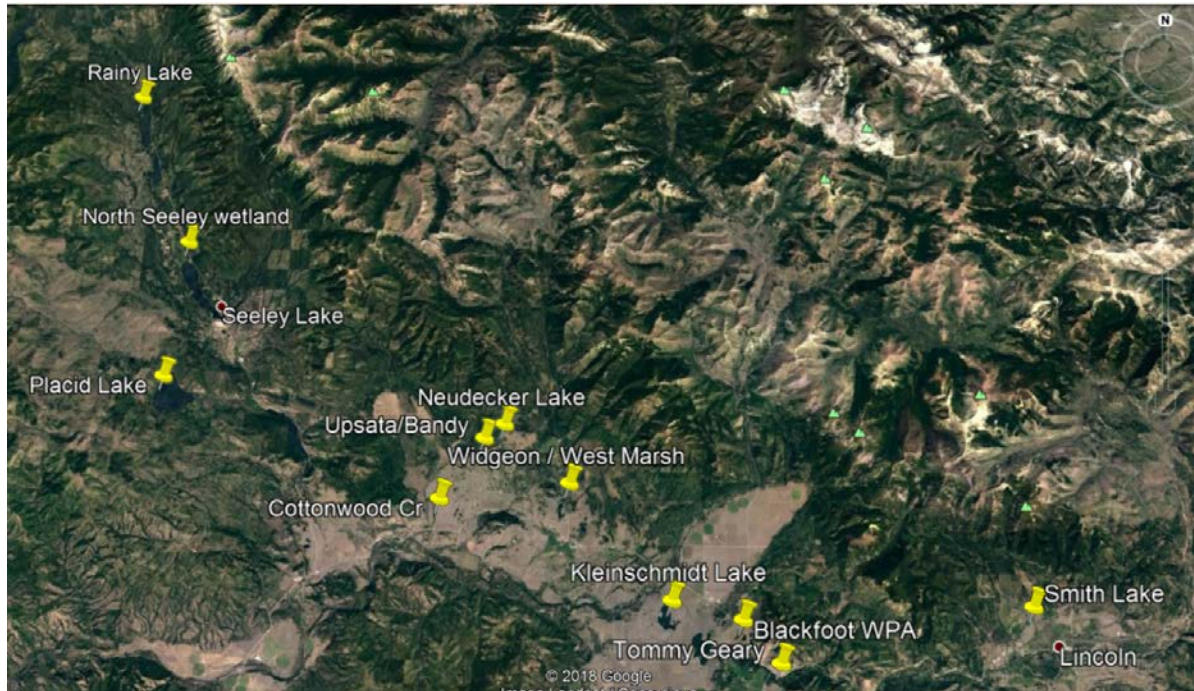


Figure 2 Blackfoot Watershed Trumpeter Swan territories in 2018.

Table 6. Identities and release years of nesting/territorial swans (where known).					
Territory	male	year released	female	year released	Notes
Alkali Lake	5P8	2008	9P8	2009	* Genders not confirmed. Identities not confirmed for several years.
Bear Creek	0V9	2013	unmarked		
Blackfoot WPA - 2	2A5	2012	unmarked		
Colburn Lake/ West Marsh	6A6	2011	2A8	2014	*2A8 replaced unmarked female in 2016; 2A8 was identified as male at release; pair nested successfully on West Marsh in 2018.
Cotton Wood Creek	6P8	2008	3P6	2007	* Genders not confirmed. Identities not confirmed for several years.
Neudecker Lake	6P3	2008	unmarked		
Placid Lake	unmarked		unmarked		
Smith Lake	unmarked		unmarked		
Tommy Geary Pond	7A6	2012	unmarked		
Upsata Lake/Bandy	0A5	2010	0A6	2010	* Genders not confirmed. Identities not confirmed since 2015.
Widgeon Pond	0V6	2013			
NSC/Kleinschmidt Lk	unk		Unk		
Seeley Lake	unk		unk		

There has been a general positive trend for all reproductive measures in the Blackfoot since 2010 (Table 5; Fig 3). Some of these measures, particularly cygnet production, showed declines in 2018. The six active nests hatched 12 cygnets and fledged 11. This drop in cygnet production was very likely due to a cool wet spring and extensive, prolonged flooding. At least one nest (Tommy Geary) was inundated for several weeks in May and June. Other nests may have suffered from egg or young chick mortalities due to weather, resulting in three nests producing only one or two cygnets. The Blackfoot has produced a total of 60 cygnets since 2010.

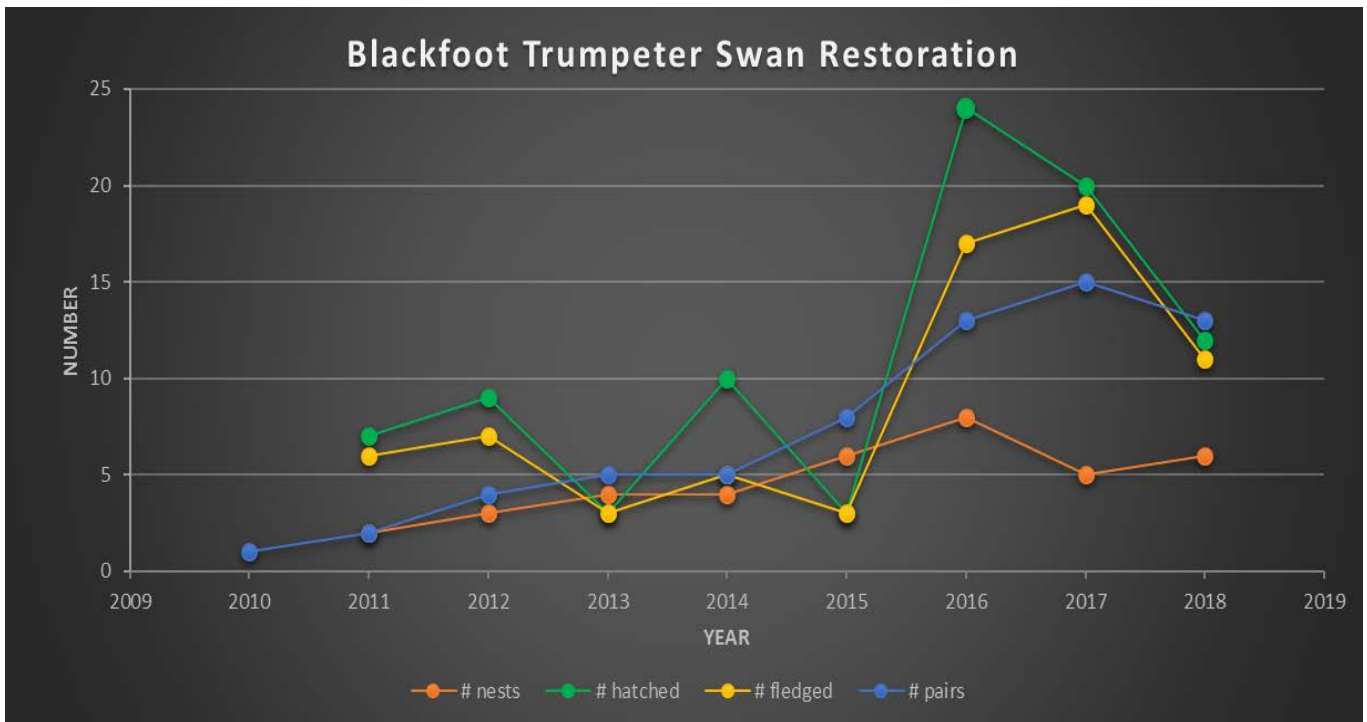


Figure 3 Nesting trends in the Blackfoot from 2010 to 2018.

### Wintering Locations

Most winter sightings of swans released in the Blackfoot have been in southwestern Montana and southeastern Idaho (Figure 4). Most marked wintering swans (19 individuals) have been sighted in the Ruby River valley near the town of Sheridan, just a little over 100 k from the Blackfoot. The longest movement confirmed was that of Swan 6A5, which was observed in the early spring of 2012 on the Colorado River near the town of Blythe in southern California.

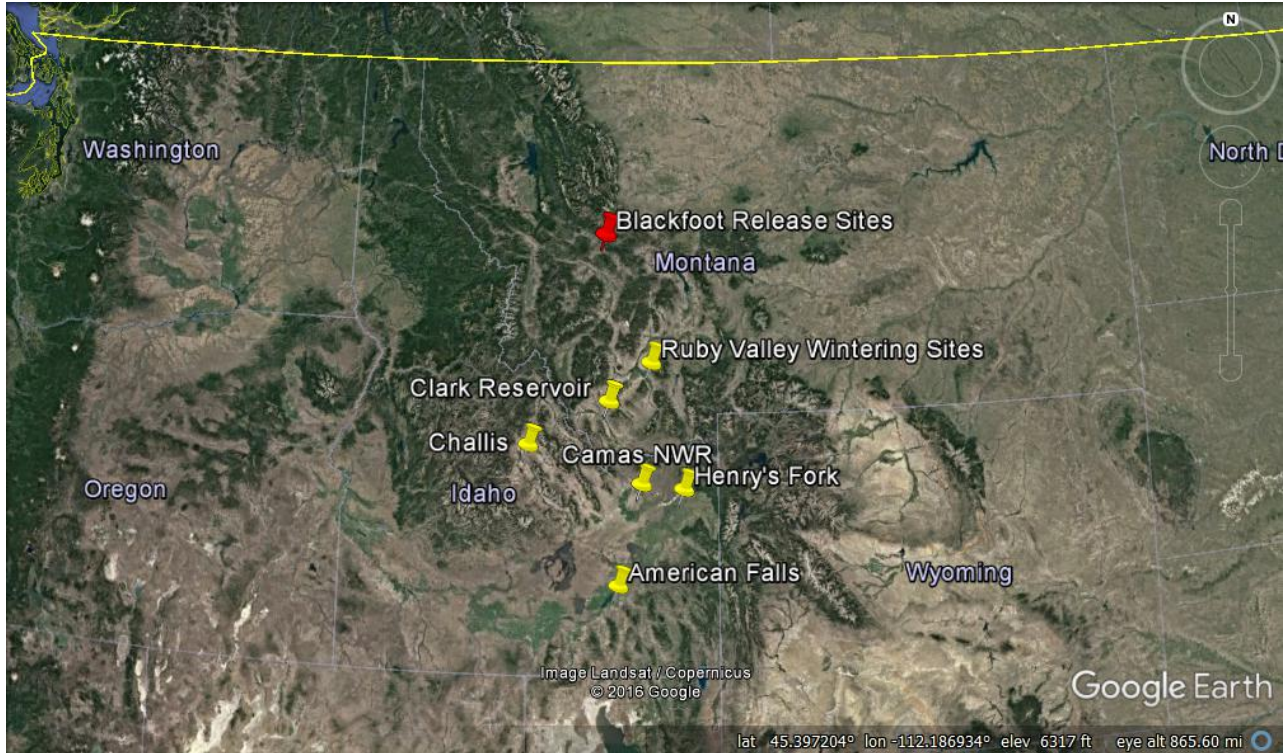


Figure 4 Primary winter locations of Trumpeter Swans released in the Blackfoot Watershed 2005-2018.

### Other Migration Movements

Swan 7A8 (female) was released in 2012 in the Blackfoot, was sighted in Idaho in the winters of 2012-2013 and 2013-2014, and was sighted in the St. Mary Lake area near Kimberley, B.C. in the summer of 2014. 7A8 spent the summers of 2015 and 2016 with a mate in the St. Mary Lake wetland. In 2017, 7A8 returned to the wetland alone and spent the summer without a mate. In 2018, 7A8 returned with a mate and nested on the wetland. They hatched 4 cygnets, but all cygnets had disappeared after 2 weeks.