

## Cañada de los Osos Ecological Reserve Tricolored Blackbird Research ~ 2016

Tricolored Blackbirds (*Agelaius tricolor*) have found suitable breeding habitat at the Reserve for several consecutive years. To be successful, Tricolors need an open water source, suitable nesting habitat, and abundant foraging substrates. The Tricolors prefer Tooth Lake, which is a small freshwater lake approximately 60 ft. x 60 ft that is generally shaped like a tooth. Here, Tricolors utilize the cattails (*Typha* sp.) that grow along the northern, southern and western banks of the lake as nesting substrate. The coyote brush (*Baccharis pilularis*) that grows the length of the dike on the southern end of the lake also serves as good cover and possible nesting and foraging substrate for the Tricolors. Downed rushes from past years that stick out of the water allow the birds to achieve direct contact with the water for bathing and drinking purposes (figure 1).



Figure 1: Downed rushes (left), cattails (middle) and Coyote Brush (right) that grows along the southern bank of Tooth Lake. This combination of vegetation is an essential part of the Tricolors existence at the reserve.

Mustard (*Brassica* sp.), Fuller's teasel (*Dipsacus sativus*), Italian thistle (*Carduus pycnocephalus*), bull thistle (*Cirsium vulgare*), poison-hemlock (*Conium maculatum*), and annual and native bunch grasses (*Melica* sp., *Poa* sp.) make up the vegetation that surrounds the lake for nearly 0.5 miles (figure 2). This mixture of flora provides a varied diet for the birds, along with the insects that are found in the mustard patches just around the road bend to the west of the lake. The birds spend most of their foraging time in these mustard patches where they collect grasshoppers, caterpillars and other insects. The birds have been seen foraging in vast numbers in these mustard patches (see pictures at end of document). The aged and scraggly Valley Oak (*Quercus lobata*) located near the NE corner of the lake serves as a resting place for the Tricolors between foraging trips (figure 3). This is a prime example of how old trees still serve a very important purpose in supporting the local wildlife.



Figure 2: The varied vegetation available for forage to the Tricolors.



Figure 3: A male Tricolor resting on the Valley Oak on the NE bank of Tooth Lake.

At the Reserve, the Tricolored Blackbirds nest in the cattails that surround Tooth Lake. Tricolors build an open cup shape nest made of dried grass leaves woven around a base to form sides and a platform, where mud is used to create a floor. The nests are lined with softer materials to cushion the eggs. The nests are built typically 1 meter above the ground, and are built by the female. The birds have been previously observed carrying nesting material (dried grasses, sticks) to the nesting areas, and this year nests were located, measured and photographed (figure 4). The nests measured approximately 12 cm wide by 9 cm tall. Tricolors lay 3-5 eggs, which incubate for 10-12 days, then hatch 12-14 days after that. The offspring remain in the nest while both the females and males forage and provide food items for them (figures 5 & 6). Before the eggs hatch, the adult birds have been documented foraging together in groups of upwards of 200 birds in various mustard patches (figure 7). These same mustard patches are utilized to feed the growing chicks.



Figure 4: Tricolor Blackbird nests from the 2016 nesting season (collected 8/2016).

To lure the offspring away from the nest site in preparation for fledging, some adults arrive with food and then fly away with it, with the fledgling following close behind (Dr. Robert Meese, UC Davis Tricolor Blackbird Portal (Portal)). Tricolors at the Reserve educate their fledglings in the mixed vegetation fields below Wilson Ranch Road at the entrance of the park, utilizing a lone Coyote Brush as base among annual grasses, mustard, and thistle. The birds also forage for grains in the mowed field adjacent to the park land along Wilson Ranch Road.



Figure 5: A female Tricolor (right) brings food to 1 of her 2 offspring (left).

According to observations made over the last three years, the Tricolored Blackbirds arrive at the Reserve mid-March to early April and stay until the last week in June. This occurs after all of the fledglings have left the nest and are able to forage by themselves. The Tricolors seem to succeed every year at the Reserve, and this year alone more than 35 fledglings were observed being fed by adults (G. Corkill pers. obs.).



Figure 6: A male Tricolor returns from foraging with a caterpillar to feed its offspring.

Adults and fledgling Tricolors have benefited from the usually favorable conditions at Tooth Lake, but they can still suffer mortalities due to extreme weather. The temperatures in Gilroy can sometimes reach

upwards of 100 °F, which can force the birds to abandon their nests in an attempt to save their own lives. Forceful winds and severe rains can also cause the colony to fail. Tricolor fledglings are predated upon by various birds of prey and snakes, which raid the nests while the parents are away (Meese, pers. obs.). While larger birds of prey like hawks and eagles do inhabit the Reserve, the lake is devoid of herons and ibises which serve as main predators in other Tricolor colonies.

Tricolor numbers have been declining in recent years due to the following reasons: habitat losses due to water diversions and draining of, wetlands habitat losses due to conversion to agriculture, habitat losses due to urbanization, deliberate shooting for sale at markets ("market-hunting"), deliberate shooting and poisoning as agricultural pests. Tricolor blackbird numbers were recorded to be in the 2-3 millions in 1930's. This estimate is down to 145,000 birds, according to the 2014 statewide population estimate. The huge decline in Tricolored Blackbird numbers has motivated the California Fish and Game Commission to list the species as Endangered under the California Endangered Species Act (Portal). By reporting active Tricolored Blackbird populations, we can assist in monitoring the types of habitat that they thrive in, as well as make future land management plans and decisions that take into account their survival and protection. The conditions at Tooth Lake inside the Cañada De Los Osos Ecological Reserve will be maintained to the best of the ability of the park volunteers and administrators to ensure the annual return of the Tricolored Blackbirds.



Figure 7: Tricolored Blackbirds foraging in patches of mustard, their numbers at times reach hundreds of individuals (photo courtesy of Henry Coletto).