On the edge of extinction: Can the Tricolored Blackbird (Agelaius tricolor) persist in Mexico?

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Summary. The highly colonial Tricolored Blackbird is of extreme conservation concern throughout its range. In Mexico, the species is resident in northwestern Baja California, where it was generally considered common 100 years ago. We conducted nesting surveys throughout the Mexican range in 2007, 2008, 2013, and 2016. During this period, nesting was confirmed at six locations but annual averages were 2.75 (range 1-4) occupied sites and approximately 42 birds (range 80-95) nesting birds. The species is something of a poster child for climate change, as sites were generally located at higher elevations and more northerly locations than historically. Some decline from extreme drought appeared in the northern portion of the range prior to the 2016 season, when the largest number of birds was recorded. However, it remained dry to the south and no nesting was found >20 km south of the US border. Only four birds were seen at El Rosario in 2016, where the southernmost “population” appears to be increasingly at risk. The species has not been seen at any season anywhere else south of Héroes de la Independencia (17°N to the north) since 2012. These observations are similar to those from southern California, where colonies have shifted from coastal lowlands primarily to artificial wetlands in interior valleys and foothills at the edges of human settlement.

With ongoing residential/industrial and unfavorable agricultural development (e.g., viticulture), increasing groundwater pumping, and predicted reductions in annual rainfall due to global warming, Mexican Tricolored Blackbirds have obvious challenges ahead. Measures that would benefit the species include official designation as endangered; rigorous annual monitoring of the nesting population; protection of nesting areas through land purchase and appropriate agricultural zoning and allocation of water rights; creation and maintenance of wetland nesting habitat at farm ponds and elsewhere; and public education. Rich opportunities are available for conservation research on this endangered species in Mexico.

Recommendations and Research Opportunities

Measures that would benefit the species include:
- official designation as endangered in Mexico
- partnership of Mexican and U.S. agencies and NGOs to identify, monitor, and protect the species in the border region
- rigorous annual monitoring of the nesting population
- protection of nesting areas through land purchase (where land prices are still modest) and appropriate agricultural zoning and allocation of water rights
- creation and maintenance of wetland nesting habitat at farm ponds and elsewhere
- public education.

Research Questions:
- how interconnected are Mexican and California populations?
- how much do declines in the U.S. reflect changes in Mexico?
- how vulnerable/interconnected is the Mexican “population”?
- what are primary foraging areas (and prey), during nesting and afterward?
- what are primary causes of nest failure, and what can be done to increase productivity?
- what are the factors influencing overwinter survival?
- what can be done to create suitable nesting sites?
- what must be done to maintain, enhance, and rejuvenate existing nesting sites?
- what must be done to ensure that Tricolored Blackbirds coexist in an increasingly human environment in Baja California?

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Publications


Acknowledgments


References


Our Recent Nesting Survey Results

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San Diego

Current nesting locations (2016)

- 2 colonies, south to 30°N
- 4 colonies, south to 30°N
- 1 colony at 31.6°N

Habitat loss due to:
- residential/industrial development
- unfavorable agricultural development (e.g., viticulture)
- increasing groundwater pumping
- predicted reductions in annual rainfall due to global warming

Species Range

Ensenada

Tijuana

El Rosario

Rainfall Data (in mm)

- 2006-07: 325.7
- 2007-08: 83.3
- 2008-09: 2.6
- 2009-10: 152.4
- 2010-11: 20
- 2011-12: 99.1
- 2012-13: 279.4
- 2013-14: 88.4
- 2014-15: 219.2
- 2015-16: 239.3
- 2016-17: 197.9

Historical Status

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