

Annual Reports 2009

Greater Yellowstone Trumpeter Swan Working Group

Annual Meeting
October 14-15, 2009
Holiday Inn
West Yellowstone, MT

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit: **Idaho (entire state)**

Date prepared: **October 5, 2009**

Name/position: **Ruth Shea (The Trumpeter Swan Society) and Carl D. Mitchell (USFWS)**

I. 2009 Nesting Season Results

Highlights: Idaho had 26 occupied territories with 19 active nests and 21 cygnets fledged (Table 1). Nesting effort in 2009 was close to average compared to the entire period 1980-2008, but was significantly less than the levels attained in the late 1990s when Idaho had 35+ occupied territories with 25+ active nests.

For the second consecutive year, the Ashton-Idaho Falls Core unit experienced complete nesting failure, with only 2 active nests, although 7 territories were occupied. In recent years, this unit has held up to 6 active nests and fledged up to 16 cygnets. Usual numbers of territories were occupied but most pairs failed to initiate nesting. No active nests were detected at either Camas NWR or Sand Creek WMA, two areas that are important to the future of the Idaho flock. No specific causes are evident and increased monitoring of these sites in 2010 is needed to identify problem factors. A nest at Hossner Pond near Ashton was destroyed when the female was shot during incubation.

The unexpected bright spot was the Grays Lake NWR vicinity, where 5 of 8 nests were successful and 8 of 14 cygnets known to have hatched survived to fledging. This production occurred despite over 13 inches of rain and cold temperatures during incubation and salvage removal of 8 eggs from 3 nests by USFWS. It continues to be apparent that Grays Lake NWR could be a major factor in restoration of Idaho's Flock if the chronic damage caused by BIA water withdrawals for irrigation could be mitigated.

Prior to 1988, virtually all of Idaho's resident swans occurred in the Core Area north of Idaho Falls. Since 1988, swans have become established in the Expansion Area south of Idaho Falls through translocations. Although occupied territories in the Core Area (14) slightly exceeded those in the Expansion Area (12), both active nests and cygnets fledged were higher in the Expansion Area (11 nests, 14 cygnets fledged) than in the Core Area (8 nests, 7 cygnets fledged). All cygnets fledged in the Expansion Area came from either GLNWR or BLNWR.

During the September survey, 122 adults were observed; with 38 (31%) assumed to be breeding adults from the 19 active nesting territories and the remaining 84 (69%) considered to be nonbreeders of various ages. Sixty-three percent of the adults occurred in the Core Area north of Idaho Falls and 37% occurred in the Expansion Area south of Idaho Falls.

Since 1994, September counts of adults in Idaho have range from 102-136 with no significant trend. However, managers should note that since 1996, 114 yearlings/adults and 6 fall cygnets were released into the Idaho Flock at BLNWR and Fort Hall. **It is not certain that the Idaho Flock would have been self-sustaining during this period without this augmentation, however no data exist to determine the survival of the released birds and their contribution to current adult numbers.**

Occupied territories and active nests - Idaho had 26 occupied territories, of which 19 (73%) contained active nests. The Core Area contained 14 occupied territories with 8 (57%) active nests, while the Expansion Area contained 12 occupied territories with 11 (92%) active nests.

Although the Island Park and Expansion Area units each contained only 1 occupied territory with a pair that failed to nest, pairs failed to nest at 5 of the 7 occupied territories in the Ashton- Idaho Falls unit. This is the second consecutive year that nest initiation in this unit has been dramatically reduced, and accompanied by total failure to hatch any cygnets. This decline has resulted from complete nesting failures at both Camas NWR and Sand Creek WMA in 2008 and 2009. During 2003-2006 this unit fledged from 10-16 cygnets annually and these lower elevation Core Area sites that are subject to long-term management protection are very important to the future stability of the Idaho flock. Increased monitoring of these sites, with particular focus on water levels at both areas and human activity at Sand Creek is needed in 2010.

During the period 1980-2008, Idaho had an average of 26.8 occupied territories and 18.1 active nests, with a peak of 41 occupied territories and 27 active nests in 1998. Although the current level of nesting effort is near the long-term average, it is substantially lower than the levels that had been reached during 1997-2000, when Idaho regularly had 35+ occupied territories and 25+ active nests.

As shown in Tables 1-3 and the accompanying graphs, the trend of both occupied territories and active nests within the entire state, 1980-2009 is upward. However, it is also evident that the entire increase is coming from new sites established in the Expansion Area since 1988 and that occupied territories and active nests have been declining significantly in the Core Area since about 1996. Efforts to reverse this trend in the Core Area should receive increased management emphasis.

Nest success and hatching- Statewide, nest success was 68% (13/19) with a minimum of 34 cygnets hatched, including 12 in Island Park, 14 at Grays Lake NWR, and 8 at Bear Lake NWR. Hatching at Grays Lake was substantially better than expected, particularly in view of the cold wet spring, during which over 13" of rain fell during the incubation period, and the removal of 8 eggs from 3 nests for captive rearing. During mid-June egg collection, nests were wet and appeared to be in jeopardy from rising water levels. Water levels remained better than in recent years throughout the brood rearing season.

Cygnets production statewide averaged 1.8 cygnets hatched/active nests and 2.6 cygnets hatched/successful nest. Peak of hatching was about June 20-23.

Cygnets survival to fledging – Statewide, 21 cygnets fledged in 8 broods (2.6 cygnets/brood), with 3 broods in Island Park, 3 at GLNWR, and 2 at BLNWR. Cygnet survival from hatching to fledging was 62% (21/34).

Habitat conditions – Water levels throughout eastern Idaho were much improved compared to recent drought years, due to increased winter snowpack followed by near-record precipitation in late May – mid-June.

Adult numbers - During the September survey, 122 adults were observed; with 38 (31%) assumed to be breeding adults from the 19 active nesting territories and the remaining 84 considered to be nonbreeders of various ages. Sixty-three percent of the adults occurred in the Core Area north of Idaho Falls and 37% occurred in the Expansion Area south of Idaho Falls.

Since 1994, September counts of adults in Idaho have range from 102-136 with no significant trend. **However, managers should note that since 1996, 114 yearlings/adults and 6 fall cygnets were released into the Idaho Flock. It is not certain that the Idaho Flock would have been self-sustaining during this period without this augmentation, however no data exist to determine the survival of the released birds and their contribution to current adult numbers.**

II. Egg/cygnets salvage summary and any releases of captive-raised stock or wild salvage birds. See reports from Grays Lake and Fort Hall.

III. Banding/marking accomplished: See reports from Wyoming Wetland Society and Fort Hall.

IV. Habitat projects – see individual unit reports

V. Tasks accomplished for TSIP (Trumpeter Swan Implementation Plan) 2008

See individual unit reports

Table 1. Trumpeter Swan nesting and population data for entire state of Idaho, 1980-2009.

Area/Year	Occupied Territories	Active Nests	Min	Min	Cygnets Fledged	September Adults	September Total	% Cygnets in Sept.	Estimated Nonbreeders	Est. % Nonbreeders
			Successful Nests	Cygnets Hatched						
2009	26	19	13	34	21	122	143	14.7%	84	68.90%
2008	24	11	7	17	5	112	117	4.30%	90	80.36%
2007	27	15	8	24	15	113	128	11.72%	83	73.45%
2006	28	24	14	48	39	132	171	22.80%	84	63.64%
2005	27	27	12	38	22	136	158	13.90%	82	60.29%
2004	24	18	8	33	23	112	135	17.00%	76	67.86%
2003	27	23	15	48	27	100	127	21.30%	54	54.00%
2002	31	17	13	26	14	103	117	12.00%	69	66.99%
2001	30	23	15	50	26	126	152	17.10%	80	63.49%
2000	36	28	21	81	40	102	142	28.20%	46	45.10%
1999	33	25	15	52	23	103	126	18.30%	53	51.46%
1998	41	27	16	47	37	110	147	25.20%	56	50.91%
1997	35	24	13	37	19	112	131	14.50%	64	57.14%
1996	36	21	16	54	20	127	147	13.60%	85	66.93%
1995	24	21	15	38	21	118	139	15.10%	76	64.41%
1994	33	26	20	78	49	79	128	38.30%	27	34.18%
1993	28	11	2	6	6	94	100	6.00%	72	76.60%
1992	25	17	11	34	8	109	117	6.80%	75	68.81%
1991	21	15	10	32	26	138	164	15.90%	108	78.26%
1990	23	16	14	47	28	92	120	23.30%	60	65.22%
1989	25	14	7	17	16	101	117	13.70%	73	72.28%
1988	25	16	12	37	28	87	115	24.30%	55	63.22%
1987	28	20	11	30	15	63	78	19.20%	23	36.51%
1986	23	17	8	24	14	83	97	14.40%	49	59.04%
1985	24	18	14	42	27	83	110	24.50%	47	56.63%
1984	31	16	11	34	21	72	93	22.60%	40	55.56%
1983	18	4	3	10	6	92	98	6.10%	84	91.30%
1982	15	12	10	34	24	no survey	no data		no data	
1981	14	11	8	39	22	no survey	no data		no data	
1980	20	10	8	24	10	73	83	12.00%	53	72.60%
Mean (1980-2008)	26.8	18.1	11.6	37.3	21.8	102.7	124.3	17.1%	66.5	64.8%

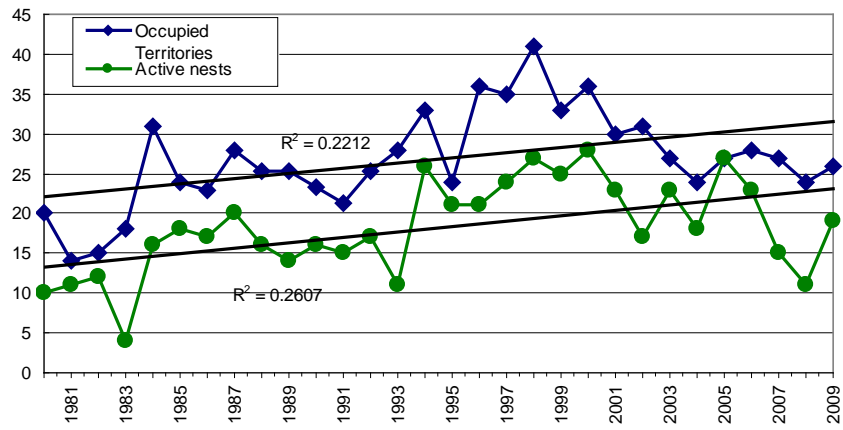
Table 2. Trumpeter Swan nesting and population data for Core Area of Idaho, 1980-2009.

Area/Year	Occupied Territories	Active Nests	Min Successful Nests	Min Cygnets Hatched	Cygnets Fledged	September Adults	September Total	% Cygnets in Sept.
Idaho Core								
2009	14	8	5	12	7	77	84	8.3%
2008	14	5	4	10	3	65	68	4.4%
2007	14	9	5	17	10	62	72	13.9%
2006	14	12	8	27	20	79	99	20.2%
2005	15	15	8	28	18	80	98	18.4%
2004	15	10	6	30	21	62	83	25.3%
2003	18	14	9	38	19	68	87	21.8%
2002	16	10	7	14	3	63	66	4.5%
2001	17	12	7	24	16	90	106	15.1%
2000	20	16	11	48	29	61	90	32.2%
1999	16	13	8	30	18	59	77	23.4%
1998	24	15	7	19	15	73	88	17.0%
1997	17	13	8	25	11	77	88	12.5%
1996	20	13	10	34	18	67	85	21.2%
1995	18	15	10	25	13	71	84	15.5%
1994	20	13	9	34	17	46	63	27.0%
1993	19	8	2	6	6	53	59	10.2%
1992	20	12	7	19	7	59	66	10.6%
1991	19	13	9	29	26	74	100	26.0%
1990	22	15	13	42	25	61	86	29.1%
1989	25	14	7	17	16	74	90	17.8%
1988	25	16	12	37	28	71	99	28.3%
1987	28	20	11	30	15	63	78	19.2%
1986	23	17	8	24	14	83	97	14.4%
1985	24	18	14	42	27	83	110	24.5%
1984	31	16	11	34	21	72	93	22.6%
1983	18	4	3	10	6	92	98	6.1%
1982	15	12	10	34	24	no survey	no survey	
1981	14	11	8	39	22	no survey	no survey	
1980	20	10	8	24	10	73	83	12.0%
Mean (1980-2008)	19.3	12.8	8.3	27.2	16.5	69.7	85.7	0.2

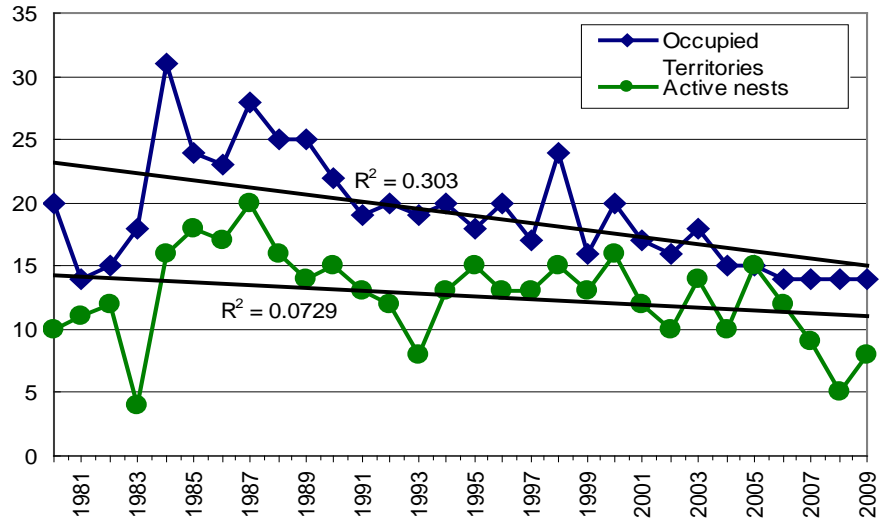
Table 3 Trumpeter Swan nesting and population data for South Idaho Expansion Area, 1980-2009.

Area/Year	Occupied Territories	Active Nests	Min Successful Nests	Min Cygnets Hatched	Cygnets Fledged	September Adults	September Total	% Cygnets in Sept.
South Idaho Expansion Area								
2009	12	11	8	22	14	45	59	23.7%
2008	10	6	3	7	2	47	49	4.1%
2007	13	6	3	7	5	51	56	8.9%
2006	14	11	6	21	19	53	72	26.4%
2005	12	12	4	10	4	56	60	6.7%
2004	9	8	2	3	2	50	52	3.8%
2003	9	9	6	10	8	32	40	20.0%
2002	15	7	6	12	11	40	51	21.6%
2001	13	11	8	26	10	36	46	21.7%
2000	16	12	10	33	11	41	52	21.2%
1999	17	12	7	22	5	44	49	10.2%
1998	17	12	9	28	22	37	59	37.3%
1997	18	11	5	12	8	35	43	18.6%
1996	16	8	6	20	2	60	62	3.2%
1995	6	6	5	13	8	47	55	14.5%
1994	13	13	11	44	32	33	65	49.2%
1993	9	3	0	0	0	41	41	0.0%
1992	5.3	5	4	15	1	50	51	2.0%
1991	2.3	2	1	3	0	64	64	0.0%
1990	1.3	1	1	5	3	31	34	8.8%
1989	0.3	0	0	0	0	27	27	0.0%
1988	0.3	0	0	0	0	16	16	0.0%
1987	0.3	0	0	0	0	0	0	
1986	0.3	0	0	0	0	0	0	
1985	0.3	0	0	0	0	0	0	
1984	0.3	0	0	0	0	0	0	
1983	0.3	0	0	0	0	0	0	
1982	0.3	0	0	0	0	0	0	
1981	0.3	0	0	0	0	0	0	
1980	0.3	0	0	0	0	0	0	
Mean (1988-2008)	10.3	7.4	4.6	13.9	7.3	42.4	49.7	13.3%

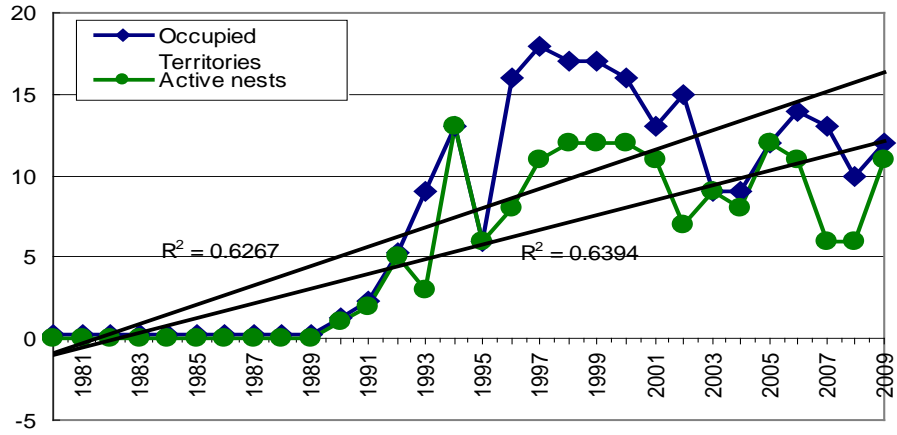
Entire Idaho Trumpeter Swan Nesting, 1980-2009



Idaho Core Area Trumpeter Swan Nesting, 1980-2009



Idaho Expansion Area Trumpeter Swan Nesting, 1980-2009



**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Bear Lake NWR

Name/position: Carl D. Mitchell, Wildlife Biologist

Date prepared: 8 October 2009

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	4
Number of nesting pairs	3
Number of pairs hatched young	2
Number of cygnets hatched	6
Total number of mature cygnets September	6
Number of broods with mature young	2
Number of subadults observed on unit	Unknown

--Describe habitat conditions.

Habitat conditions appeared to be good throughout the season, albeit with a late spring that might have suppressed nesting.

--Describe mortalities or disturbance problems during nesting season. One collared female that previously nested very successfully on Salt meadow Unit was found dead during the winter 2008-09 in Utah. Her mate paired again, but the new pair did not nest this year.

--Note if occupancy and productivity trends on your unit are up or down. Some changes in active territories, but overall about the same productivity.

II. Describe any egg/cygnnet salvage summary. No egg salvage here.

III. Provide number & release dates of captive-raised or wild salvage birds.

No birds released here.

IV. Describe banding/marking accomplished. No banding or other marking accomplished.

V. Describe wetland habitat projects for swans planned or completed. Work continues on Bunn Lake and St. Charles unit dikes, but no new projects are currently planned.

VI. Describe tasks accomplished for goals under the TSIP (Trumpeter Swan Implementation Plan). Flock monitoring.

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Camas NWR

Name/position: Carl D. Mitchell, Wildlife Biologist

Date prepared: 8 October 2009

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	0
Number of nesting pairs	0
Number of pairs hatched young	0
Number of cygnets hatched	0
Total number of mature cygnets September	0
Number of broods with mature young	0
Number of subadults observed on unit	Unknown. Up to 13 white birds (6 pairs) were counted during flights.

--Describe habitat conditions. Generally good all year.

--Describe mortalities or disturbance problems during nesting season. None noted.

--Note if occupancy and productivity trends on your unit are up or down. Nesting attempts are down form 1-2 attempts historically.

II. Describe any egg/cyagnet salvage summary. None.

III. Provide number & release dates of captive-raised or wild salvage birds. None.

IV. Describe banding/marking accomplished. None.

V. Describe wetland habitat projects for swans planned or completed. None.

VI. Describe tasks accomplished for goals under the TSIP (Trumpeter Swan Implementation Plan). Flock monitoring.

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Grays Lake NWR.

Name/position: Carl D. Mitchell, Wildlife Biologist

Date prepared: 8 October 2009

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	8
Number of nesting pairs	5
Number of pairs hatched young	5
Number of cygnets hatched	14
Total number of mature cygnets September	8
Number of broods with mature young	4
Number of subadults observed on unit	Unknown. Up to 28 white birds observed.

--Describe habitat conditions. Generally good water conditions this year. SAV varied.

--Describe mortalities or disturbance problems during nesting season. None.

--Note if occupancy and productivity trends on your unit are up or down. Nesting about the same as historic mean. Number fledged up slightly form historic mean.

II. Describe any egg/cygnnet salvage summary. 8 eggs salvaged from three nests.

III. Provide number & release dates of captive-raised or wild salvage birds. No releases here.

IV. Describe banding/marking accomplished. None.

V. Describe wetland habitat projects for swans planned or completed. Any future wetland work probably requires resolution of various lakebed ownership and management issues.

VI. Describe tasks accomplished for goals under the TSIP (Trumpeter Swan Implementation Plan). Flock monitoring and egg salvage for range expansion.

TRUMPETER SWAN IMPLEMENTATION PLAN ACCOMPLISHMENTS FOR CY 2009

SE IDAHO NATIONAL WILDLIFE REFUGE COMPLEX

8 OCTOBER 2009

I. POPULATION MANAGEMENT.

Objective 1. Redistribute swans to wintering areas outside of the Core Tri-State Area, reducing the number of wintering swans in the Core Tri-state area.

Strategy 2. Release captive-reared cygnets or yearlings of Tri-State origin during summer to establish new breeding flocks that winter outside the Core Tri-state.

Objective 2. Rebuild U.S. breeding flocks that use natural, diverse habitats and winter predominately outside the core Tri-state Area.

Strategy 1. Increase the size and productivity of the Tri-state Area Flocks by providing adequate nesting and brood-rearing habitats

Task 2. Identify current and potential nesting and pre-breeding habitats. Subtask A: Include trumpeter swan habitat needs in appropriate refuge Comprehensive Conservation Plans.

Task 3. Develop site-specific plans to protect, and (where possible) enhance habitat within nesting territories in Tri-State core and expansion areas. Implement management actions where needed.

Subtask A: Complete or develop habitat restoration projects on National Wildlife Refuges:

A2. Continue the Bunn Lake and St. Charles wetland enhancement projects at Bear Lake NWR.

A3. Relocate a well to develop the Sandhole Lake wetland complex Camas NWR.

Strategy 3. Augment US breeding flocks.

Task 1. Salvage eggs and cygnets, and continue production of eggs and cygnets from captive swans for release into areas that will expand breeding distribution.

A. Since Grays Lake NWR represents a large proportion of nesting attempts by trumpeter swans in Idaho and continues to experience drought conditions and water management problems salvage of eggs will continue for the foreseeable future.

Task 7. Monitor the success of all released captive reared birds.

Strategy 4. Increase the number of trumpeter swans wintering in the Bear River drainage and the Snake River drainage from Fort Hall downstream.

Task 1. Monitor results of releases of salvaged and captive-reared swans of Tri-State ancestry at Bear Lake NWR during summer.

Objective 5. Monitor the population.

Strategy 1. Survey (count) RMP trumpeter swans during nesting, post-breeding and midwinter.

Task 2. Conduct the annual September survey of TSP trumpeter swans.

Task 3. Conduct the annual midwinter survey of TSP trumpeter swans.

Task 4. Conduct an annual inventory of nesting-pair abundance and distribution of TSP trumpeter swans.

III. PUBLIC INFORMATION

Objective 1. Provide cooperating agencies, concerned nongovernmental organizations, and the general public with up-to-date, clear, and accurate information on management activities, problems, and accomplishments in a timely and professional manner.

Strategy 1. Develop an effective public information program.

Task 2. Develop and distribute interpretive materials as needed.

IV. RESEARCH.

Objective 1. Conduct research to improve management of the Rocky Mountain Population of Trumpeter Swans.

Strategy 1. Design needed research projects. (Implement as funding becomes available.)

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: **State of Wyoming outside of Yellowstone National Park**

Name/position: Susan Patla, Nongame Biologist Wyoming Game and Fish Dept.

Date prepared: Oct. 12, 2009

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data		
	CORE	EXPANSION	TOTAL
Number of sites occupied	14	18	32
Number of nesting pairs	10	14	24
Number of pairs hatched young	6	9	15
Number of cygnets hatched	21	29	50
Total number of mature cygnets September	12	21	33
Number of broods with mature young	4	7	11
Number of subadults observed on unit	12	21	33

--Describe habitat conditions

Spring weather very cold and wet. Some wetlands still frozen in early June at higher elevations. High run off in June flooded out some active nests.

--Describe mortalities or disturbance problems during nesting season.

Loss of broods and brood reduction post hatch indicated nutritional stress in nesting female. Survival of cygnets that hatched = 66% compared to 78% ten year average (1999-2008) (Table 2).

--Note if occupancy and productivity trends on your unit are up or down.

Production lower than 2007 peak but productivity parameters still above 10-year averages (Table 1). However, proportion of nesting pairs that successfully hatched young was below 10-year average: 62.5% vs 69.2%. Number of occupied sites has remained over 30 last 3 years.

Green River expansion flock again produced more young than core flock in Snake River drainage (Table 2). Total number of adults counted on fall flight decreased from last year (97 vs 121= 20% decrease) but some swans may be dispersing in late summer and missed on the September survey rather than loss due to mortality or emigration. Also, we could not survey all potential habitat in the upper portion of the Green River drainage on the 2009 fall survey as gusty winds/thunder storm cells developed near the end of our aerial survey flight on Sept. 18th.

II. Describe any egg/cygnets salvage summary None

III. Provide number & release dates of captive-raised or wild salvage birds None

IV. Describe banding/markings accomplished None

V. Describe wetland habitat projects for swans planned or completed

Three projects were completed in fall 2008/spring 2009 Green River basin
Funding for two additional projects obtained for 2009/2010.

Wyoming Monitoring Summary:

Incubation aerial survey: May 28, 2009

Production survey: cancelled this year due to state budget cuts. Confirmed hatching with ground surveys at most sites. Grand Teton National Park staff also surveyed a few sites by air. Status of a few nests could not be determined until later in the summer so may have missed some nests where young hatched but died early.

Fall survey: September 18, 2009

Table 1. Occupancy and productivity of Trumpeter Swan nesting territories in Wyoming outside of Yellowstone National Park, 1990-2009. Mean and standard deviation are shown for the 10-year period 1999-2008.

Year	Sites Occupied	Nesting Pairs	Pairs with Hatchlings	Pairs with Fledglings	Number Hatched	Number Fledged
1990	19	13	4	3	11	8
1991	22	8	2	2	3	2
1992	29	10	5	3	17	9
1993	24	11	7	5	15	8
1994	20	13	8	5	29	18
1995	22	12	7	5	25	15
1996	21	13	5	4	12	4
1997	26	16	3	4	22	17
1998	25	18	10	7	26	15
1999	24	15	6	6	19	12
2000	26	16	10 ^a	9 ^a	35	26 ^a
2001	28	17	10 ^a	8 ^a	29	21 ^a
2002	24	10	9	8	23	17
2003	26	18	13	11	42	35
2004	22	17	14	11	54	37
2005	24	16	11	10	38	35
2006	24	18	12	8	33	26
2007	35	26	20	18	74	59
2008	35	16	12	11	39	34
2009	32	24	15	11	50	33
<i>1999-2008</i>						
<i>Mean</i>	<i>26.8</i>	<i>16.9</i>	<i>11.7</i>	<i>10.0</i>	<i>38.6</i>	<i>30.2</i>
<i>SD</i>	<i>4.6</i>	<i>3.9</i>	<i>3.7</i>	<i>3.3</i>	<i>15.9</i>	<i>13.1</i>

^a Does not include Kitchen pair, where eggs were collected and five-day-old young were grafted to a pair successfully in 2000 (four fledged) and 2001 (five fledged).

Table 2. Occupancy and productivity data for Trumpeter Swan nesting territories in Wyoming outside of Yellowstone National Park by drainage, 2007-2009.

Drainage	# Occupied	# Nesting pairs	# Broods hatched	# Young hatched	# Young fledged	# Hatched/ Successful pair	# Fledged/ Successful pair
<i>Snake River Core</i>							
2007	17	11	9	37	31	4.41	3.44
2008	15	7	4	13	13	3.25	3.25
2009	14	10	6	21	12	3.50	2.00
<i>Green River Expansion</i>							
2007	16	13	11	37	28	3.36	2.54
2008	18	9	8	26	21	3.25	2.62
2009	16	13	9	29	21	3.22	2.33
<i>Salt River Expansion</i>							
2007	2	1	0	0	0	0	0
2008	1	0	0	0	0	0	0
2009	2	1	0	0	0	0	0

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Paradise Valley/Yellowstone NP

Name/position: Lisa Baril/biological science technician

Date prepared: 10/5

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	9
Number of nesting pairs	7
Number of pairs hatched young	5
Number of cygnets hatched	9
Total number of mature cygnets September	7
Number of broods with mature young	4
Number of subadults observed on unit	3

--Describe habitat conditions

Temperatures were normal compared with the 30-year average from April – August, but precipitation was 118% and 143% above normal for April and June. Date of ice break-up was normal (May 23) compared with the 30-year average (~May 27) for Yellowstone Lake.

--Describe mortalities or disturbance problems during nesting season.

None known

--Note if occupancy and productivity trends on your unit are up or down.

Both occupancy and productivity are down for this unit. Since 2000 occupancy in YNP ranged from 2-8 while in the Paradise Valley occupancy has ranged from 2-6. Productivity in YNP ranged from 0 – 1.3 (calculated at young per nesting female). Productivity in the Paradise Valley ranged from 0-2.3. The number of nests in the Paradise Valley has increased to 5 while. There are currently 2 nesting territories in YNP; however neither was successful this year. Below are autumn survey counts for YNP (Figure 1) and the Paradise Valley (Figure 2).

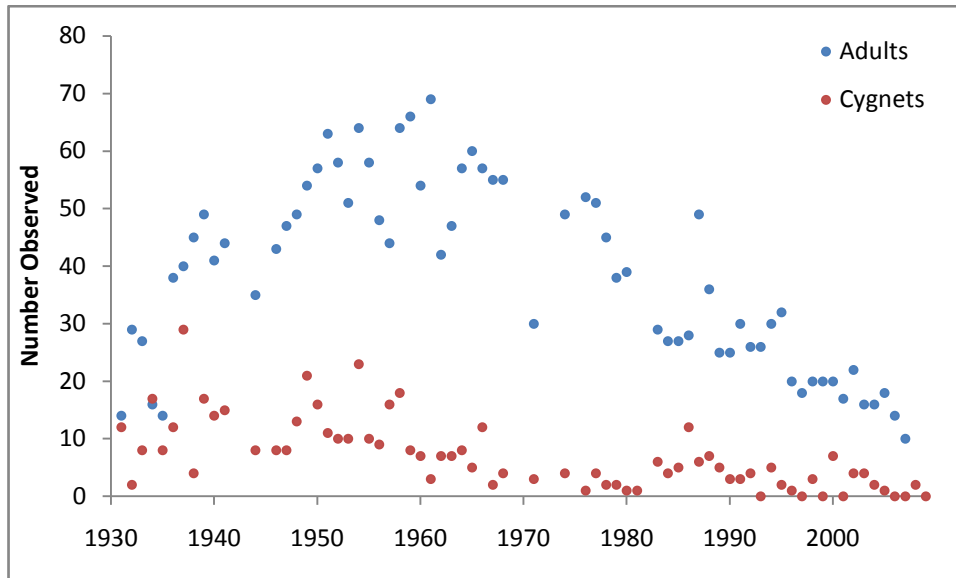


Figure 1. Autumn counts of trumpeter swans in YNP during 1931-2009.

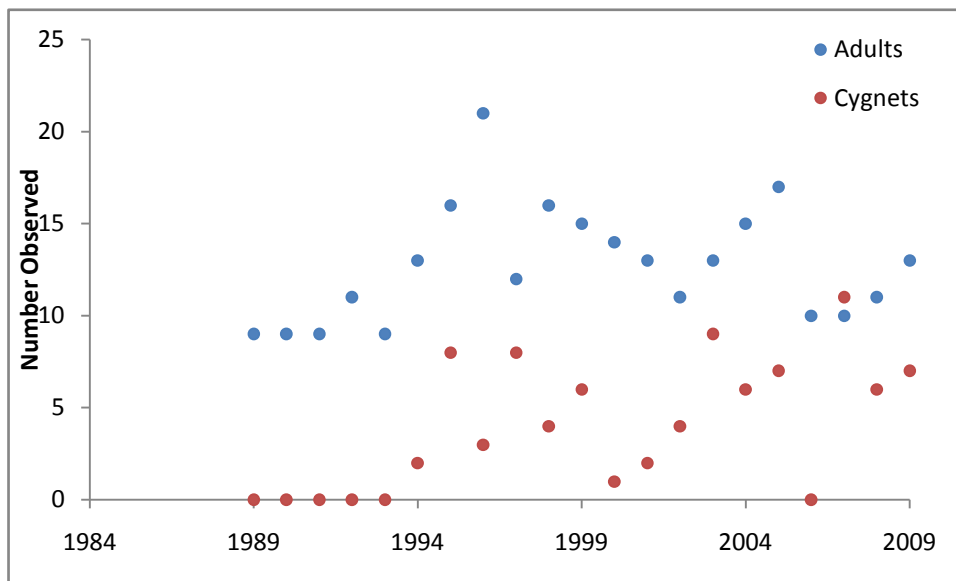


Figure 2. Autumn counts of trumpeter swans in Paradise Valley during 1985 – 2009.

II. Describe any egg/cygnets salvage summary

III. Provide number & release dates of captive-raised or wild salvage birds

IV. Describe banding/marking accomplished

V. Describe wetland habitat projects for swans planned or completed

This year YNP provided funding over a two year period (2009-2010) to Eastern Kentucky University masters student, Laura Cockrell, to examine factors influencing territory occupancy

and nesting success in YNP. Her objective is to produce a habitat model using historic and current swan nesting locations to predict potential quality habitat in and around YNP using a variety of tools including Landsat satellite imagery, GIS, and field measurements of habitat quality. During June and July 2009 Cockrell sampled 16 lakes in Yellowstone collecting vegetation, soil, and water quality measurements. Fieldwork for this project will continue in 2010. This project will help understand the reasons behind the declining swan population in Yellowstone and will help inform future management decisions in the region.

VI. Describe tasks accomplished for goals under the TSIP (Trumpeter Swan Implementation Plan)

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Grand Teton National Park

Name/position: Sue Wolff, Wildlife biologist and Megan Ruehmann, Biological technician

Date prepared: 10/7/09

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	6
Number of nesting pairs	3 confirmed (2 others may have initiated incubation but unknown due to difficult access)
Number of pairs hatched young	1
Number of cygnets hatched	5
Total number of mature cygnets September	4
Number of broods with mature young	1
Number of subadults observed on unit	Did not monitor/search for subadults

--Describe habitat conditions. Habitat conditions were similar to previous years. Christian Pond continues to have a low water level later during the nesting season (however, a pair was seen there in the spring on one occasion).

--Describe mortalities or disturbance problems during nesting season. No adult mortalities encountered. One cygnet at the Pinto Pond site was noticed to be much smaller than the other cygnets and isolated itself from the group. It was not seen again with the family group by mid-August. No other obvious disturbance problems were observed at the other sites.

--Note if occupancy and productivity trends on your unit are up or down.

The number of occupied swan sites in GRTE has slowly increased over the last decade; however, the number of nesting pairs has varied between 2 and 7 with 2008 and 2009 experiencing the lower end of that range. Despite the lower than average number of nesting pairs, productivity remains fairly robust with the Pinto Ponds pair being the most consistently productive. Nest success and cygnet survival have been slowly increasing over the last 20 years and the number of cygnets fledged continues to be near average.

II. Describe any egg/cygnet salvage summary *None*

III. Provide number & release dates of captive-raised or wild salvage birds *None*

IV. Describe banding/marking accomplished *None*

V. Describe wetland habitat projects for swans planned or completed *None*

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: National Elk Refuge

Name/position: Eric Cole, Refuge biologist

Date prepared: 10/9/09

I. 2007 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	4
Number of nesting pairs	3
Number of pairs hatched young	2
Number of cygnets hatched	5
Total number of mature cygnets September	4
Number of broods with mature young	2
Number of subadults observed on unit	4

--Describe habitat conditions

Relatively cold April; cold, rainy June; water levels adequate to high throughout nesting season.

--Describe mortalities or disturbance problems during nesting season.

1 cygnet mortality of unknown cause at Romney #2 Pond nest site. Unknown cause (missing) approximately 1 month after hatching. Survey crew for Pathway project entered closed area without permission and disturbed East Channel Pair away from nest during the incubation period. Adults returned, and 1 cygnet hatched at this site.

--Note if occupancy and productivity trends on your unit are up or down.

Occupancy and productivity trends are average compared to recent decade, but productivity well down from record highs in 2007 (see attached figures)

II. Describe any egg/cygnet salvage summary

None

III. Provide number & release dates of captive-raised or wild salvage birds

None

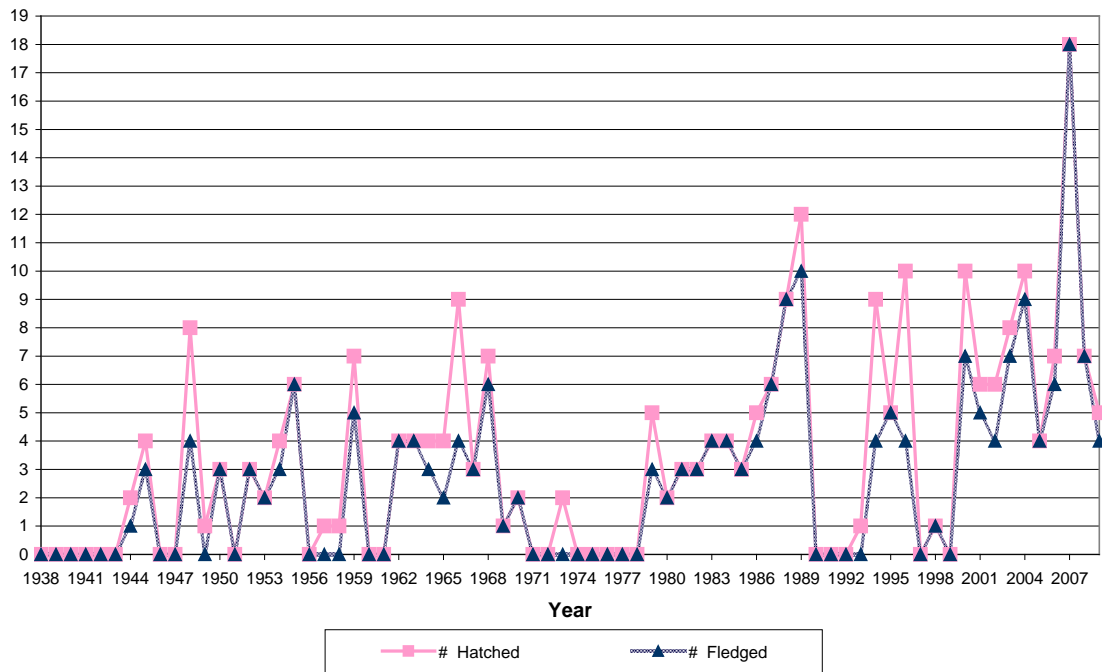
IV. Describe banding/markings accomplished

None

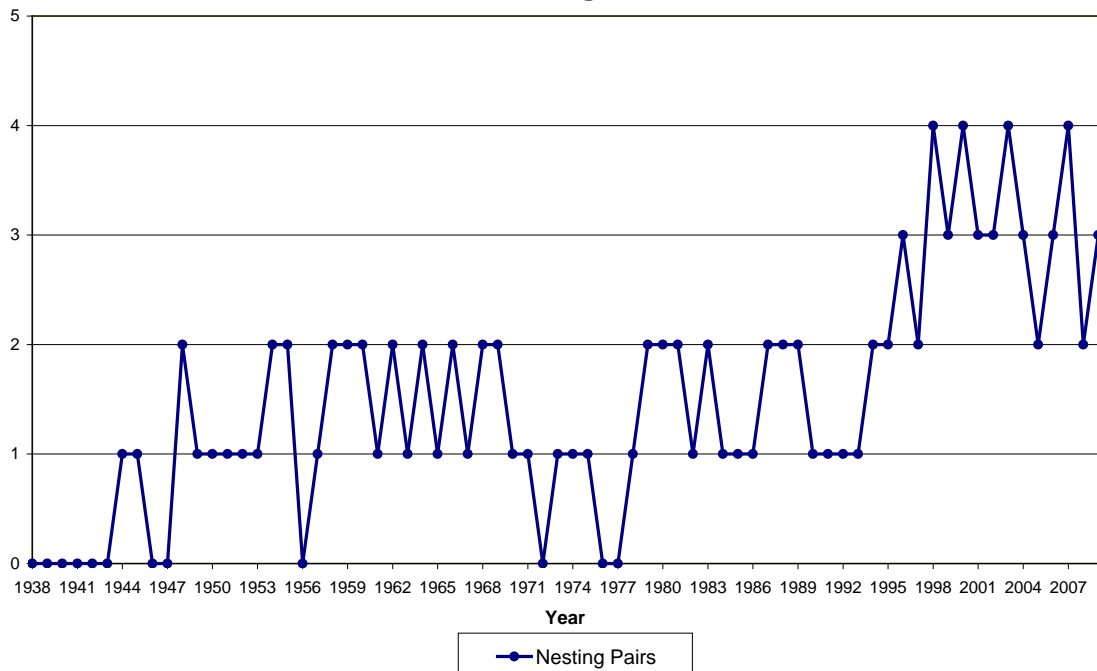
V. Describe wetland habitat projects for swans planned or completed

Replacement of water control structure at Pierre's #2 Pond and repair of Pierre's #1 Pond dike completed Fall 2008. Planned Romney Pond water control structure replacement needs to occur, but has not happened yet.

Trumpeter Swan Production on the National Elk Refuge



Number of Trumpeter Swan Nesting Pairs, National Elk Refuge





United States Department of the Interior



U.S. FISH AND WILDLIFE SERVICE
Red Rock Lakes National Wildlife Refuge
27820 Southside Centennial Road
Lima, MT 59739-9709
406/276-3536, Fax 406/276-3538

September 21, 2009

To: Files

From: Jeff Warren, Wildlife Biologist

Subject: Fall 2009 Trumpeter Swan Survey

The annual Fall Trumpeter Swan Survey for Red Rock Lakes NWR, Centennial Valley, Madison River Valley and the “Chain” Lakes, was flown on Monday September 14, 2009. The pilot was Doug Chapman (Montana Aircraft, Inc.) and I was the observer. Bill West (Refuge Manager) also accompanied us on the flight as an observer. We were picked up on the Lower Lake Road by Doug. The survey began at 08:36 hrs and was completed by 13:33 hrs. We spent ~ 1 hour at the Ennis Airport due to storms in the Centennial Valley. Weather conditions were partly cloudy with high winds and scattered rain. Wetland conditions were average, and similar to 2008; the emergent vegetation zones of most semi-permanent basins were still flooded. Table 1 summarizes the survey results. The number of white birds and cygnets observed, 121 and 14, respectively, did not differ significantly from the 2004-09 averages (111.7, SE = 10.6; and 20.0, SE = 4.9, respectively). Summaries of fall survey results for southwest Montana (Table 2), and for southwest Montana by survey region (Table 3), are also provided. Three swans were observed near Whitehall, MT, during the annual RMP Sandhill Crane fall survey. The 3 adults were on a dug out wetland ~1-2 miles ESE of Whitehall between highway 2 and the Jefferson River.

Table 1. Fall 2009 trumpeter swan survey results for southwestern Montana.

<i>Red Rock Lakes NWR</i>	White birds	Cygnets	Total
Upper Red Rock Lake	6	1	7
Swan Lake	5	4	9
Lower Red Rock Lake	2	2	4
River Marsh	17	5	22
Widgeon Pond	2	0	2
Culver Pond	1	0	1
Tucks Slough	8	0	8
Subtotal	41	12	53
<hr/>			
<i>Centennial Valley (CV)</i>			
Conklin Lake	5	0	5
Elk Lake	2	0	2
Red Rock River	10	2	12
Lima Reservoir	33	0	33
Sand Creek Wetland	2	0	2
Shepherd Pond	22	0	22
Bean Creek Pond	2	0	2
Subtotal	76	2	78
<hr/>			
<i>Madison Valley</i>			
Walsh Ponds	4	0	4
<hr/>			
<i>Other SW Montana</i>			
Whitehall, 2 mi ESE near Jefferson Rvr	3	0	3
Total	124	14	138

Table 2. Southwest Montana Trumpeter Swan Survey Summary*

Survey period (F = fall, W = winter): F

Years included in summary: 2004-2009

	White Birds	Cygnets	Total Swans
Mean Count	111.7	20.0	131.7
Standard Error	10.6	4.9	10.3
Minimum Count	74	1	100
Maximum Count	147	33	177

Table 3. Southwest Montana Trumpeter Swan Survey Summary by Region*

Survey period (F = fall, W = winter): F

Years included in summary: 2004-2009

Region	<i>Centennial Valley</i>		
	White Birds	Cygnets	Total Swans
Mean Count	54.2	6.0	60.2
Standard Error	11.2	1.8	10.0
Minimum Count	25	1	33
Maximum Count	93	12	94

Region	<i>Chain of Lakes</i>		
	White Birds	Cygnets	Total Swans
Mean Count	0.0	0.0	0.0
Standard Error	0.0	0.0	0.0
Minimum Count	0	0	0
Maximum Count	0	0	0

Region	<i>Madison Valley</i>		
	White Birds	Cygnets	Total Swans
Mean Count	3.0	0.0	3.0
Standard Error	0.7	0.0	0.7
Minimum Count	0	0	0
Maximum Count	4	0	4

Region	<i>RRLNWR</i>		
	White Birds	Cygnets	Total Swans
Mean Count	54.5	14.0	68.5
Standard Error	8.0	3.5	11.0
Minimum Count	31	0	31
Maximum Count	80	25	101

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Flathead Indian Reservation

Name/position: Dale Becker, Tribal Wildlife Program Manager

Date prepared: October 5, 2009

I. 2009 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	6
Number of nesting pairs	5
Number of pairs hatched young	4
Number of cygnets hatched	13
Total number of mature cygnets September	13
Number of broods with mature young	4
Number of subadults observed on unit	40

--Describe habitat conditions Overall. A dry summer, with below-normal moisture and attendant dry wetlands, although adequate wetted wetlands existed, with adequate forage resources.

--Describe mortalities or disturbance problems during nesting season. One occupied site that had been productive for the last three years, failed to hatch cygnets this year for unknown reasons. Disturbance or inclement weather did not seem to be causes.

--Note if occupancy and productivity trends on your unit are up or down. Both occupancy and productivity are down from 2008.

II. Describe any egg/cygnets salvage summary. Not applicable.

III. Provide number & release dates of captive-raised or wild salvage birds.

20 yearling trumpeters from Wyoming Wetland Society/Trumpeter Swan Fund were released at Pablo Reservoir on June 20, 2009.

4 yearling trumpeters from WJH Bird Resources were released at Pablo Reservoir on July 3, 2009.

IV. Describe banding/marketing accomplished. All trumpeter swans released were neck-collared with red collars with white alpha-numeric codes (ex., 9T0), matching red plastic legbands, and USFWS aluminum legbands.

V. Describe wetland habitat projects for swans planned or completed. As part of the mitigation settlement for the ongoing impacts of Kerr Dam, the Tribes have acquired approximately 8,100 acres of upland grasslands interspersed with wetland and riparian habitats. The Tribal Wildlife Management Program has completed wetland restoration projects on six major habitat units, and upland vegetation restoration and management is occurring at several other sites. One additional large wetland restoration projects and several other smaller projects are in various stages of planning, design or construction.

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Ruby Lake NWR

Name/position: Jeff Mackay, Wildlife Biologist

Date prepared: 7 October 2009

I. 2007 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	8
Number of nesting pairs	6
Number of pairs hatched young	0
Number of cygnets hatched	0
Total number of mature cygnets September	0
Number of broods with mature young	0
Number of subadults observed on unit	0

--Describe habitat conditions

Permanent marsh flooded at 67 percent of capacity in 2009 with sufficient habitat for resident breeding population. Foraging conditions during nesting period appeared to be adequate.

--Describe mortalities or disturbance problems during nesting season.

None detected.

--Note if occupancy and productivity trends on your unit are up or down.

Resident breeding population stable in 2009. Nest success continues to be below average. Production remains below average.

II. Describe any egg/cygnets salvage summary

N/A

III. Provide number & release dates of captive-raised or wild salvage birds

N/A

IV. Describe banding/marking accomplished

No production this year therefore no satellite transmitters deployed.

V. Describe wetland habitat projects for swans planned or completed

None needed.

**GREATER YELLOWSTONE TRUMPETER SWAN WORKING GROUP
2009 NESTING SEASON SUMMARY REPORT**

Management Unit Name: Malheur NWR & Summer Lake WMA Oregon

Name/position: Gary Ivey, TTSS

Date prepared: 10/5/09

I. 2007 Nesting Season Results—Fill out Table below

Unit Name:	2009 nesting season data
Number of sites occupied	3
Number of nesting pairs	2
Number of pairs hatched young	2
Number of cygnets hatched	8
Total number of mature cygnets September	8
Number of broods with mature young	2
Number of subadults observed on unit	not counted

--Describe habitat conditions

water conditions fair

--Describe mortalities or disturbance problems during nesting season.

none documented

--Note if occupancy and productivity trends on your unit are up or down.

occupancy down; productivity up

II. Describe any egg/cygnets salvage summary

N/A

III. Provide number & release dates of captive-raised or wild salvage birds

In late June, 4 flightless yearling trumpeter swans from the Wyoming Wetlands Society were released at Rest Lake on Summer Lake WMA.

On September 3rd, 4 cygnets from Malheur NWR were released at Rest Lake on Summer Lake WMA.

On September 16th, an additional 2 cygnets from Malheur NWR were released at Rest Lake on Summer Lake WMA.

IV. Describe banding/markings accomplished

All of the 4 yearlings and 6 cygnets above were color-marked and banded. Additionally, the two adult males from the 2 broods at Malheur were marked and banded.

V. Describe wetland habitat projects for swans planned or completed

N/A