

TRICOLORED BLACKBIRD SURVEY REPORT 2001

Draft

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Introduction

The Point Reyes Bird Observatory (PRBO), under the auspices of Partners in Flight and with support from the United States Fish and Wildlife Service (USFWS), coordinated the 2001 volunteer Tricolored Blackbird survey in the state of California and agreed to document the status and condition of selected breeding sites. Volunteer surveys have until now been coordinated by Bill Hamilton at University of California at Davis, beginning when he first spearheaded the project in 1994 in an effort to monitor the annual distribution and abundance of the Tricolored Blackbird population. In 2001, all work conducted by PRBO was done in consultation with Bill Hamilton. Additional agencies also participating in coordinating this project included the National Audubon Society (Western Regional Office) and California Department of Fish and Game (CDFG).

Ninety-five percent of the world population of Tricolored Blackbirds occurs in California, where they are listed as a state species of special concern (CDFG 2001). Surveys indicate that populations have been rapidly declining for decades, likely due to water diversion, land conversion, and predation by mammals, corvids and Black-crowned Night-Herons (Beedy and Hamilton 1997, Hamilton et al. 1999, Hamilton 2000).

PRBO's objectives for the Tricolored Blackbird project in 2001 were as follows:

- 1) Coordinate with the USFWS in the identification of the top Tricolored Blackbird locations (at least 5) for potential conservation action. These sites were to be identified using information from recent annual surveys, especially multiple-year use of sites, size of colonies, and potential for enhancement, restoration, and/or conservation opportunities.
- 2) Document the status and condition of these priority conservation sites for initial potential conservation action.
- 3) Document the status and condition of known Tricolored Blackbird nesting colonies on private land in order to prioritize these sites according to conservation potential.
- 4) Coordinate the 2001 Tricolored Blackbird Volunteer Survey and prepare a summary of active colonies.

Status and Condition of Priority Sites

PRBO and the USFWS have identified eight locations that have been very important Tricolored Blackbird colonies. The colonies were selected because of the potential to improve the site through cooperation with the landowner. These sites include many that are not currently managed for blackbirds.

These sites are listed in alphabetical order and not in order of priority. The annual sizes of each of these colonies are presented in Table 1.

Priority Site 1: "Ag." Slough Merced

This site is located in the San Joaquin Valley in Merced County. Latitude and longitude in decimal degrees are 37.4082 and 120.969333.

Ownership:

- Private (probably two land owners, one of which may be the nearby Dairy)

Nesting substrate:

- Bulrush

Habitat size:

- about ½ mile long

Associated foraging habitat:

- Nearby dairy farm

Vulnerability to loss:

- Loss of water
 - Removal of vegetation to improve water flow for irrigation purposes (South end had a drag line pulled across it and the vegetation was removed about three years ago)
 - Flooding (Site is within the floodplain of the San Joaquin River, and has been under a lot of water during the nesting season)
- The site is not in a good location for agriculture or housing

Current management:

- Water comes from the Turlock Irrigation District, and the slough is a drain into the San Joaquin River

Enhancement/restoration options:

- There is room to expand the slough
- Vegetation could be replanted in the area where the drag line was pulled to reestablish vegetation

Priority Site 2: Capital Outing

Capital Outing is located in the Sacramento Valley, in Colusa County. Latitude and longitude are 39.24 and 122.108333. This site is next to Grey Hill Duck Club, and it would be possible to survey both sites at the same time with the understanding that they are managed differently.

Ownership:

- Private duck hunting club with three members,
- Current owner is Lewis Fegoni and manager is Greg Christy

Nesting substrate:

- Cattail

Habitat size:

- ½ section, about 320 acres

Associated foraging habitat:

- Rice fields in all directions within 5 km

Vulnerability to loss:

- Huge colony in the 1950's (120,000-150,000 birds). More recent colony size varied, with 60,000 in 1992, 3000 in 1993, 60,000 in 1994, 80,000 in 1997, 6000 in 1999, and 31,000 in 2000.
- In 1994, there was 100% predation by Black-crowned Night-herons
- Site was drained in 1999

Current management:

- Duck hunting club in the fall, and some fishing in the summer
- Water is pumped by well (about 197 million gallons)
- Club plans to keep water on the property throughout the year for duck nesting and fish production.
- Any draining will not be complete, and only for a short time

Enhancement/restoration options:

- May be a need to reduce take of Tricolored Blackbirds by rice farmers when shooting blackbirds for crop protection
- Take action to reduce predation by black-crowned Night-herons
- Inquire about changes in management from any new owners/managers

Priority Site 3: East Park

East Park is located in the Sacramento Valley, in Colusa County. Latitude and longitude are 39.314933 and 122.518617.

Ownership:

- Bureau of Reclamation

Nesting substrate:

- Cattails/bulrush

Habitat size:

- Three nesting locations around the lake

Associated foraging habitat:

- Unclear possibly oak woodland (Hamilton 2000)

Vulnerability to loss:

- Largest historic site is currently not in use
- Boat use in colony
- Large unregulated campground near colony

Current management:

- The nesting area has been protected, but the surrounding area is managed in a hands off manner for fishing, boating, and camping

Enhancement/restoration option:

- Burn historic site to improve nesting habitat
- Move camp-sites away from colonies
- Restrict boat use near nesting sites during the nesting season
- Tricoloreds should be included in the in the Resource Management Plan for East Park, which is currently being written

Priority Site 4: Grey Hill Duck Club

The Grey Hill Duck Club is located in Sacramento Valley, in Colusa County. Latitude and longitude are 39.22595 and 122.093317. This site is next to Capitol Outing, and it would be possible to survey both sites at the same time with the understanding that they are managed differently.

Ownership:

- Private duck Club

Nesting substrate:

- Cattail

Habitat size:

- 1 section, about 640 acres

Associated foraging habitat:

- Rice fields in all directions within 5 km

Vulnerability to loss:

- Predation by Black-Crowned Night-Herons has been a factor

Current management:

- Private duck club in the fall
- Water comes from the irrigation district
- Site belongs to the Water Bank Program (part of the Conservation Reserve Program)
- Water Bank requires water to be stored on the site through July

Enhancement/restoration options:

- Monitor water levels to be sure that water is left on the site until July
- Water Bank is a ten year contract, and must be renewed
- May be a need to reduce take of Tricolored Blackbirds by rice farmers when shooting blackbirds for crop protection
- Take action to reduce predation by Black-Crowned Night-Herons

Priority Site 5: Hemet Sewage

Hemet Sewage is located in southern California in Riverside County. Latitude and Longitude are 33.797333 and 117.019167.

Ownership:

-Public (Eastern Municipal Water District) See website:
http://www.emwd.org/waste_water/wetlands.html

Nesting substrate:

-Bulrushes

Habitat size:

-50 acres

Associated foraging habitat:

-Private land; alfalfa

Vulnerability to loss:

-This man-made bulrush wetland was occupied after it was planted with bulrushes in 1993. The site hosted most of the Tricolored Blackbirds in southern California (35,000 in 1994)

-Between 1997 and 1999 it was burned and bulrushes were removed. Colony size was smaller in 1999 and 2000 and located in a smaller area unaffected by management actions

-In 2000 the colony was unsuccessful due to predation by Black-crowned Night-Herons and Great-tailed Grackles (Hamilton 2000)

Current management:

-site is managed as a research facility in the use of marshes for filtering waste water. UC Riverside and other universities are conducting research there

Enhancement/restoration options:

-Response of Tricolored Blackbirds to bulrush planting in 1993 was immediate

-Burning and removal of bulrushes between 1997 and 1999 affected the site's value as habitat (Hamilton 2000)

-The replanting of bulrushes should be investigated

Priority Site 6: Laguna Seca

Laguna Seca is located along the Central Coast in Monterey County. Latitude and longitude are 36.5719 and 121.7689

Ownership:

-County of Monterey

Nesting substrate:

-Cattail/bulrush

Habitat size:

-about 2-4 acres

Associated foraging habitat:

-Grasslands on Fort Ord, grazed by sheep for weed management

Vulnerability to loss:

- Widening of Hwy 68 from two lanes to four lanes, although plans are to move the highway to the north.

- Expansion of the raceway for parking that now overflows into BLM land

Current management:

- Managed as part of a park and campground for Laguna Seca Speedway

Enhancement/restoration options:

- maintain the wetland

- monitor disturbance of the colony during spring use at the raceway

Priority Site 7: O'Neill Forebay

O'Neill Forebay is located in the San Joaquin Valley in Merced County. Latitude and longitude are 37.081667 and 121.023333.

Ownership:

- State Lands

Nesting substrate:

- Himalayan blackberry

Habitat size:

- 2-4 acres

Associated foraging habitat:

- Dairy east of I-5

- Nearby alfalfa fields

Vulnerability to loss:

- Colony size was 7500 in 1993. 18% of colony lost in 1994 due to rising water. Changes in water management resulted in a decline in Himalayan blackberry and loss of vigor to the remaining shrubs (Hamilton 2000)

- No Tricolored Blackbirds were observed in 1999

- 130 nonbreeding birds observed in 2000

- Birds are nesting in nonnative vegetation that may be mowed for maintenance

- The nearby town of Santa Nella is expanding, and may take over feeding area of tricolors

Current management:

- O'Neill Forebay is a storage basin for water coming from the San Luis Reservoir to the California aquaduct. The Forebay is a popular boating, hunting, and fishing area

Enhancement/restoration options:

- Restoration of a water cycle that is beneficial to the growth of Himalayan Blackberry

- Control fluctuations in water during the breeding season.

- Monitor growth of the town of Santa Nella

Priority Site 8: Toledo Pit

Toledo Pit is located in the San Joaquin Valley in King County.
 Latitude and longitude are 36.055 and 119.405333

Ownership:

-Public land

Nesting substrate:

-Cattail/bulrush

Habitat size:

-Unknown

Associated foraging habitat:

-Private land - alfalfa

Vulnerability to loss:

-Colony size large in 1994 (50,000 birds) and 1997 (51,000 birds)
 -In 1999, 35,000 birds arrived and found it empty. It did not get filled until the birds had moved on (Hamilton et al. 1999), and none bred there that year

Current management:

-The site was burned (March-April 2002) as an experiment to improve Tricolored Blackbird habitat
 -A well was put in to supply water to the site

Enhancement/restoration options:

-Careful monitoring of the population is needed to investigate the impacts of current management

**Table 1. Annual Colony Sizes for Tricolored Blackbird Priority Sites
 (in 2000 number includes only breeders).**

	Prior to 1992	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Hemet Sewage				2,000			35,000		4,000	10,000	30
O'Neill Forebay			7,500						0	0 (130 non-breeders)	30
Toledo Pit				50,000			51,000		0	15,000	**
Laguna Seca									1,200	900	2000
Capital Outing	120,000	60,000	3,000	60,000			80,000		6,000	31,000	0
Grey Hill Duck Club	150,000									25,000	8,000
"AG" Slough Merced										15,000	**
East Park	250-20,000	5,000	9,000						500	2,500	**

** Although these sites were most likely surveyed we have not received the data at this time.

2001 Statewide Volunteer Survey

In 2001, PRBO coordinated the Tricolored Blackbird survey in California. A series of web pages were created on PRBO's website to provide the background for the survey, discuss census objectives for 2001, encourage season-long coverage instead of limiting the survey period to just 2-3 days, and provide a map of previously detected colony locations. Season-long coverage is recommended because, if surveys are conducted only during a few days of the season, it is likely that some colonies will be completely missed if depredation or draining occurs prior to the visit date. The main page URL is <http://www.prbo.org/Trics.htm>.

In addition, this webpage allowed for electronic submission of Tricolored Blackbird colony observations by volunteers. Prior to the breeding season, historic volunteers were each contacted with information on the 2001 survey, to encourage data entry into the interactive online database, and to remind them of the importance of respecting private property.

See Table 2 for summaries of the 2001 statewide survey, including active breeding colony locations and numbers observed. The total number of Tricolored Blackbirds observed at colony sites in 2001 was 142,045. This was lower than the 2000 survey total of 162,000, and possibly reflects the continued decline in Tricolored Blackbird numbers; in 1994 the number was estimated at 370,000 and in 1997 at 240,000 (Hamilton 2000). However, data from some of the priority sites (see above) have not yet been submitted to PRBO for 2001, possibly artificially deflating total numbers statewide. The list of the 10 largest colonies detected in the 2001 survey are presented in Table 3. Not included elsewhere are visits to historic sites where no Tricolored Blackbirds were present in 2001; these are presented in Table 4.

Table 2. Summaries of the 2001 California Tricolored Blackbird Survey.

Site	Number	Ownership	Latitude and longitude (dd)
Butte County			
Lone Tree Road	500	Private?	39.383111, 121.583111
Colusa County			
Grey Hills Duck Club	8,000	Private	39.22595, 122.093317
Acre Farms	5,000	Private	39.22532, 122.09227
Fresno			
Fresno 1	10,000	Private	36.73438, 120.23237
Kings			
Tulare Lake 1	150	Private?	37.92978, 122.73545
Tulare Lake 2	800	Private?	35.83532, 119.71338
Kern County			
Sag Pond Wind Wolves	4000	Public	34.94633, 119.16490
Canebrake Ecological Reserve	300	Public	N/A
North Bakersfeild - Tule Road (1)	750	Unknown	35.625783, 118.980683
SE Unit 1 Kern NWR	1500	Public	35.714883, 119.583653
North Bakersfeild - Tule Road (2)	2300	Unknown	35.631917, 118.963367
NE Unit 1 Kern NWR	6000	Public	35.726003, 119.588833
DCAA Dairy	6000	Private	36.00622, 119.44239
Merced County			
O'Neill Forebay Wildlife Area (N)	30	Public	37.083942, 121.029964
O'Neill Forebay Wildlife Area (S)	40	Public	37.077878, 121.032197
Merced NWR-Crane Field C Unit	3000	Public	37.17, 120.67
Merced NWR-East Dowitcher Unit	6000	Public	37.25, 120.67
Merced NWR-E. Farm Field 3 Unit	30,000	Public	37.17, 120.67
Monterey County			
Old Stage Road	10	Unknown	36.65403, 121.54237
Locke Padden Pond	35	Public	36.69132, 121.80255
Gatehouse Pond	50	Private	36.43862, 121.79500
Old Stage/Zubala Road Intersection	250	Private	36.66012, 121.54673
Pancho Rico Road	1200	Unknown	N/A
Laguna Seca Pond	2000	Public	36.57236, 121.76781
Riverside County			
Hemet Sewage Pond	30	Public	33.797333, 117.019167
San Diego County			
Twin lakes Resort	150	Private	32.62402, 116.61320
Tulare County			
Ave 120 Colony 1	30,000	Private	35.994494, 119.468506
Ave 120 Colony 2	8000	Public	36.006689, 119.479989
Ave 120 Colony 3	15,000	Public	35.999475, 119.472489
Tuolumne/Stanislaus Counties			
Rock R. Rd, Knight's Ferry	550	Unknown	37.762117, 120.559133
Yolo County			
Yolo Quarry	400	Private	38.69191, 121.95388
Total Tricolored Blackbird Numbers	142,045		

Table 3. Top 10 Tricolored Blackbird Colonies in 2001 Survey.

Site	County	Ownership	Size 2002	Substrate
Merced NWR-E Farm Field 3 Unit	Merced	Public	30,000	thistle/mustard
Ave 120 Colony 1	Tulare	Private	30,000	silage
Ave 120 Colony 3	Tulare	Private	15,000	silage
Fresno 1	Fresno	Private	10,000	silage
Ave 120 Colony 2	Tulare	Private	8,000	silage
Grey Hills Duck Club	Colusa	Private	8,000	cattails
NE Unit 1 Kern NWR	Kern	Public	6,000	cattails/bulrushes
DCAA Dairy	Kern	Private	6,000	Silage
Merced NWR-E Dowitcher Unit	Merced	Public	6,000	mustard/thistles
Acre Farms	Colusa	Private	5,000	cattails

Table 4. Tricolored Blackbird sites visited in 2001 that lacked breeding colonies; at some sites nonbreeders were present and counted.

Site	County	Nonbreeders	Latitude and longitude
Capitol Outing Club	Colusa	0	38.62042, 121.96224
Little Panoche Wildlife Area	Fresno	0	36.783111, 120.796833
Sandy Prairie Road	Humboldt	0	40.554167, 124.145833
Mud Creek	Kern	200	34.93953, 119.27131
Wind Wolves Reserve	Kern	1	34.34425, 119.18778
Hwy 20	Mendocino	0	39.35, 123.6167
Hebert Pond	Monterey	0	36.76329, 121.62218
San Carlos Ranch Pond	Monterey	0	36.45771, 121.79763
Volta Marsh	Merced	0	37.09969, 120.83939
Big Ben Road	Placer	2500	38.955911, 121.262953
Manzanita Road	Placer	300	38.931686, 121.316056
Cactus Road	Riverside	350	N/A
Wilson Valley Road	Riverside	50	33.505556, 116.838889
Viejas Creek	San Diego	0	Township & Range 15S 3E SE sect.
Palmer Road	Santa Barbara	80	34.78402, 120.32353
I-5 and I-580 intersection	Solano	0	37.60149, 121.34307
Hetch Hetchy Liming Plant	Tuolumne	550	37.80375, 120.5481

Recommendations for future Tricolored Blackbird work in California

1. One challenge to summarizing current and previous Tricolored Blackbird surveys and evaluating management potential at given sites is that most sites have not been given names that would allow the cross-referencing of data between years. We recommend that all sites visited historically (prior to 2002) be given a unique name and associated 4 letter code. Prior to each survey season, all volunteers would receive a list that would have these names codes and GPS coordinates. Fields would exist on the survey forms (and in the electronic data submission forms) for these names and codes. Volunteers would apply the appropriate codes during surveys, and would be able to create new, unique codes should they find additional Tricolored Blackbird colony sites.
2. Although conducting season-long coverage was encouraged as opposed to the historic 2-3 day statewide surveys, almost everyone submitted only a single survey for each site. Perhaps more discussion with volunteers would be helpful in engaging them in the benefits and needs for season-long surveys. This may entail greater volunteer coordination, as some of the volunteers responsible for collecting these data will be unable to return to sites multiple times over the season. Additionally, the creation of a protocol for multiple visits that we are asking volunteers to adhere to should certainly help in this matter.
3. We received some data from volunteers who visited historic sites but found no birds. However, we suspect that some volunteers may not have submitted data if no birds were observed on a given day. In fact, some sites may have been visited multiple times, but data might not have been submitted for days where no birds were observed. More could be done to stress that a lack of birds at a site is of course still data (most volunteers of course are sensitive to this), and to encourage surveyors to submit all visits to a site, even when birds are absent. Modifications could be made to the current electronic data submission form, so that some of the fields will not have to be filled out during every return visit to a given site, which would cut down on the amount of time it would take for volunteers to submit their data. Fields that may not need duplication during every submission include directions, latitude and longitude, land use, ownership, and history of site.

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