

Memorandum

To	Kristine Preston	Page	1
CC			
Subject	Summary of 2023 SDMMP Tricolored Blackbird Surveys		
From	AECOM		
Date	November 22, 2023		

Between April 24 and June 13, 2023, AECOM biologists conducted tricolored blackbird visual surveys and habitat assessments at 15 survey areas in San Diego County, 4 of which were new to the project (see GIS data submitted under separate cover).

Overview summary:

- 12 of the survey areas had potentially suitable nesting habitat for tricolored blackbirds, 5 had unsuitable habitat (e.g., vegetation too short, habitat patch too small or too sparse), and 7 had no suitable nesting habitat.
- 5 survey areas were occupied by tricolored blackbirds.
- 4 survey areas (*Rancho Jamul Ecological Reserve South Pond and North Pond, Puerta La Cruz, and Swan Lake*) had confirmed breeding colonies.
- 4 survey areas had tricolored blackbirds feeding in foraging areas associated with them (*Ramona Grasslands North, Swan Lake, Puerta La Cruz, and Rancho Jamul Ecological Reserve North Pond*).

Summary and Notes of the New Sites Visited in 2023:

- San Diego Mountain Ranch Property: No suitable breeding habitat was observed. Large grassland with ephemeral stream was present but no freshwater marsh vegetation was observed. Site is suspected to be too dry in most years to support tricolored blackbirds unless a pond is created. Abundant suitable foraging habitat is present adjacent to site. Overall area appears like it could be a good location for tricolored blackbirds if the land management goals are compatible and a pond is created where the water levels can be managed.
- Clover Flats Property: Site consisted of a large meadow with many red-winged blackbirds in an ephemeral stream. No perennial water or suitable freshwater marsh vegetation for tricolored blackbird nesting was observed. Abundant suitable foraging habitat is present adjacent to the site. This could be another location to create a pond for tricolored blackbirds if water levels can be managed and maintained.
- Lakeside River Park Conservancy Property: Abundant freshwater marsh vegetation is present around several ponds, but like so many urban waterbodies, there is no nearby suitable foraging habitat, and this area is unlikely to host tricolored blackbirds.
- Mason Valley Pond: Freshwater marsh vegetation was just starting to grow at the time of the survey. Pond was very full of water and red-winged blackbirds were having a hard time finding nesting habitat. The elevation and late growth of

freshwater marsh vegetation may preclude nesting at this site despite abundant suitable adjacent foraging habitat.

Summary of Breeding Site Activity:

- Rancho Jamul Ecological Reserve South Pond:

Survey 1 on April 24 documented approximately 45 birds, which was a significant departure from previous years. The colony was greatly reduced in size and birds were not vocalizing. The cattail vegetation was in poor condition for nesting with much of the vegetation old, dead, and/or had fallen over. There was very little vertical vegetation suitable for nesting. A few females were incubating, and a few nestlings were heard begging for food. A late frost may have killed off most of the freshwater emergent vegetation (primarily cattails) and severely limited the suitability of habitat. It appeared that the main colony in the south pond shifted to the north pond.

During Survey 2 on May 24, there were no fledglings present and very little adult activity was observed; approximately 20 birds were present. The freshwater marsh vegetation had not recovered since the late spring frost and appeared shorter when compared to previous years.

During Survey 3 on June 13 there was no breeding activity, and no birds present in the nesting habitat. Breeding was complete by Survey 3 despite abundant food sources nearby. While this location has been the primary tricolored blackbird colony on conserved lands in previous years, the late frost damage to freshwater marsh vegetation seems to have reduced habitat quality to a level where most tricolored blackbirds abandoned the location.

Finally, to assess the potential for mammalian predation on tricolored blackbirds, one Reconyx Hyperfire 2 Pro Covert IR Camera was staged in the southeast corner of the south pond facing the freshwater marsh vegetation where a few tricolored blackbirds were breeding. The camera was installed during Survey 1 on April 24 and removed during Survey 2 on May 24. The camera operated correctly for one month. While several potential mammalian predators (i.e., coyotes and racoons) were detected on the camera, no instances of nest predation or colony disturbance were noted (no birds observed divebombing predators, no predators walking into the freshwater marsh vegetation).

- Rancho Jamul Ecological Reserve North Pond:

Survey 1 on April 24 revealed approximately 350 tricolored blackbirds using the pond and adjacent habitat. The main colony seems to have shifted to this pond, likely because the freshwater marsh vegetation (bulrushes) did not appear to be stunted by a late spring frost (like the south pond). The colony appeared to be in the early nesting stages with males displaying. A large flock of at least 240 tricolored blackbirds was foraging nearby, but not provisioning young at the time. A narrow band of bulrushes appeared to be overwhelmed with tricolored blackbirds in the early nesting stage. A vast moat of water was present around the vegetation.

During Survey 2 on May 24, only 35 birds were estimated in the area. No fledglings were detected, but a few females were observed bringing food into vegetation, presumably to feed nestlings. By Survey 2, the moat of water around the potential breeding habitat was drastically reduced.

The third and final survey was conducted on June 13. No tricolored blackbirds were detected, and the moat of water was almost gone, allowing predators access to the freshwater marsh vegetation. The results of these surveys suggests that the tricolored blackbird colony that shifted from the south pond to the north pond did not have a successful year despite abundant prey sources to provision their young (based on biologist's observations walking through adjacent vegetation and flushing many grasshoppers). The bulrush vegetation in the north pond was likely too narrow to support a large colony and the moat of water had significantly decreased across the three surveys, potentially allowing predators to access the colony. Finally, the pond is ringed with willows that appear to be encroaching into the bulrushes, potentially limiting access to nesting habitat.

- Puerta La Cruz:

Survey 1 occurred on May 1, which was slightly later than other locations due to land access restrictions related to the spring turkey hunting season. The colony was estimated at 350 birds, but the number was difficult to determine due to different breeding activity within the colony. During Survey 1, the north part of the colony was nesting in old bulrushes/cattail vegetation that had not fallen over and was in the incubation phase, while the south part of the colony was in the early pair formation phase (with territorial displays and copulation observed multiple times). Birds were not observed returning food to the colony, which suggested that females were still on eggs.

Survey 2 occurred on May 23 with abundant activity observed, including adults provisioning a variety of food items to nestlings and fledglings; food items primarily included grasshopper adults (i.e., *Trimeritropis pallidipennis*), grasshopper nymphs, and moth larvae. An estimated 300 birds were present. This is slightly lower than Survey 1, possibly because many birds were dispersed during foraging bouts. Based on a review of photographed prey items being provisioned by adult tricolored blackbirds, entomologist Ken Osborne offered the following comment: "The birds spend a considerable amount of time foraging on the ground, sometimes on open, dry bare ground, and in dry grasslands (where they find the grasshoppers). Tricolored blackbirds are generalist predators of insects, and the birds may focus on particular insects if and when abundance and opportunity provide."

Survey 3 occurred on June 8 and many fledglings were observed in adjacent riparian trees and cattails around the pond; an estimated 40 birds were present. By Survey 3 the breeding season appeared complete for Puerta La Cruz and most of the colony had transitioned away from the breeding habitat.

- Swan Lake:

Survey 1 occurred on May 1 and an estimated 400 birds were associated with the colony. This number is approximate based on a flock of at least 250 predominantly male tricolored blackbirds foraging around the colony with many females quietly sitting on eggs. The colony was extremely quiet on May 1 with a few individual females secretly bringing food back to a few nestlings; most of the colony appeared in the incubation phase.

Survey 2 occurred on May 23 and the colony was still relatively quiet with no obvious fledglings, and males only singing occasionally. Some food was carried by adults into vegetation where they were feeding young, but quiet overall. The colony appeared to remain in the incubation phase.

Survey 3 occurred on June 8 and the colony was abounding with excitement as females provisioned young with food. Many singing males were present with lots of nearby fledglings. Females were also adding nesting materials and incubating. The colony appeared to be in a second round of nesting. The total estimated number of tricolored blackbirds for Survey 3 was similar to Survey 1, around 400 birds.

Summary Conclusions:

2023 was a much wetter year than the previous two years, and therefore provided an opportunity to compare conditions this wet year to the two previous dry years (2021 and 2022). In addition to being wetter, the spring of 2023 was cooler than the previous two years, and the phenology of the emergent vegetation that the tricolored blackbirds use for nesting appeared to be delayed. Moreover, some of the emergent vegetation appeared to have been damaged by late frost, especially at Rancho Jamul Ecological Reserve South Pond and Puerta La Cruz. The young cattails observed were yellow-tipped and falling over, possibly indicating they were dying off due to frost. The bulrushes appeared to be less affected by frost and were growing but at a slower pace. Therefore, in ponds with both cattails and bulrushes, the tricolored blackbirds appeared to be favoring the bulrushes, where in past years, the birds favored cattails. A mixture of cattails and bulrushes within a colony's preferred nesting location appear to be important at mitigating the potential risk of late frost.

While the Rancho Jamul Ecological Reserve North Pond experienced an increase in tricolored blackbirds in 2023, the South Pond experienced a stark decline. The likely cause of the decline was a lack of suitable nesting vegetation in the South Pond. Many of the birds from the South Pond colony are presumed to have moved to the North Pond this year. However, the North Pond did not have sufficient freshwater marsh vegetation to support many nesting birds and based on the number of females tricolored blackbirds bringing food into the vegetation on the second visit, it appears as though only a few birds successfully nested there. The South Pond would benefit greatly from having the emergent vegetation grazed or cut during the winter to allow fresh growth in the spring. When the vegetation is in good condition, the South Pond provides ideal breeding habitat for tricolored blackbirds. The

North Pond would benefit from having a reliable source of water from year to year. The solar-pump responsible for maintaining water levels at the North Pond was not working at the time of the surveys this year, and it is unclear how reliable this pump has been in the past few years. The pond itself was in good condition in 2023 due to the abundance of rainfall, and the trend for more emergent vegetation continued from the previous year, but it was still not sufficient to support many birds. It is possible that the dry conditions from previous years and resulting lower water levels have impeded the establishment of a sufficient amount of emergent vegetation. A reliable water source may allow the vegetation to spread and provide more nesting habitat for tricolored blackbirds. Furthermore, the water levels changed dramatically at the North Pond between Surveys 1 and 3. The water around the freshwater marsh vegetation during Survey 1 was very wide and likely precluded predators from reaching the nesting habitat but reduced to being almost nonexistent by Survey 3. Therefore, maintaining adequate water levels at the North Pond is highly recommended. Finally, the North Pond is fringed with short willows that appear to be competing with the bulrushes. By maintaining higher water levels, the willows may recede and allow the freshwater marsh vegetation to expand. The surrounding grassland/grazing land at both the South and North Ponds provide high quality foraging habitat for the tricolored blackbirds that did not appear to be a limiting factor in nesting success in 2023. While very few birds were successfully photographed provisioning young with food, the few items that were photographed include earwigs, beetles, and a variety of moth larvae. This was a large departure from previous years, where grasshoppers and earwigs had been the dominant prey items.

The colony of tricolored blackbirds that has traditionally bred within the Ramona Municipal Water District Pond on the west side of Rangeland Road appears to be utilizing the foraging area within the Ramona Grasslands North survey area at low levels; only 12 individuals were observed in and around the foraging area in 2023. Records in eBird also suggest that there were fewer birds in this area compared to previous years; the high count for 2023 during the potential breeding period was 80 birds compared to estimates between 150 and 350 birds in 2022, and 300-375 birds in 2021. The Ramona Municipal Water District was actively in construction of a pipeline near the colony during surveys, and it is unknown if this caused disturbance to the colony, or if another factor contributed to the low number of birds.

Vista Irrigation District lands (Puerta La Cruz and Swan Lake) were again surveyed in 2023, and two breeding colonies were present. Puerta La Cruz had a healthy breeding colony estimated at 350 individuals (compared to 500 in 2022), and Swan Lake had a new colony which was estimated at 400 individuals. The Puerta La Cruz colony was split into two regions: one on the north side of the pond and one on the south side of the pond. The birds on the north side appeared to be slightly ahead of the south side with respect to nesting stage. Vegetation on the north side of the pond was more upright and while it was dead (or new vegetation hadn't grown through yet), it appeared to remain structurally intact. Vegetation on the south side of the pond was mostly fallen over and slowly regrowing. Birds actively foraged in grassland/grazing land south of the pond. The colony appeared to be successful, and many fledglings were observed during the third visit on June 8. Adults were photographed provisioning young with grasshopper adults, nymphs, spiders, and moth larvae. The appearance of the colony at Swan Lake may have been linked to the increased precipitation in 2023. Swan Lake's water levels were much higher in 2023 compared to 2022.

and this resulted in the emergent vegetation being separated from the lake edge by a moat of water. This feature is thought to be very important for tricolored blackbirds because the water moat acts as a barrier for many terrestrial predators. Not many fledglings were observed on the second or third visits, but there were some indications that the birds may have attempted a second breeding bout in June. Birds were observed foraging over a large area of grassland/grazing land to the south, west, and north of the lake, as well as in the lush grass bordering the lake and spreading to the north and east. Adults were provisioning young with grasshopper nymphs, moth larvae, and one adult bird had a freshwater snail in its bill.

Finally, similar to 2022, there were no tricolored blackbirds detected within Pamo Valley in 2023 despite the presence of suitable breeding habitat and abundant adjacent nesting habitat. This site remains a mystery as the breeding habitat and adjacent foraging habitat appear to be suitable. There is nearby grain stored (as cattle feed) and the location historically contained a large colony. Perhaps this would be a good location for a reintroduction experiment.