

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

2019 Progress Report

Elaine Caton (Blackfoot Challenge) and Greg Neudecker (U.S. Fish and Wildlife Service)
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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.

2019 Update

From 2005-2019, 211 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 3800 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 2019; however, there were very likely several more birds that were not identified due to having only metal leg bands remaining.

Of the five cygnets released in 2019, all were successfully flying around the watershed by mid-October and had been joined by a white bird at the release site. After migration out of the watershed, the only information we received on their location and fate was the recovery of 9V8 dead under a powerline in the Madison valley.

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

Year	# Released
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
2019	5
All Years	211

There have been 45 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). Two mortalities occurred in 2019. 3P6, released as a yearling in 2007, nested on the Cottonwood Creek territory from 2011 to 2018, and was found dead just a few kilometers from the territory on 5/21/19, cause of death unknown. 9V8 was released as a cygnet on 9/5/19 and found dead from a powerline collision in the Madison valley on 11/7/19.

Table 2. Known mortalities of Trumpeter Swans released in the Blackfoot Watershed by year from 2005-2019.

Year	# Known Mortalities
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
2018	0
2019	2
All Years	45

Table 3. Known causes of mortalities of Trumpeter Swans released in the Blackfoot from 2005-2019.

Causes of Mortalities	Number
Parasites/emaciation	10
Powerline strikes	8
Legal Hunt	3
Illegal shooting	3
Predation	5
Unknown	16

In 2019, there were at least 76 individuals in the watershed during most of the summer (Table 4).

Table 4. Swan numbers at known locations in the Blackfoot watershed in summer 2019.

Location	Pairs	Hatched	Released	Other white birds	
Doney Lake	1				
Doney Reservoir	1			1	
Inez	1				
Jones			5	1	
Blackfoot WPA - 2	1	4			
Cotton Wood Creek	1	0			
Neudecker Lake	1	5			
Placid Lake	1	6			
Smith Lake	1	4			
Tommy Geary Pond	1	4		1	
West Marsh/Widgeon	1	2			
Lahrity	3	1			
Rainy Lake	1	2			
Upsata Lake/Bandy				1	
Total swans	30	28	5	4	67

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 nests have generally increased since 2010 (Table 5, Figure 1), and in 2019 there were at least 11 territories and 9 confirmed active nests in the Blackfoot. A total of 88 cygnets have fledged in the watershed during this project. The geographical range of territories continues to expand, with pairs establishing territories farther north in the Clearwater drainage, and in 2019 a pair successfully nested just north of the Clearwater in the Swan Valley; at least one of the pair was very likely from the Blackfoot population. Nesting swans have included birds released every year from 2007- 2014 (Table 6).

Table 5. Numbers of known Trumpeter Swan territories, nests, and cygnets in the Blackfoot Watershed 2010-2019.

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
2019	14	11	9	28	17
All Years	52	46	36	104	88

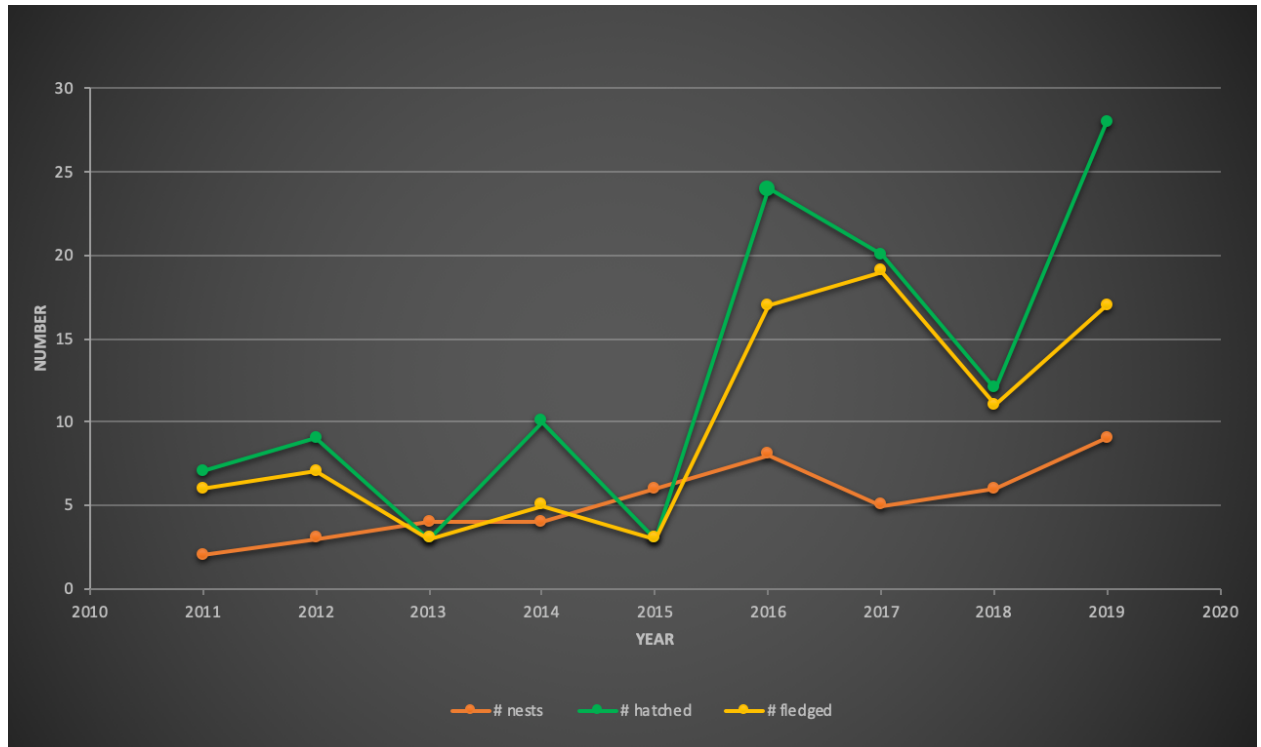


Figure 1. Nesting trends in the Blackfoot 2010-2019

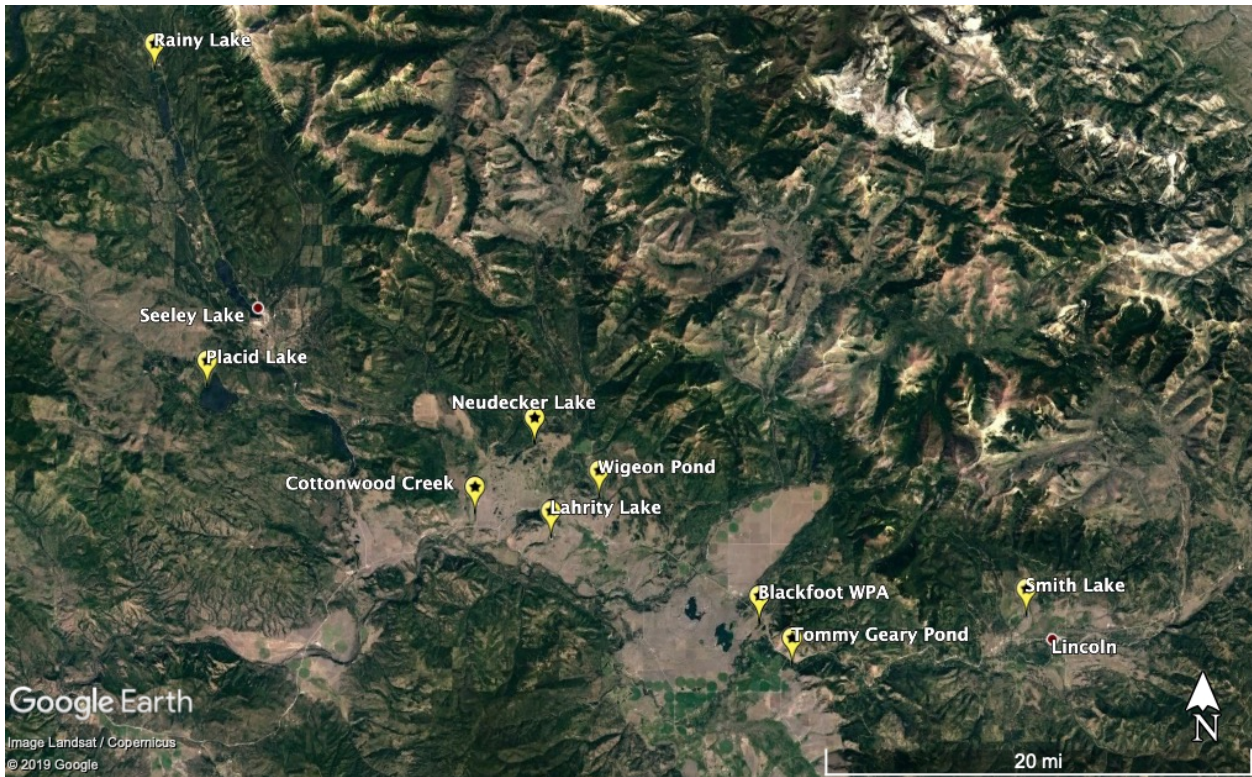


Figure 2 Blackfoot Watershed Trumpeter Swan active nests in 2019.

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			

Wintering Locations

Most winter sightings of swans released in the Blackfoot have been in southwestern Montana and southeastern Idaho (Figure 3). 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.

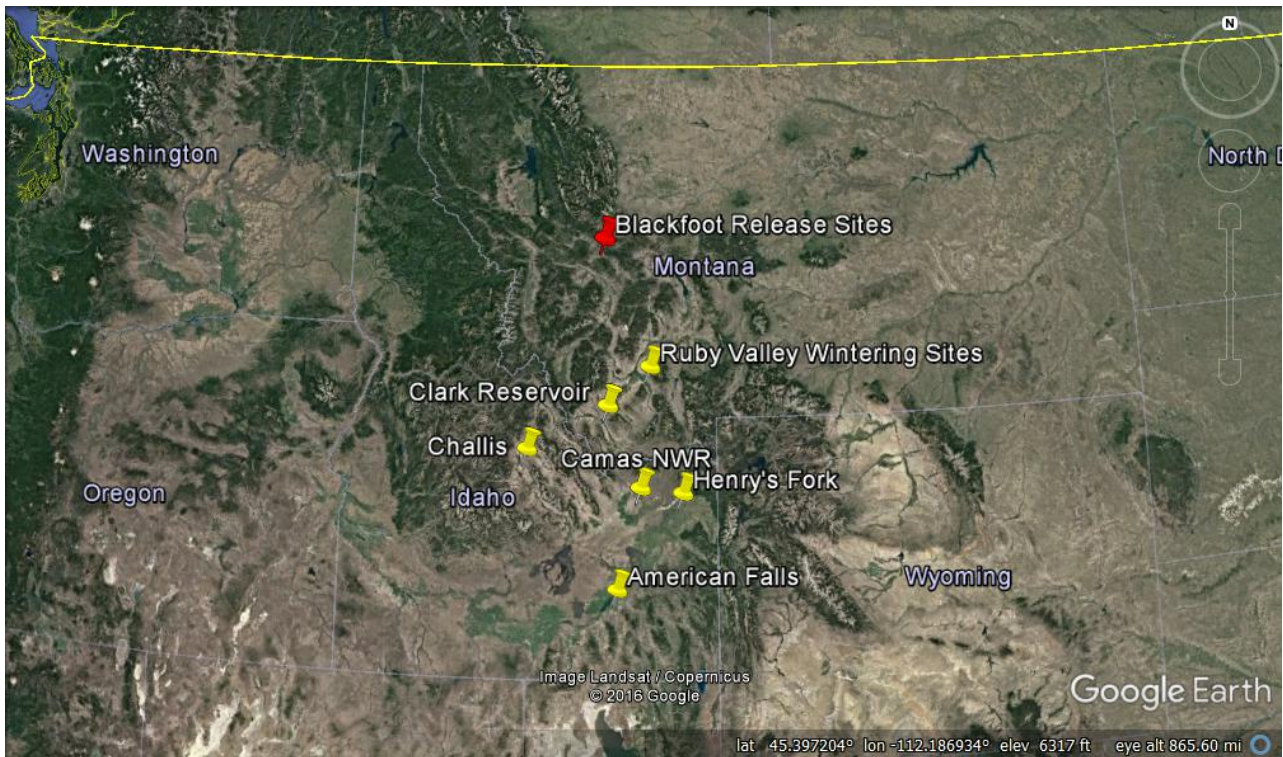


Figure 3 Primary winter locations of Trumpeter Swans released in the Blackfoot Watershed 2005-2019.

Movements tracked by GPS

In July 2019 two non-nesting adult Blackfoot swans at different molting sites were captured and fitted with GPS collars. Data from these birds have shown their fall migration routes and wintering locations of both in the Ruby valley to be similar (Figures 4 and 5).

Both birds have spent most of the winter around the town of Alder in the Ruby Valley. The majority of their locations have been pinpointed to the ponds around the placer mining deposits along Alder Creek, just north of town (Figure 6), where other Trumpeter Swans, including Blackfoot birds, have been located in the past. This highly altered landscape still appears to provide important wintering habitat.



Figure 4. Migration route of GPS Swan #1, which is very similar to that of Swan #2.

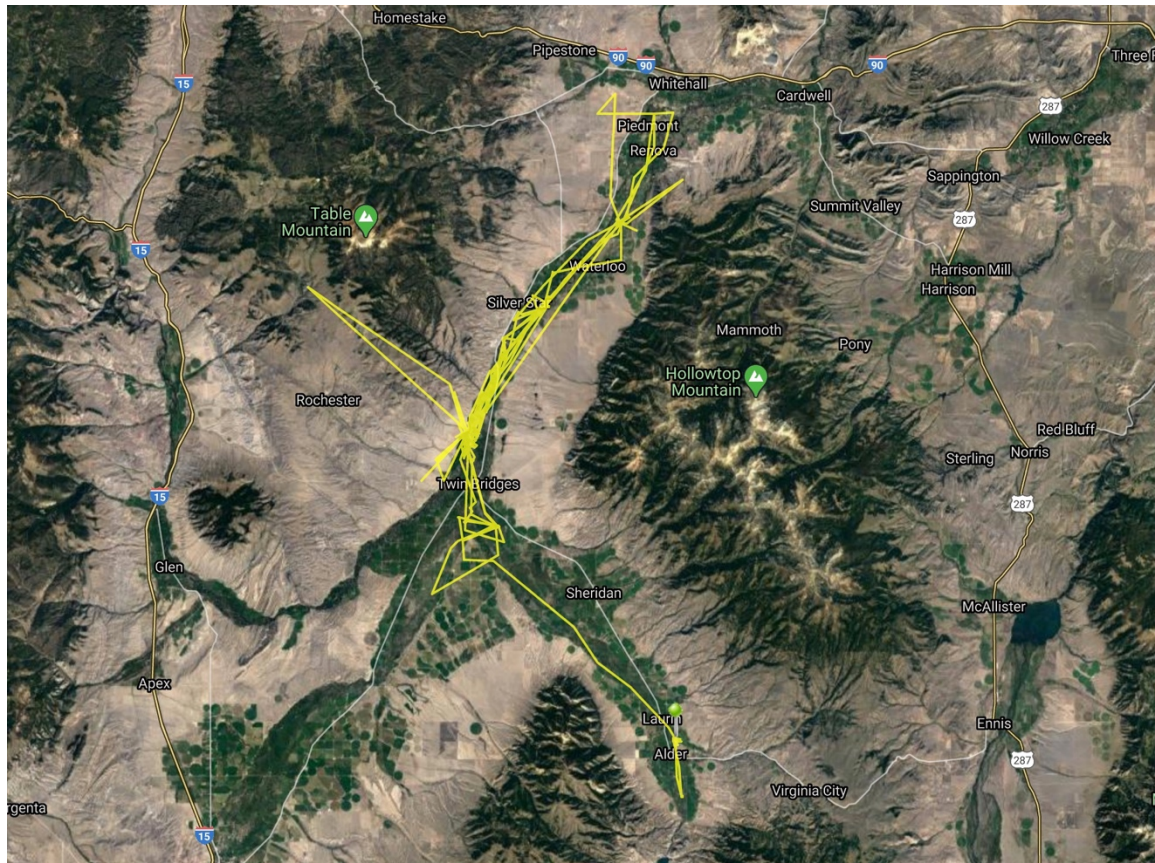


Figure 5. Early winter movements of GPS Swan #2.



Figure 6. Frequent winter location of GPS Swans #1 and #2, along with other Trumpeter Swans.