5. TRICOLORED BLACKBIRD

Today's Item **Information ☐** **Action ☒**

Authorization to publish notice of intent to add Section 749.9 for the incidental take of tricolored blackbird during the candidacy period.

Summary of Previous/Future Actions

- **Today's notice hearing** **Oct 11-12, 2017; Atascadero**
- Discussion hearing Dec 6-7, 2017; San Diego
- Adoption hearing February 7-8, 2018; Sacramento

Background

FGC is the decision-making body that implements the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). CESA authorizes FGC to establish lists of threatened and endangered species, and to add or remove species from those lists if it finds, upon receipt of sufficient scientific information, that the action is warranted. Pursuant to Section 2084, Fish and Game Code, FGC may authorize, subject to the terms and conditions it prescribes, the taking of any candidate species while DFW and FGC evaluate whether the species should be listed as threatened or endangered under CESA.

On Jan 8, 2016 tricolored blackbird was listed as a candidate species, initiating the development of a status review report by DFW to inform the listing decision. On Dec 8, 2016, FGC approved DFW's request for a six-month extension to complete its report on the status of tricolored blackbird. The six-month extension will further delay final resolution of the tricolored blackbird final listing decision, which cannot occur until after the FGC receives DFW's completed status review report pursuant to Fish and Game Code Sections 2074.6 and 2075.

At its Feb 16, 2017 meeting, FGC adopted an emergency regulation to authorize incidental take of tricolored blackbird as Section 749.9; the emergency regulation expired on September 6, 2017.

Without this regulation, prospective permittees, many of whom already have the necessary entitlements to proceed with their approved projects, would be subject to CESA's take prohibition without, by any reasonable measure, an ability to obtain the necessary state authorization for incidental take during the candidacy period. As a practical matter, activities that result in the take of tricolored blackbird would be prohibited and could not be implemented pending final action by FGC on the listing petition, an action whereby tricolored blackbird may or may not be listed as endangered or threatened under CESA. As a result, many projects that are planned or underway that provide great economic and other benefits to the permittees, their employees, their local communities, and the state of California would be postponed during the candidacy period or canceled entirely.

The proposed regulation authorizes incidental take of tricolored blackbird during candidacy for three categories of activities, which are detailed in the initial statement of reasons (ISOR; Exhibit 2):

- Actions to protect, restore, conserve or enhance habitat.
- Actions to monitor tricolored blackbird breeding colonies.
- Harvest of grain crops under a harvest management program to protect colonies.

Significant Public Comments

The California Farm Bureau Federation supports the proposed regulations (Exhibit 3). The Center for Biological Diversity opposes the proposed regulations as currently written and suggests that FGC consider performance of the emergency regulation in the previous season and whether changes are warranted (Exhibit 4).

Recommendation

FGC staff: Authorize publication of notice as recommended by DFW.

DFW: Authorize publication of notice as detailed in the ISOR (exhibits 1 and 2).

Exhibits

1. DFW memo, received Sep 18, 2017
2. ISOR
3. Email from Noelle Cremers, California Farm Bureau Federation, received Sep 28, 2017
4. Email from Lisa Belenky, Center for Biological Diversity, received Sep 28, 2017

Motion/Direction

Moved by _____and seconded by _____ that the Commission authorizes publication of a notice of its intent to add Section 749.9, related to the incidental take of tricolored blackbird during the candidacy period.

State of California
Department of Fish and Wildlife

Memorandum

Date: September 15, 2017

To: Valerie Termini
Executive Director
Fish and Game Commission

From: Charlton H. Bonham
Director

Subject: **Initial Statement of Reasons to Add Section 749.9, Re: Special Order Relating to Incidental Take of Tricolored Blackbird During Candidacy Period, to Title 14, California Code of Regulations**

Attached is the Department of Fish and Wildlife's Initial Statement of Reasons to add regulations authorizing take of tricolored blackbird in limited circumstances subject to certain terms and conditions, during the species' candidacy under CESA.

If you have any questions or need additional information, please contact Scott Gardner at 916-445-5545 or Scott.Gardner@wildlife.ca.gov.

Attachments

ec: Stafford Lehr, Deputy Director
Wildlife and Fisheries Division
Stafford.Lehr@wildlife.ca.gov

Kari Lewis, Acting Chief
Wildlife Branch
Kari.Lewis@wildlife.ca.gov

Scott Gardner, Acting Program Manager
Wildlife Branch
Scott.Gardner@wildlife.ca.gov

Scott Barrow, Acting Manager
Regulations Unit
Wildlife and Fisheries Division
Scott.Barrow@wildlife.ca.gov

Karen Mitchell, Regulations Unit
Senior Environmental Scientist (Specialist)
Wildlife and Fisheries Division
Karen.Mitchell@wildlife.ca.gov

STATE OF CALIFORNIA
FISH AND GAME COMMISSION
INITIAL STATEMENT OF REASONS FOR REGULATORY ACTION
(Pre-publication of Notice Statement)

Add Section 749.9, Title 14, California Code of Regulations,
Re: Special Order Relating to Incidental Take of
Tricolored Blackbird (*Agelaius tricolor*) During Candidacy Period

I. Date of Initial Statement of Reasons: August 3, 2017

II. Dates and Locations of Scheduled Hearings:

(a)	Notice Hearing:	Date:	October 11, 2017
		Location:	Atascadero
(b)	Discussion Hearing:	Date:	December 6, 2017
		Location:	San Diego
(c)	Adoption Hearing:	Date:	February 8, 2018
		Location:	Sacramento

III. Description of Regulatory Action:

(a) Statement of Specific Purpose of Regulation Change and Factual Basis for Determining that Regulation Change is Reasonably Necessary:

The Fish and Game Commission (Commission) is the decision-making body that implements the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). As described in greater detail below, CESA authorizes the Commission to establish lists of threatened and endangered species, and to add or remove species from those lists if it finds, upon receipt of sufficient scientific information, that the action is warranted. Pursuant to Section Fish and Game Code 2084, the Commission may authorize, subject to the terms and conditions it prescribes, the taking of any candidate species while the Department of Fish and Wildlife (Department) and Commission evaluate whether the species should be listed as threatened or endangered under CESA.

On October 8, 2014, the Commission received a petition from the Center for Biological Diversity to take emergency action to list the tricolored blackbird (*Agelaius tricolor*) as endangered under CESA. On December 3, 2014, the Commission listed tricolored blackbird as endangered through emergency regulations that expired on June 30, 2015. In the interim, the Department prepared and submitted to

the Commission a petition evaluation as required by CESA. (Fish & G. Code, § 2073.5(a).) The Commission received the Department's petition evaluation at its April 9, 2015, meeting and on June 11, 2015, the Commission made a decision that listing tricolored blackbird as endangered was not warranted. On August 19, 2015, the Center for Biological Diversity submitted a new petition to the Commission to list the tricolored blackbird as an endangered species. On December 10, 2015, the Commission considered the adoption of findings designating the tricolored blackbird as a candidate species under CESA. Findings were published on January 8, 2016, initiating the development of a status review report by the Department to inform the listing decision. (Fish & G. Code, §§ 2074.2(e)(2), 2074.6; Cal. Reg. Notice Register 2016, No. 2-Z, p. 57.) On December 8, 2016, the Commission approved the Department's request for a six month extension to complete its report on the status of tricolored blackbird. This six month extension will further delay final resolution of the tricolored blackbird final listing decision, which cannot occur until after the Commission receives the Department's completed status review report pursuant to Fish and Game Code Sections 2074.6 and 2075.

The Commission prepared a Statement of Emergency Action as required by the Administrative Procedure Act (APA) (Gov. Code, § 11340 et seq.) on February 19, 2016 in connection with its subsequent adoption of Section 749.8 of Title 14 of the California Code of Regulations (CCR). The Commission's adoption of Section 749.8 as an emergency action under APA was based, in part, on authority provided by Fish and Game Code sections 399 and 2084. Pursuant to Fish and Game Code Section 2084, Section 749.8 authorized incidental "take" of tricolored blackbird during candidacy, subject to certain terms and conditions prescribed by the Commission (See generally Fish & G. Code, §§ 86, 2080, 2084, and 2085). On February 16, 2017, the Commission proposed a second Statement of Emergency Action and re-adopted regulations to authorize incidental take of tricolored blackbird as Section 749.9 of Title 14, CCR. This emergency regulation expired on September 6, 2017.

The adoption of Section 749.9 pursuant to Fish and Game Code sections 399 and 2084 constitutes a necessary action by the Commission under the APA. In the absence of this regulation, individuals engaging in activities authorized pursuant to Section 749.9 would need to obtain an incidental take permit (ITP; Fish & G. Code, § 2081(b)) or other authorization from the Department on a project-by-project basis to avoid potential criminal liability for violating CESA. Issuing individual ITPs authorizing incidental take is a complicated and lengthy process, and the Commission finds specifically that it is not feasible for the regulated community to obtain, and the Department to issue, ITPs or other

authorizations on a project-by-project basis for the numerous activities that would otherwise be prohibited during the candidacy period for tricolored blackbird.

Historically, tricolored blackbirds nested in native flora in or adjacent to wetlands in the Central Valley and elsewhere across the State of California. Concomitant with the loss of wetlands during the 19th and 20th centuries, tricolored blackbirds have adapted to nest in varied substrates. For example, grain fields planted for winter silage on dairy farms provide attractive nesting sites for the species; unfortunately, nesting occurs at about the same time the crops are scheduled for harvest.

For the past two decades, a patchwork of funding sources has been used to pay farmers when they agree to delay harvest until after tricolored blackbird nesting is complete. In some cases, particularly where funding was unavailable or farmers were not aware of the potential for funding to offset losses, harvest has occurred before the young fledged. Recently, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) committed to provide multiple years of funding to support a program to delay harvest of fields in which tricolored blackbird colonies have nested. At the same time, Dairy Cares, an organization composed of dairy businesses across California, in coordination with other farming interests has initiated an active campaign to educate dairy farmers about tricolored blackbird and the NRCS-funded program. In 2016, through a coordinated effort including NRCS, farming interests, the Department, and Audubon California, dairy farmers enrolled in the NRCS program delayed harvest on fields where an estimated 67,000 tricolored blackbirds nested.

NRCS funds compensate a farmer for about 85 percent of the value of a crop affected by a harvest delay. Under the NRCS program, a colony is identified and the area inhabited by the colony is delineated by a biologist. Once the colony is delineated, a buffer is established and the farmer is allowed to harvest only those fields outside the colony site and buffer area. Delaying harvest protects the vast majority of the colony until the birds fledge, but it does not guarantee that no take will occur. The tricolored blackbird was designated as a candidate for listing, and is therefore subject to the regulatory protections provided by CESA. Promulgating a regulation to authorize incidental take provides farmers assurances that if they agree to follow the requirements imposed by NRCS, delay harvest, and protect the colony nesting in their field, they will not be penalized in the event a small number of birds are taken incidental to their beneficial conservation actions in delaying harvest and otherwise lawful agricultural activities.

The harvest management programs administered by NRCS and the

Department can be expected to protect tens of thousands of nesting tricolored blackbirds, provided farmers are incentivized to participate. However, the designation of the tricolored blackbird as a candidate for listing under CESA could inhibit participation in the harvest management programs. This regulation, in combination with funding from NRCS, will provide farmers with a strong incentive to participate in the harvest management program.

Tricolored blackbird nesting can begin as early as February. The timing of this nesting relative to the listing determination requires that a regulation be in place to conserve nesting tricolored blackbirds and protect farmers that enroll in one of the harvest management programs in 2018. Such action will effectuate the purposes of Fish and Game Code Section 2084 and CESA more broadly. Absent this regulation, enrollment in the NRCS program may decline. Furthermore, farmers may elect to plant lower value crops that do not provide nesting habitat for tricolored blackbird, thereby decreasing available nesting habitat; farmers may harvest their crop early before onset of the nesting season, which would decrease the value of the crop and also decrease available nesting habitat; or farmers may risk harvesting their crop even if tricolored blackbird are present.

Without this regulation, prospective permittees, many of whom already have the necessary entitlements to proceed with their approved projects, would be subject to CESA's take prohibition without, by any reasonable measure, an ability to obtain the necessary state authorization during the candidacy period. As a practical matter, activities that result in the take of tricolored blackbird would be prohibited and could not be implemented pending final action by the Commission on the listing petition, an action whereby tricolored blackbird may or may not be listed as endangered or threatened under CESA. As a result, many projects that are planned or underway that provide great economic and other benefits to the permittees, their employees, their local communities, and the State of California would be postponed during the candidacy period or canceled entirely.

Proposed Regulations

Section 749.9 authorizes incidental take of the tricolored blackbird during candidacy for three categories of activities:

(1) Actions to protect, restore, conserve or enhance habitat.

(2) Actions to monitor tricolored blackbird breeding colonies.

(3) Harvest of grain crops under a harvest management program to protect colonies.

The regulation authorizes take, as defined by Fish and Game Code Section 86, of tricolored blackbird in the limited circumstances described below subject to certain terms and conditions, during the species' candidacy under CESA.

(a) Take Authorization.

(1) Actions to Protect, Restore, Conserve, or Enhance Habitat.

Subdivision 749.9(a)(1), authorizes take of the tricolored blackbird incidental to otherwise lawful activity, where the purpose of the activity is to protect, restore, conserve, or enhance habitat for a species designated as an endangered, threatened, or candidate species under state or federal law. Without Section 749.9, subdivision (a)(1), take of the tricolored blackbird incidental to otherwise lawful activities to protect, restore, conserve, or enhance habitat for a species designated as an endangered, threatened, or candidate species under state or federal law would require authorization by the Department through an individual lTP which is a lengthy, complicated process. Ongoing and planned activities to protect, restore, conserve, or enhance habitat are critical during this candidacy period. The status of many listed species is precarious, and even the slightest delay in initiated or continued implementation of any related conservation actions could adversely affect or otherwise cause further decline of these species. In addition, any further decline in the status of listed species will lead to increased costs to the Department because more resources will be required to conserve species populations to the extent where protective measures are no longer necessary. Increased cost will also be shouldered by prospective permittees, who will be charged with funding mitigation and related monitoring required for impacts of their projects on the species.

Adoption of this regulation would minimize the hardships that would result from delays in ongoing or new lawful activities to protect, restore, conserve, and enhance the habitat of state or federally threatened or endangered species (including the tricolored blackbird). The Commission finds that impacts to activities to protect, restore, conserve, or enhance habitat of state or federally threatened or endangered species caused by designating the tricolored blackbird as a candidate species requires immediate action.

(2) Actions to Monitor Tricolored Blackbird Breeding Colonies.

Section 749.9, subdivision (a)(2), authorizes take of tricolored blackbird incidental to efforts to monitor active tricolored blackbird breeding colonies, including entering colonies to perform walking transects. Only trained observers approved by the Department will be authorized to engage in such monitoring.

Without Section 749.9, subdivision (a)(2), the necessary monitoring would not occur to ensure the protection and immediate conservation of tricolored blackbird during the upcoming harvest of grain fields planted for silage. Department guidance suggests that walking survey transects through a portion of the colony could be used to estimate the nesting stage of breeding colonies and inform decisions necessary to comply with subsection (a)(3).

(3) Harvest of Grain Crops under a Harvest Management Program to Protect Colonies.

Section 749.9, subdivision (a)(3), authorizes take of tricolored blackbird incidental to harvest of grain fields and related agricultural activities where the individual participates in a harvest management program administered by the Natural Resources Conservation Service (NRCS), or harvest management program administered or approved by the Department. The harvest management program shall include the establishment of a buffer zone and harvest date as described under Topics 1 and 2 in the document "California Department of Fish and Wildlife (Department) Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015" (adopted on March 19, 2015 and available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=99310&inline) . An individual seeking authorization for take incidental to harvest of grain fields and related agricultural activities shall receive written confirmation of participation in the harvest management program and must obtain specific authorization for the timing of harvest and related agricultural activities from NRCS, the Department, or a biologist authorized by the Department or NRCS before proceeding with any harvest activities that take tricolor blackbirds

Without Section 749.9, subdivison (a)(3), enrollment in the NRCS program may decline, which is necessary to ensure the protection and immediate

conservation of the tricolored blackbird during the upcoming harvest of grain fields planted for silage.

(b) Reporting.

Section 749.9, subdivision (a)(2), requires that any person, individual, organization, or public agency, or their agents, for which incidental take of tricolored blackbirds is authorized pursuant to subdivision (a)(1) or (a)(3), shall report observations and detections of tricolored blackbird colonies, including take, to the Department's Wildlife Branch by August 1 during the candidacy period.

As discussed in III above, it is vital that during this candidacy period detections and observations of the tricolored blackbird are reported to the Department so the Department can base its recommendation to the Commission on whether listing tricolored blackbird is warranted on the most complete information possible.

(c) Additions, Modifications or Revocation.

Incidental take of tricolored blackbird from activities not addressed in this section may be authorized during the candidacy period by the Commission pursuant to Fish and Game Code Section 2084, or by the Department on a case-by-case basis pursuant to Fish and Game Code Section 2081, or other authority provided by law.

This subdivision is necessary to clarify that subdivision (a)(1)-(3) are not the only ways in which incidental take may be allowed and that other avenues for authorizing the take of tricolored blackbird are not precluded by the language.

(b) Authority and Reference Sections from Fish and Game Code for Regulation:

Authority: Section(s) 200, 265, 399, and 2084, Fish and Game Code.

Reference: Section(s) 200, 265, 399, 2080, 2084, and 2085, Fish and Game Code.

(c) Specific Technology or Equipment Required by Regulatory Change:

None.

(d) Identification of Reports or Documents Supporting Regulation Change:

None.

(e) Public Discussions of Proposed Regulations Prior to Notice Publication:

No public meetings are being held prior to the notice publication. The 45-day comment period provides adequate time for review of the proposed amendments.

IV. Description of Reasonable Alternatives to Regulatory Action:

(a) Alternatives to Regulation Change:

No alternatives were identified by or brought to the attention of Commission staff that would have the same desired regulatory effect.

(b) No Change Alternative:

The no change alternative would result in no take authorization for habitat protection during the candidacy period. Absent this regulation, enrollment in the NRCS program may decline. Furthermore, farmers may elect to plant lower value crops that do not provide nesting habitat for tricolored blackbird, thereby decreasing available nesting habitat; farmers may harvest their crop early before onset of the nesting season, which would decrease the value of the crop and also decrease available nesting habitat; or farmers may risk harvesting their crop even if tricolored blackbird are present.

(c) Consideration of Alternatives: In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purpose for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the proposed regulation, or would be more cost effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

V. Mitigation Measures Required by Regulatory Action:

The proposed regulatory action will have no negative impact on the environment; therefore, no mitigation measures are needed.

VI. Impact of Regulatory Action:

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

(a) Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:

The proposed action will not have a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. Farmers that participate in the NRCS program were compensated for about 85 percent of the value of a crop lost by harvest delay. The late harvest silage crop may retain a portion of its full value after the tricolored blackbird have vacated the affected acreage.

(b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California; Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment:

The Commission does not anticipate impact on the creation or elimination of jobs within the state. The proposed action is not anticipated to exert significant impact on the creation of new businesses or the elimination of existing businesses because the proposed action does not introduce new costs. No impact on the Health and Welfare of California Residents, or Worker Safety are anticipated. The State's Environment should benefit by the improved management of tricolored blackbirds.

(c) Cost Impacts on a Representative Private Person or Business:

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

NRCS compensates a farmer for about 85 percent of the value of a crop affected by harvest delay. The late harvest silage crop may retain a portion of its full value after the tricolored blackbirds have vacated the affected acreage. The funds compensate for 85 percent of the fullest crop value or $633.99 per acre. The proposed regulation would permit farmers that participate in the NRCS program to avoid costs that could be incurred in the event of the incidental take of tricolored blackbird. Farmers may be able to retain some crop value (greater than the NRCS 85 percent compensation value) from the delayed harvest and also avoid take penalties and processing costs.

(d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

The Commission has determined that the proposed regulation will likely provide cost savings to state agencies in an undetermined amount. In the absence of the proposed regulation, the Department would have to authorize take of the tricolored blackbird on a project-by-project basis, which is both time-consuming and costly for both the Department in processing and authorizing such take, as well as to state agencies seeking take authorization.

(e) Nondiscretionary Costs/Savings to Local Agencies:

The Commission has determined that adoption of the proposed regulation will likely provide cost savings to local agencies in an undetermined amount. In the absence of the proposed regulation, the Department would have to authorize take of the tricolored blackbird on a project-by-project basis, which is both time-consuming and costly to local agencies seeking take authorization. These delays and cancellations may cause great economic harm to persons already lawfully engaged in such activities, their employees, their local communities, and the State of California.

(f) Programs Mandated on Local Agencies or School Districts: None.

(g) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code: None.

(h) Effect on Housing Costs: None.

VII. Economic Impact Assessment:

Without the proposed regulation, prospective permittees, many of whom already have the necessary entitlements to proceed with their approved projects, would be subject to CESA's take prohibition without, by any reasonable measure, an ability to obtain the necessary state authorization during the candidacy period. As a practical matter, activities that result in the take of tricolored blackbird would be prohibited and could not be implemented pending final action by the Commission on the listing petition, an action whereby tricolored blackbird may or may not be listed as endangered or threatened under CESA. As a result, many projects that are planned or underway that provide great economic and other benefits to the permittees, their employees, their local communities, and the State of California would be postponed during the candidacy period or canceled entirely.

NRCS funds compensate a farmer for about 85 percent of the value of a crop affected by a harvest delay. Under the NRCS program, a colony is identified and the area inhabited by the colony is delineated by a biologist. Once the colony is delineated, a buffer is established and the farmer is allowed to harvest only those

fields outside the colony site and buffer area. The tricolored blackbird was designated as a candidate for listing, and is therefore subject to the regulatory protections provided by CESA. Promulgating a regulation to authorize incidental take provides farmers assurances that if they agree to follow the requirements imposed by NRCS, delay harvest, and protect the colony nesting in their field, they will not be penalized in the event a small number of birds are taken incidental to their beneficial conservation actions in delaying harvest and otherwise lawful agricultural activities.

The NRCS program provides compensation at $636.99 per acre of tricolored blackbird occupied land for delaying the harvest of silage crops. Farmers are funded for approximately 85% of the peak crop value. Farmers may be able to reap some value from the late harvest of the silage crop and also avoid take penalties and processing costs.

(a) Effects of the Regulation on the Creation or Elimination of Jobs Within the State:

The Commission does not anticipate impact on the creation or elimination of jobs within the state.

(b) Effects of the Regulation on the Creation of New Businesses or the Elimination of Existing Businesses Within the State:

The proposed action is not anticipated to impact the creation of new businesses or the elimination of existing businesses within the state.

(c) Effects of the Regulation on the Expansion of Businesses Currently Doing Business Within the State:

The proposed action is not anticipated to impact the expansion of businesses currently doing business within the state.

(d) Benefits of the Regulation to the Health and Welfare of California Residents:

No impact on the Health and Welfare of California Residents is anticipated.

(e) Benefits of the Regulation to Worker Safety:

No impact to Worker Safety is anticipated.

(f) Benefits of the Regulation to the State's Environment:

The Commission anticipates benefits to the State’s Environment with the

improved protection of tricolor blackbirds.

(g) Other Benefits of the Regulation:

None.

Informative Digest/Policy Statement Overview

The Fish and Game Commission (Commission) is the decision-making body that implements the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.). As described in greater detail below, CESA authorizes the Commission to establish lists of threatened and endangered species, and to add or remove species from those lists if it finds, upon receipt of sufficient scientific information, that the action is warranted. Pursuant to Section 2084, Fish and Game Code, the Commission may authorize, subject to the terms and conditions it prescribes, the taking of any candidate species while the Department of Fish and Wildlife (Department) and Commission evaluate whether the species should be listed as threatened or endangered under CESA.

Historically, tricolored blackbirds nested in native flora in or adjacent to wetlands in the Central Valley and elsewhere across the State of California. Concomitant with the loss of wetlands during the 19th and 20th centuries, tricolored blackbirds have adapted to nest in varied substrates. For example, grain fields planted for winter silage on dairy farms provide attractive nesting sites for the species; unfortunately, nesting occurs at about the same time the crops are scheduled for harvest.

For the past two decades, a patchwork of funding sources has been used to pay farmers for a lost crop when they agree to delay harvest until after tricolored blackbird nesting is complete. In some cases, particularly where funding was unavailable or farmers were not aware of the potential for funding to offset losses, harvest has occurred before the young fledged. Recently, the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) committed to provide multiple years of funding to support a program to delay harvest of fields in which tricolored blackbird colonies have nested. At the same time, Dairy Cares, an organization composed of dairy businesses across California, in coordination with other farming interests has initiated an active campaign to educate dairy farmers about tricolored blackbird and the NRCS-funded program. In 2016, through a coordinated effort including NRCS, farming interests, the Department, and Audubon California, dairy farmers enrolled in the NRCS program delayed harvest on fields where an estimated 67,000 tricolored blackbirds nested.

NRCS funds compensate a farmer for about 85 percent of the value of a crop lost by a harvest delay. Under the NRCS program, a colony is identified and the area inhabited by the colony is delineated by a biologist. Once the colony is delineated, a buffer is established and the farmer is allowed to harvest only those fields outside the colony site and buffer area. Delaying harvest protects the vast majority of the colony until the birds fledge, but it does not guarantee that no take will occur. The tricolored blackbird was designated as a candidate for listing, and is therefore subject to the regulatory protections provided by CESA. Promulgating a regulation to authorize incidental take provides farmers assurances that if they agree to follow the requirements imposed by NRCS, delay harvest, and protect the colony nesting in their field, they will not be

penalized in the event a small number of birds are taken incidental to their beneficial conservation actions in delaying harvest and otherwise lawful agricultural activities.

The harvest management programs administered by NRCS and the Department can be expected to protect tens of thousands of nesting tricolored blackbirds provided farmers are incentivized to participate. However, the designation of the tricolored blackbird as a candidate for listing under CESA could inhibit participation in the harvest management programs. This regulation, in combination with funding from NRCS, will provide farmers with a strong incentive to participate in the harvest management program.

Tricolored blackbird nesting can begin as early as February. The timing of this nesting relative to the listing determination requires that a regulation be in place to conserve nesting tricolored blackbirds and protect farmers that enroll in one of the harvest management programs in 2018. Such action will effectuate the purposes of Fish and Game Code Section 2084 and CESA more broadly. Absent this regulation, enrollment in the NRCS program may decline. Furthermore, farmers may elect to plant lower value crops that do not provide nesting habitat for tricolored blackbird, thereby decreasing available nesting habitat; farmers may harvest their crop early before onset of the nesting season, which would decrease the value of the crop and also decrease available nesting habitat; or farmers may risk harvesting their crop even if tricolored blackbird are present.

Without this regulation, prospective permittees, many of whom already have the necessary entitlements to proceed with their approved projects, would be subject to CESA's take prohibition without, by any reasonable measure, an ability to obtain the necessary state authorization during the candidacy period. As a practical matter, activities that result in the take of tricolored blackbird would be prohibited and could not be implemented pending final action by the Commission on the listing petition, an action whereby tricolored blackbird may or may not be listed as endangered or threatened under CESA. As a result, many projects that are planned or underway that provide great economic and other benefits to the permittees, their employees, their local communities, and the State of California would be postponed during the candidacy period or canceled entirely.

Proposed Regulations

Section 749.9 authorizes incidental take of the tricolored blackbird during candidacy for three categories of activities:

(1) Actions to protect, restore, conserve or enhance habitat.

(2) Actions to monitor tricolored blackbird breeding colonies.

(3) Harvest of grain crops under a harvest management program to protect colonies.

(a) Take Authorization.

(1) Actions to Protect, Restore, Conserve, or Enhance Habitat.

Subdivision 749.9(a)(1), authorizes take of the tricolored blackbird incidental to otherwise lawful activity, where the purpose of the activity is to protect, restore, conserve, or enhance habitat for a species designated as an endangered, threatened, or candidate species under state or federal law. Without Section 749.9, subdivision (a)(1), take of the tricolored blackbird incidental to otherwise lawful activities to protect, restore, conserve, or enhance habitat for a species designated as an endangered, threatened, or candidate species under state or federal law would require authorization by the Department through an individual ITP which is a lengthy, complicated process. Ongoing and planned activities to protect, restore, conserve, or enhance habitat are critical during this candidacy period. The status of many listed species is precarious, and even the slightest delay in initiated or continued implementation of any related conservation actions could adversely affect or otherwise cause further decline of these species. In addition, any further decline in the status of listed species will lead to increased costs to the Department because more resources will be required to conserve species populations to the extent where protective measures are no longer necessary. Increased cost will also be shouldered by prospective permittees, who will be charged with funding mitigation and related monitoring required for impacts of their projects on the species.

Adoption of this regulation would minimize the hardships that would result from delays in ongoing or new lawful activities to protect, restore, conserve, and enhance the habitat of state or federally threatened or endangered species (including the tricolored blackbird). The Commission finds that impacts to activities to protect, restore, conserve, or enhance habitat of state or federally threatened or endangered species caused by designating the tricolored blackbird as a candidate species requires immediate action.

(2) Actions to Monitor Tricolored Blackbird Breeding Colonies.

Section 749.9, subdivision (a)(2), authorizes take of tricolored blackbird incidental to efforts to monitor active tricolored blackbird breeding colonies, including entering colonies to perform walking transects. Only trained observers approved by the Department will be authorized to engage in such monitoring.

Without Section 749.9, subdivision (a)(2), the necessary monitoring would not occur to ensure the protection and immediate conservation of tricolored blackbird during the upcoming harvest of grain fields planted for silage. Department guidance suggests that walking survey transects

through a portion of the colony could be used to estimate the nesting stage of breeding colonies and inform decisions necessary to comply with subsection (a)(3).

(3) Harvest of Grain Crops under a Harvest Management Program to Protect Colonies.

Section 749.9, subdivision (a)(3), authorizes take of tricolored blackbird incidental to harvest of grain fields and related agricultural activities where the individual participates in a harvest management program administered by the Natural Resources Conservation Service (NRCS), or harvest management program administered or approved by the Department. The harvest management program shall include the establishment of a buffer zone and harvest date as described under Topics 1 and 2 in the document "California Department of Fish and Wildlife (Department) Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015" (adopted on March 19, 2015 and available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=99310&inline) . An individual seeking authorization for take incidental to harvest of grain fields and related agricultural activities shall receive written confirmation of participation in the harvest management program and must obtain specific authorization for the timing of harvest and related agricultural activities from NRCS, the Department, or a biologist authorized by the Department or NRCS before proceeding with any harvest activities that take tricolor blackbirds

Without Section 749.9, subdivison (a)(3), enrollment in the NRCS program may decline, which is necessary to ensure the protection and immediate conservation of the tricolored blackbird during the upcoming harvest of grain fields planted for silage.

(b) Reporting.

Section 749.9, subdivision (a)(2), requires that any person, individual, organization, or public agency, or their agents, for which incidental take of tricolored blackbirds is authorized pursuant to subdivision (a)(1) or (a)(3), shall report observations and detections of tricolored blackbird colonies, including take, to the Department's Wildlife Branch by August 1 during the candidacy period.

As discussed in III above, it is vital that during this candidacy period detections and observations of the tricolored blackbird are reported to the Department so the Department can base its recommendation to the Commission on whether listing tricolored blackbird is warranted on the

most complete information possible.

(c) Additions, Modifications or Revocation.

Incidental take of tricolored blackbird from activities not addressed in this section may be authorized during the candidacy period by the Commission pursuant to Fish and Game Code Section 2084, or by the Department on a case-by-case basis pursuant to Fish and Game Code Section 2081, or other authority provided by law.

This subdivision is necessary to clarify that subdivision (a)(1)-(3) are not the only ways in which incidental take may be allowed and that other avenues for authorizing the take of tricolored blackbird are not precluded by the language.

Benefits of the Proposed Regulations
It is the policy of this state to encourage the conservation, maintenance, and utilization of the living resources of the ocean and inland waters under the jurisdiction and influence of the state for the benefit of all the citizens of the State. The objectives of this policy include, but are not limited to, the maintenance of sufficient populations of all species of terrestrial organisms to ensure their continued existence and the maintenance of a sufficient resource to support a reasonable sport use.

The benefits of the proposed regulations are concurrence with Federal law, sustainable management of California's tricolored blackbird resources.

Evaluation of Incompatibility With Existing Regulations:
Section 20, Article IV, of the State Constitution specifies that the Legislature may delegate to the Commission such powers relating to the protection and propagation of fish and game as the Legislature sees fit. The Legislature has delegated to the Commission the power to establish regulations for the incidental take of a candidate species (FGC Section 2084). Commission staff has searched California Code of Regulations and has found that the proposed regulation is neither inconsistent nor incompatible with existing state regulations.

Regulatory Text

Section 749.9, Title 14, CCR, is added to read:

Section 749.9. Incidental Take of Tricolored Blackbird (*Agelaius tricolor*) During Candidacy Period

This regulation authorizes take as defined by Fish and Game Code Section 86, of tricolored blackbird in the limited circumstances described below, subject to certain terms and conditions, during the species' candidacy under the California Endangered Species Act (Fish and Game Code, Section 2050 et seq.).

(a) Take Authorization.

The commission authorizes the take of tricolored blackbird during the candidacy period subject to the terms and conditions herein.

(1) Actions to Protect, Restore, Conserve, or Enhance Habitat.

Take of tricolored blackbird incidental to otherwise lawful activity, where the purpose of the activity is to protect, restore, conserve, or enhance habitat for a species designated as an endangered, threatened, or candidate species under state or federal law.

(2) Actions to Monitor Tricolored Blackbird Breeding Colonies.

Take of tricolored blackbird incidental to efforts to monitor active tricolored blackbird breeding colonies, including entering colonies to perform walking transects. Only trained observers who are approved by the department will be authorized to engage in such monitoring.

(3) Harvest of Grain Crops Under Harvest Management Program to Protect Colonies.

Take of tricolored blackbird incidental to harvest of grain fields and related agricultural activities is authorized where an individual participates in a harvest management program administered by the Natural Resources Conservation Service (NRCS), or harvest management program administered or approved by the department; the harvest management program shall include the establishment of a buffer zone and harvest date as described under Topics 1 and 2 in the document “California Department of Fish and Wildlife (Department) Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015” (adopted on March 19, 2015 and available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=99310&inline). The individual seeking authorization for take incidental to harvest of grain fields and related agricultural activities shall receive written confirmation of participation in the harvest management program and must obtain specific authorization for the timing of harvest and related agricultural activities from NRCS, the department, or a biologist authorized by the department or NRCS before proceeding with any harvest activities that take tricolor blackbirds.

(b) Reporting.

Any person, individual, organization, or public agency, or their agents, for which incidental take of tricolored blackbirds is authorized pursuant to subsections (a)(1) or (a)(3), shall report observations and detections of tricolored blackbird colonies, including take, to the department’s Wildlife Branch by August 1 during the candidacy period.

Information reported to the department pursuant to this subsection shall include: a contact name; the date and location (GPS coordinate preferred) of the colony or take; colony size; colony outcome; and details regarding the tricolored blackbirds observed. Colony outcome means whether the colony was abandoned or whether young in a colony fledged. Any person, individual, organization, or public agency, or their agents seeking incidental take authorization pursuant to subsection (a)(3), shall report their participation in an approved harvest management program to the department prior to grain harvest.

(c) Additions, Modifications or Revocation.

Incidental take of tricolored blackbird from activities not addressed in this section may be authorized during the candidacy period by the commission pursuant to Fish and Game Code Section 2084, or by the department on a case-by-case basis pursuant to Fish and Game Code Section 2081, or other authority provided by law.

Note: Authority cited: Sections 200, 265, 399 and 2084, Fish and Game Code. Reference: Sections 200, 265, 399, 2080, 2084 and 2085, Fish and Game Code.

CALIFORNIA FARM BUREAU FEDERATION
GOVERNMENTAL AFFAIRS DIVISION
1127-11TH STREET, SUITE 626, SACRAMENTO, CA 95814 • PHONE (916) 446-4647

September 28, 2017

Eric Sklar, President
California Fish and Game Commission
1416 9th Street, Room 1320
Sacramento, CA 95814

RE: Regulations concerning the incidental take of tricolored blackbird (Agelaius tricolor) during candidacy period

Dear President Sklar:

The California Farm Bureau Federation (Farm Bureau) is writing to express appreciation and support for the proposed notice of intent to adopt a 2084 regulation allowing incidental take in limited circumstances during the candidacy period of the Tricolored Blackbird. Farm Bureau represents more than 48,000 members as it strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources. Our dairy farmer members who plant small grain crops adjacent to their dairies provide valuable nesting habitat for Tricolored Blackbirds, but need incidental take protection when they agree to provide that habitat.

Farm Bureau appreciates the Fish and Game Commission's (Commission) continued engagement on this issue. The 2084 regulation protects dairy farmers who provide habitat for Tricolored Blackbirds from liability under the California Endangered Species Act (CESA). Farm Bureau appreciates the Commission's adoption of a 2084 regulation for Tricolored Blackbirds the previous two breeding seasons. Both nesting seasons proved successful and having a 2084 regulation in place has been helpful when conducting outreach with dairy farmers on this important issue.

Having a 2084 regulation in place for the 2017 nesting season will ensure that farmers who agree to protect colonies of Tricolored Blackbirds nesting in their grain fields are not put at risk of violating CESA. Farm Bureau appreciates the Commission's continued commitment to providing incidental take protection to dairy farmers who agree to provide and protect nesting habitat for Tricolored Blackbirds by proposing to publish a notice of intent to adopt another 2084 regulation. Should you have any questions, please contact Noelle G. Cremers (916/446-4647 or ncremers@cfbf.com).

Sincerely,

Noelle G. Cremers
Director, Natural Resources and Commodities

CENTER for BIOLOGICAL DIVERSITY Because life is good.

Working through science, law and creative media to secure a future for all species, great or small, hovering on the brink of extinction.

VIA ELECTRONIC MAIL

September 28, 2017

Fish and Game Commissioners
Valerie Termini, Executive Director
1416 Ninth Street, Room 1320
Sacramento, CA 95814
fgc@fgc.ca.gov

Re: Comments re Item #5. Authorize publication of notice of intent to adopt regulations concerning the incidental take of tricolored blackbird during candidacy period (Section 749.9, Title 14, CCR)

Dear Commissioners and Executive Director Termini,

I am writing on behalf of the Center for Biological Diversity ("Center") regarding the possible authorization of publication of a notice of intent to adopt regulations concerning the incidental take of tricolored blackbird during candidacy period (Section 749.9, Title 14, CCR), pursuant to Fish and Game Code Section 2084.

The Center has not opposed similar regulations adopted in the past. However, as the Tricolor Blackbird awaits a full status review from the California Department of Fish and Wildlife ("CDFW"), the Center is very concerned about the large numbers of Tricolor Blackbirds taken during harvesting activities in 2017 in violation of CESA. The Center believes that before authorizing publication of this notice, the Commission must review how the regulation authorizing incidental take functioned over the last season and whether the regulation needs to be revised.

Because it is unclear from the agenda whether CDFW is going to make a presentation at the October 11, 2017 meeting, the Center is providing the information we have been able to obtain to date that shows significant impacts to nest Tricolor Blackbirds last year with an identical regulation in place. Attached is an email the Center received from CDFW on August 7, 2017 along with a spreadsheet transmitting data from the 2017 harvest season. (Attachments A and B.)

The Commission and the public need to understand what happened this year that lead to the loss of nests and birds, in order to fully consider whether changes are need in the regulation to better protect the Tricolor Blackbird.

Of greatest concern is the loss of approximately 11,000 Tricolor Blackbirds from the nesting colony in Madera County (see Attachment B, Footnote d estimating that the colony had

Lisa T. Belenky • Senior Attorney • 1212 Broadway, Suite 800 Oakland, CA 94612
tel: (415) 632-5307 fax: (510) 844-7150 lbelenky@biologicaldiversity.org *www.BiologicalDiversity.org*

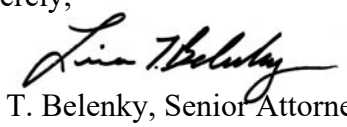
approximately 12,500 birds before harvesting, and an entry regarding Madera estimating the colony size as approximately 1,000 birds "during contract" after it was belatedly enrolled in the NRCS program; indicating a loss of approximately 11,000 nesting birds). While not all of those 11,000 birds were likely killed, many certainly were and the disruption of eggs and nests and breeding is a significant loss to this candidate species. (*See also* discussion in Attachment C at 22 ["reproductive success of this colony was minimal due to the harvest activities."].)It appears that despite the large amount of unpermitted take, the site was later enrolled in the program to cover the remaining nesting colony. There is no public information explaining why this large amount of take occurred despite the regulation and program being in place—was outreach and information lacking? Is more oversight of the program needed by CDFW?

In contrast, there was a small amount of incidental take of nests in Kern County which more properly appears to be within what was contemplated in adopting the regulation. In that case, "6-10 nests were accidently destroyed by a tractor that was turning in a field" at a dairy supporting over 45,000 birds at 4 locations. (Attachment A, Attachment B.) And "1,000s of fledglings observed in multiple fields; at least 2 nesting attempts in all four fields." (Attachment B.) The dairy was enrolled in the NRCS program and this incidental take was covered by the 2084 take authorization.

While the Center appreciates all the efforts that have been made to protect breeding colonies of Tricolor Blackbirds under the programs, at this time we must oppose the Commission authorizing the publication of a notice of intent at this time. I hope to attend the meeting on October 11, 2017 in order to participate in the discussion regarding whether changes should be made to the proposed regulation before the notice is published.

Please do not hesitate to contact me if you have any questions about the issues raised in these comments.

Sincerely,



Lisa T. Belenky, Senior Attorney
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
lbelenky@biologicaldiversity.org

Attachment A: Email from CDFW, August 7, 2017.

Attachment B: Data from CDFW provided with August 7, 2017 email.

Attachment C: 2017 Tricolored Blackbird Monitoring Report, Tricolored Blackbird Survey and Colony Protection, San Joaquin Valley, California (received September 28, 2017).

Attachment A

Lisa Belenky

From: Clipperton, Neil@Wildlife <Neil.Clipperton@wildlife.ca.gov>
Sent: Monday, August 7, 2017 4:33 PM
To: Lisa Belenky
Subject: RE: Data on Tricolor and this year's program?
Attachments: TRBL_2017season_AgColoniesSummary.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: remember

Hi Lisa,

Sorry it took me a little long to compile everything from the 2017 breeding season. See attached for a table of results for silage colonies. Some of this info might change if I receive additional reports, but it should be pretty close to final.

There was a small amount of take on a single dairy in Kern County. 6-10 nests were accidently destroyed by a tractor that was turning in a field. The dairy hosted more than 45,000 breeding birds so the take was relatively small and they were covered by the 2084 take authorization.

A grain field in Madera County that hosted a breeding colony was partially harvested and a portion of the colony was destroyed. This site was not enrolled in the NRCS program and no take authorization was in place. This is an ongoing law enforcement case, which I cannot discuss.

Because of the potential sensitivity of the data, I have removed specific locality information and landowner contact information from the table.

Please let me know if you have any questions or would like to discuss.

Thanks,

Neil

Neil Clipperton
California Department of Fish and Wildlife
Statewide Coordinator - Bird Conservation
Wildlife Branch
1812 9th Street
Sacramento, CA 95811
916-445-9753
neil.clipperton@wildlife.ca.gov
www.wildlife.ca.gov

From: Lisa Belenky [mailto:lbelenky@biologicaldiversity.org]
Sent: Monday, July 31, 2017 4:19 PM
To: Clipperton, Neil@Wildlife <Neil.Clipperton@wildlife.ca.gov>
Subject: RE: Data on Tricolor and this year's program?

Attachment B

Observations of Tricolored Blackbird colonies on agricultural silage fields during the 2017 breeding season.

County	Name	Observation Dates	Colony Size [a]	Colony Outcome	Acres Occupied	Acres protected (including buffer)	Take	Other Details
Kern	Poso [b]	March 15 - May 22	45,000+ total at four sites [c]	Fledged young	minumum of 92	160.3 total contracted acres for four Poso sites	6-10 nests destroyed in one field (some nests with eggs; 2 or more nests with 7-9 day old nestlings)	1,000s of fledglings observed in multiple fields; at least 2 nesting attempts in all four fields.
Kern	Pond Road	March 15 - May 30	16,000	Fledged young	not reported	38	none known	Multiple nesting attempts (believed 3); 40+ fledglings observed on site on May 30.
Tulare	Deer Creek	March 21 -April 28	6,500	Fledged young	not reported	18	none known	Fledglings observed in field but no large groups of fledglings observed. Likely low productivity.
Tulare	Cornerstone	April 17 - May 8	1,000	Fledged young	not reported	39	none known	Few small groups (10-15) of fledglings observed.
Merced	West of Lone Tree	March 29 - May 1	4,200	Fledged young	4.1	9	none known	5,000 birds originally reported to be scouting but fewer settled at site.
Madera	Avenue 14 and Road 15	April 19 - May 22	1,000 during contract [d]	Fledged young	not reported	32	none known during contract term	A portion of the field was harvested before enrolled in NRCS program, and a portion of the colony was destoyed. Colony produced young but only small groups (10-15) observed.
Riverside	Boersma	March 17 - May 11	1,500	Fledged young	not reported	15.1	none known	At least 200 fledglings observed on a single day.
						311.4 total acres contracted		

[a] All colonies were observed on multiple occasions by multiple observers; colony size reported here is the maximum reliable estimate of breeding birds. Estimates do not necessarily represent the number of birds that completed the breeding cycle at a site; a decrease in number of birds over the nest cycle is not uncommon. Estimates also do not necessarily represent unique birds; birds are suspected to have moved between sites in some cases.

[b] Four sites (separate triticale fields with somewhat independent colonies) were tracked independently on a single ownership; compiled into a single record here.

[c] At least 45,000 total birds occurred at four locations. Re-nesting at each of the four sites and potential movement between sites makes total estimation for each of the four sites difficult.

[d] Up to 12,500 birds estimated at the site prior to harvest and prior to enrollment in NRCS program.

Attachment C

2017 Tricolored Blackbird Monitoring Report

Tricolored Blackbird Survey and Colony Protection
San Joaquin Valley, California
Agreement Number P1680043

PREPARED FOR:

California Department of Fish and Wildlife
Nongame Wildlife Program
1812 9th Street
Sacramento, CA 95811

PREPARED BY:

Colibri Ecological Consulting, LLC
9493 N Fort Washington, Suite 108
Fresno, CA 93730
www.colibri-ecology.com

September 2017

Abstract

We located and monitored tricolored blackbird (*Agelaius tricolor*) nesting colonies in Merced, Madera, Tulare, and Kern counties, California, in agricultural fields and wetlands that have historically supported large colonies of nesting tricolored blackbirds. The surveys were performed between late March and early June under contract with the California Department of Fish and Wildlife, Agreement Number P1680043. As stipulated in the contract, we focused our monitoring efforts on tricolored blackbird colonies in grain crops adjacent to dairies. We located and monitored tricolored blackbird colonies at 13 sites throughout the San Joaquin Valley. Of these, eight colonies were in agricultural fields associated with dairies, four colonies were in wetlands, and one colony was in native pastureland. We documented an estimated total of 72,964–110,414 adult tricolored blackbirds. Tricolored blackbirds nested and successfully fledged young at 11 of the 13 colony sites. Agricultural activities adversely impacted two or three tricolored blackbird colonies, including one large colony that was destroyed by silage harvest.

Contents

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Introduction

The tricolored blackbird (*Agelaius tricolor*) is a colonially nesting songbird that is largely endemic to California, with more than 99% of its population occurring in the state (Meese et al. 2014). It is an itinerant breeder, capable of nesting multiple times each breeding season. It nests in wetlands and agricultural fields, where it forms the largest nesting colonies of any North American passerine bird (Meese et al. 2014).

Once abundant, the tricolored blackbird has undergone population declines throughout its historical range, especially in the San Joaquin Valley (Kyle and Kelsey 2011). Tricolored blackbird populations have declined owing to habitat loss resulting from water diversions, draining of wetlands, conversion to agriculture, conversion of row crops to orchards or other unsuitable crops, and urbanization (UC Davis 2017). Tricolored blackbirds are persecuted as agricultural pests and are sometimes shot or poisoned despite their legal protection under federal and state laws. Tricolored blackbirds are also vulnerable to the destruction of large breeding colonies during the harvest of grain crops in which they often nest.

The tricolored blackbird has been designated a Species of Conservation Concern by the United States Fish and Wildlife Service (USFWS 1995). It was state-listed as endangered in California under an emergency petition in 2014, but that status expired in 2015. It is currently a candidate species for listing under the California Endangered Species Act. It is also considered a Species of Special Concern by the California Department of Fish and Wildlife (CDFW) (Shuford and Gardali 2008).

In the San Joaquin Valley, tricolored blackbirds often associate with dairies and feedlots, where they form colonies in silage fields planted with triticale or other grain crops used as cattle forage. These dairy sites provide the three critical breeding habitat elements tricolored blackbirds require: suitable nesting substrate (grain crops), a water source (agricultural ditches or wastewater ponds), and an abundance of food (grain and insects) (Meese 2013). However, dairy sites also render tricolored blackbird colonies susceptible to destruction from grain harvest. Protecting these large colonies in agricultural fields associated with dairies is a main conservation focus of the Tricolored Blackbird Working Group. The tricolored blackbird Working Group is voluntary alliance of state and federal agency biologists, non-governmental organizations, industry representatives, and academic scientists who work cooperatively to help sustain and enhance tricolored blackbird populations and habitats. Through their efforts,

several silage-buyout and silage-harvest-delay programs have been established and implemented to encourage farmers to avoid harvesting fields containing tricolored blackbird colonies.

The CDFW has participated in developing a conservation plan for the tricolored blackbird. Among the tasks included in that plan are the annual detection and season-long monitoring of tricolored blackbird colonies to estimate colony size and reproductive success of the largest colonies. Fulfilling these tasks was the focus of our surveys and monitoring. We located and monitored tricolored blackbird colonies in California with emphasis on those in the San Joaquin Valley. We also assessed the productivity of these colonies and served as a colony evaluator for a multidisciplinary team addressing issues surrounding colonies established in grain fields. As specified in the contract, the focus of our surveys and monitoring was tricolored blackbird colonies established in agricultural grain fields associated with dairies. The surveys were performed under contract with CDFW, Agreement Number P1680043.

Methods

We detected tricolored blackbird colonies in portions of Madera, Merced, Tulare, and Kern counties, California, by driving public roads in and around silage fields associated with dairies, while actively searching for large concentrations of tricolored blackbirds and foraging flights indicative of colony establishment. In addition, we visited wetlands and agricultural fields that have historically supported large colonies of tricolored blackbirds (Figure 1).

Colibri Senior Scientist, Scott Frazer, conducted the field work, with ancillary support from Colibri Principal Scientist Jeff Davis. Historical tricolored blackbird colony sites were surveyed and monitored with varying levels of effort, beginning in late March and early April and continuing through early June. Priority was given to sites adjacent to dairies, where as many as nine site visits were made per site. Wetland sites were visited less frequently.

Each site was viewed from various vantage points using binoculars and a spotting scope to estimate colony size, determine ratios of male to female tricolored blackbirds, evaluate and characterize nesting activity, and identify and quantify any fledglings. Access to two colony sites was limited due to private property constraints. The Cherokee Forebay site and the Poso site were viewed from adjacent state-owned lands or duck clubs at a range of 0.2–0.5 miles. Determining sex ratios and identifying fledglings was generally not achievable under these circumstances.

Colony size was generally estimated during the settlement and nestling stages, periods when most birds in the colony are visible (Meese 2017). However, due to delays in the contract and periods of inclement weather, this was not always possible. Colony sizes were estimated following the guidelines provided in *Tricolored Blackbird 2017 Statewide Survey Training* (Meese 2017). For smaller colonies, precise counts were made by counting individual tricolored blackbirds or by counting tricolored blackbirds in groups of fives or tens. For larger colonies, where precise counting is not feasible, scanning surveys were conducted. Such surveys were conducted by estimating the number of tricolored blackbirds in a defined fraction of the colony, then multiplying this estimate by the number of defined areas the colony occupies. Scanning surveys were also conducted of tricolored blackbirds in transit by estimating the number of tricolored blackbirds flying past a point during a specified interval of time then multiplying the resulting estimate by the number of time intervals needed for the flock to pass. Estimating sizes of larger colonies typically involved using both scanning survey techniques.

Figure 1. Survey area.

We confirmed nesting activity when female tricolored blackbirds were observed carrying nesting material into fields containing large numbers of tricolored blackbirds. Whenever a tricolored blackbird colony was detected in an agricultural field where routine crop harvest could destroy the colony, landowners were contacted by Tricolored Blackbird Working Group partner organizations (Audubon California, Western United Dairymen, National Resources Conservation Service) or CDFW contract manager Neil Clipperton to prevent colony destruction.

Reproductive success was categorized as low, moderate, or high based on observations of colony behavior, number of juvenile tricolored blackbirds, and the extent of the period during which tricolored blackbirds fledged from the colony. Nest census surveys were conducted at three sites (Cornerstone, Deer Creek Dairy, and Road 14 and Avenue 15), where tricolored blackbird nests were counted and characterized during walking transects.

Results

We detected and monitored 12 historical tricolored blackbird colonies in Merced, Tulare, and Kern counties, California, in and around agricultural fields or wetlands (Figure 1, Table 1). In addition, we detected and monitored a 13th colony site in an agricultural field at Avenue 14 and Road 15 in Madera County (Figures 1 and 2) that was previously undocumented and incidentally located on 08 April 2017. We surveyed and monitored five historical sites in Merced County, including two in fallow agricultural fields (Hulen Levee and Fahey South, Figures 3 and 4), one in a wetland (Marshall Levee Pond, Figure 5), one in native pasture (Cherokee Forebay, Figure 6), and one in an agricultural field planted with triticale (West of Lone Tree, Figure 7). We surveyed three historical sites in Tulare County, including two in agricultural fields planted with triticale (Cornerstone and Deer Creek Dairy, Figures 8 and 9) and one in a wetland (Atwell Island Ton Tache Unit 4, Figure 10). Four historical sites were surveyed in Kern County, including two in wetlands (Kern National Wildlife Refuge and Tule Road, Figures 11 and 12), one in an agricultural field planted with triticale (Poso, Figure 13), and one in an agricultural field planted with forage mix (Pond Road, Figure 14).

Eight tricolored blackbird colonies were in agricultural fields associated with dairies, four were in wetlands, and one was in native pastureland (Table 1). Of the eight colonies in agricultural fields, two colonies were in fallow fields, four colonies were in fields planted with triticale, and two colonies were in fields planted with forage mix (Table 1). We detected a total of 72,964 (low estimate) to 110,414 (high estimate) adult tricolored blackbirds at these 13 colony sites (Table 1). The largest colonies were Poso (with 30,000–35,000 adult tricolored blackbirds), Pond Road (with 12,000-20,000 adult tricolored blackbirds), and Road 14 and Avenue 15 (with 10,000-20,000 adult tricolored blackbirds). The smallest colony was at the Tule Road site, where only 14 adult tricolored blackbirds were detected.

We confirmed tricolored blackbird nesting at 12 of the 13 colony sites[1]. Of the 12 known breeding sites, 11 successfully fledged young tricolored blackbirds. However, the reproductive output was minimal at the Road 14 and Avenue 15 colony due to grain harvest and at Cherokee Forebay due to heavy cattle grazing. We heard nestling tricolored blackbirds at the Tule Road site but were unable to confirm fledging there. Five of the 11 tricolored blackbird colonies that fledged young had high reproductive success. Those included the colonies at Marshall Levee Pond, Fahey South, Atwell Island Ton Tache Unit 4, Poso, and Pond Road.

[1] Audubon California (2017) independently documented nesting near the one site (West of Lone Tree) where we did not confirm nesting.

Table 1. Tricolored blackbird sites by habitat, nesting outcome, reproductive success, colony size, and adverse impacts from agriculture.

Site # (See Figure 1)	Site Name	Habitat	Nesting Outcome	Reproductive Success (RS)	Colony Size (# of breeding adults)	Adverse Impacts from Agriculture	Comments
1	Hulen Levee	Ag-Fallow	Fledged	Unknown	2,000–3,000	None	
2	Marshall Levee Pond	Wetland adjacent to a lagoon	Fledged	High (for a small colony)	150–200	None	Vigorous small colony
3	Fahey South	Ag-Fallow	Fledged (multiple cycles)	High	3,000–6,000	None Field untouched by farming operations for duration of nesting season	
4	Cherokee Forebay	Native Pasture	Fledged	Minimal	1,000–2,000	Colony adversely impacted by grazing activity	RS difficult to determine from distant vantage point
5	West of Lone Tree	Ag-Triticale at historical site; oats and mallow at occupied site	Fledged*	Minimal*	3,000	Possible impacts from harvest	*Successful nesting and fledging documented by Audubon California (2017)
6	Avenue 14 and Road 15	Ag-Forage Mix	Colony effectively destroyed by harvest	Minimal	10,000–20,000	Large portion of colony was harvested during nesting	Minimal nesting occurred in unharvested portion of field
7	Cornerstone	Ag-Triticale	Fledged	Low	800–1,200	None	Small colony size and patchy nest substrate

Site # (See Figure 1)	Site Name	Habitat	Nesting Outcome	Reproductive Success (RS)	Colony Size (# of breeding adults)	Adverse Impacts from Agriculture	Comments
8	Deer Creek Dairy	Ag-Triticale	Fledged	Low to Moderate	4,000–5,000	None	Nest substrate patchily distributed
9	Atwell Island Ton Tache Unit 4	Wetland	Fledged	High	4,000–10,000	None	Problem with water delivery prevented subsequent nesting activity
10	Kern NWR	Wetland/Slough	Fledged	Unknown	3,000–5,000	None	
11	Poso[2]	Ag-Triticale	Fledged (Two cycles)	High	30,000–35,000	None Field untouched by farming operations for duration of nesting season	This site included four individual fields occupied by tricolored blackbirds.
12	Pond Road	Ag-Forage Mix	Fledged (Multiple cycles of nesting)	High	12,000–20,000	None Field untouched by farming operations for duration of nesting season	Asynchronous colony fledged young for over 30 days
13	Tule Road	Wetland	Likely fledged but unknown	Unknown	14	None	Only small portion of historical habitat suitable for nesting this year

[2] This site represents four occupied fields that are tracked as separate colony sites (Poso 2, Poso 5, Poso 6, and Poso 7) in the Tricolored Blackbird Portal (http://tricolor.ice.ucdavis.edu).

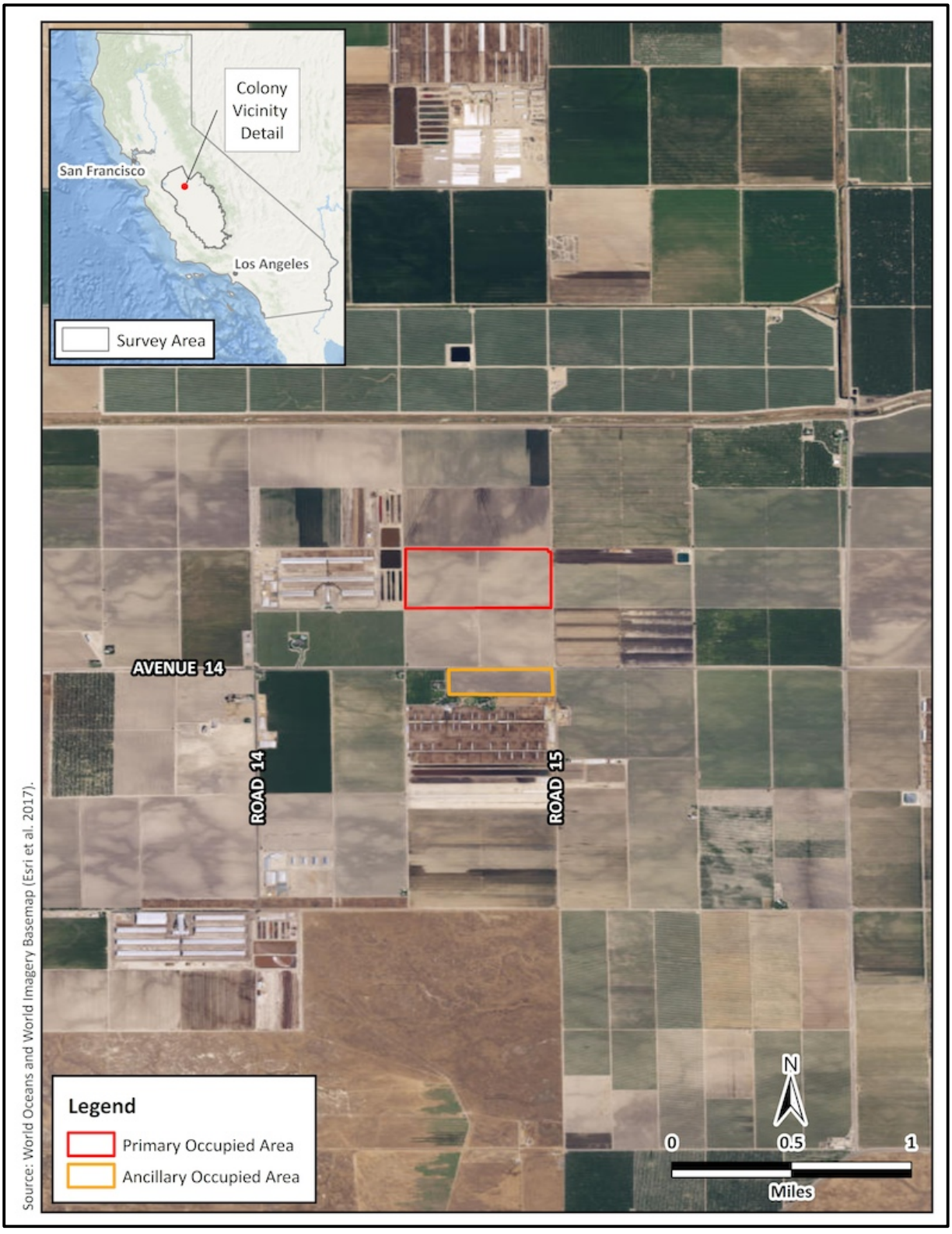

Figure 2. Avenue 14 and Road 15, Madera County. Agricultural field planted with forage mix.

Figure 3. Hulen Levee, Merced County. Fallow agricultural field.

Figure 4. Fahey South, Merced County. Fallow agricultural field.

Figure 5. Marshall Levee Pond, Merced County. Wetland adjacent to a lagoon.

Figure 6. Cherokee Forebay, Merced County. Native pastureland.

Figure 7. West of Lone Tree, Merced County. Agricultural field planted with triticale.

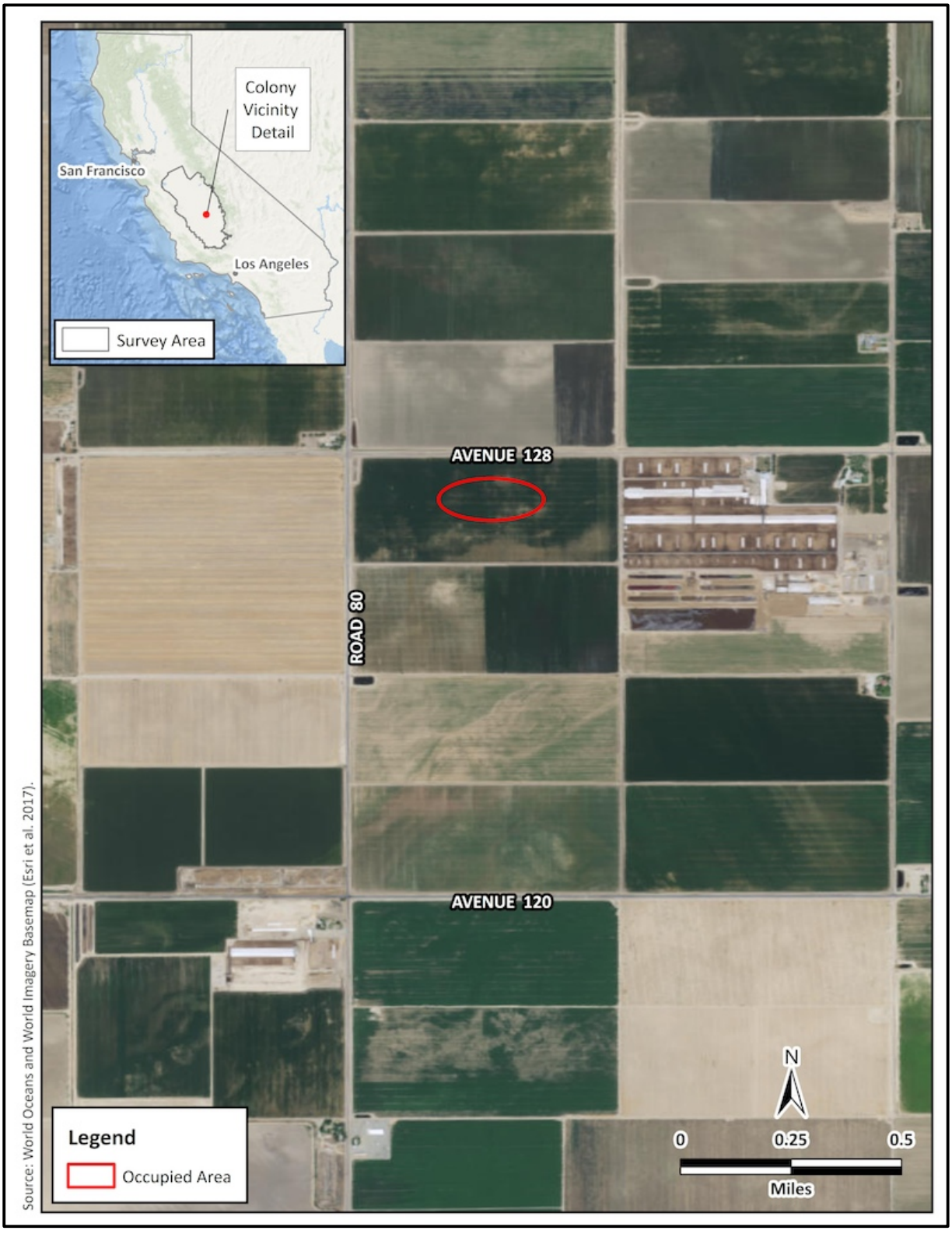

Figure 8. Cornerstone, Tulare County. Agricultural field planted with triticale.

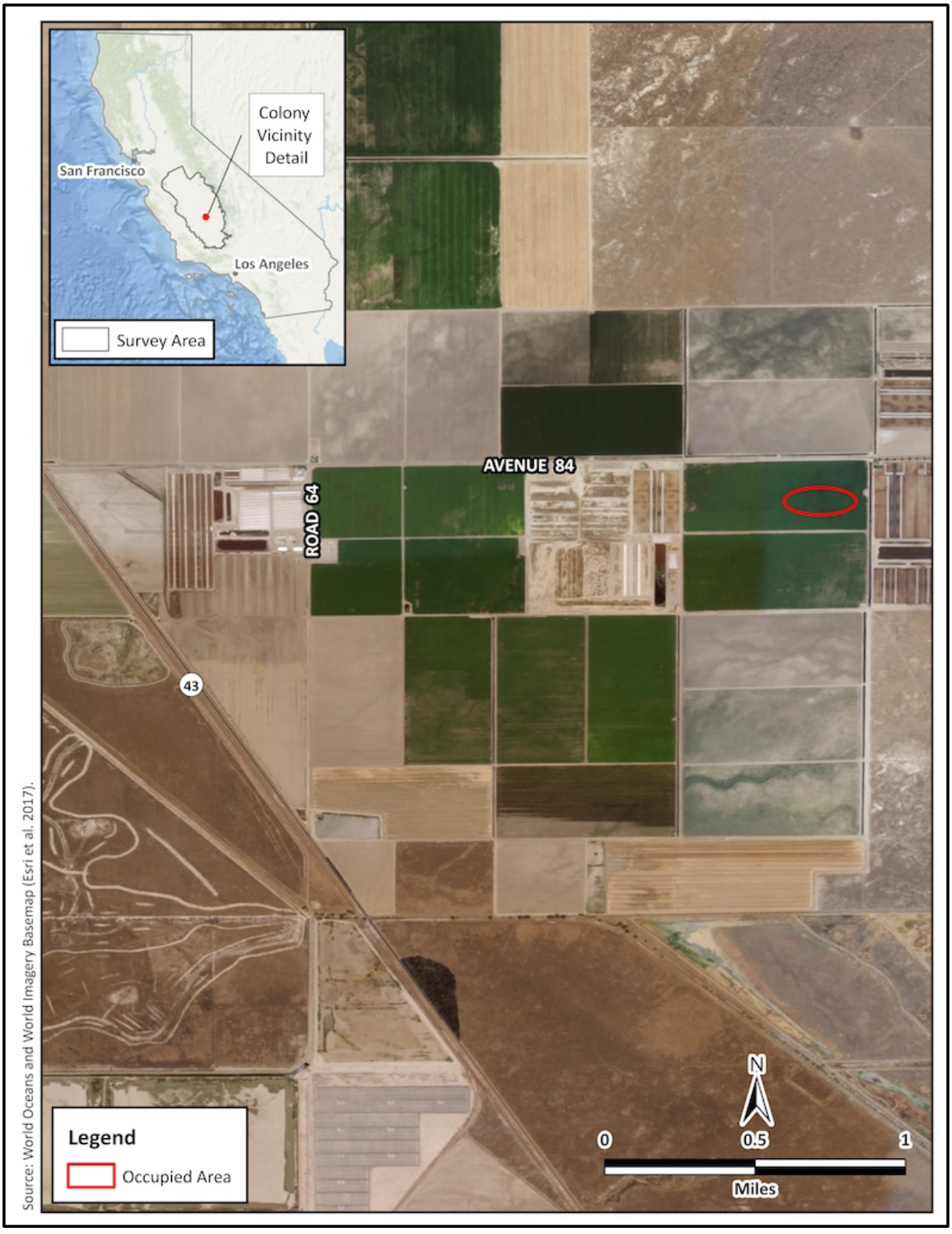

Figure 9. Deer Creek Dairy, Tulare County. Agricultural field planted with triticale.

Figure 10. Atwell Island Ton Tache Unit 4, Tulare County. Wetland.

Figure 11. Kern National Wildlife Refuge, Kern County. Wetland.

Figure 12. Tule Road, Kern County. Wetland.

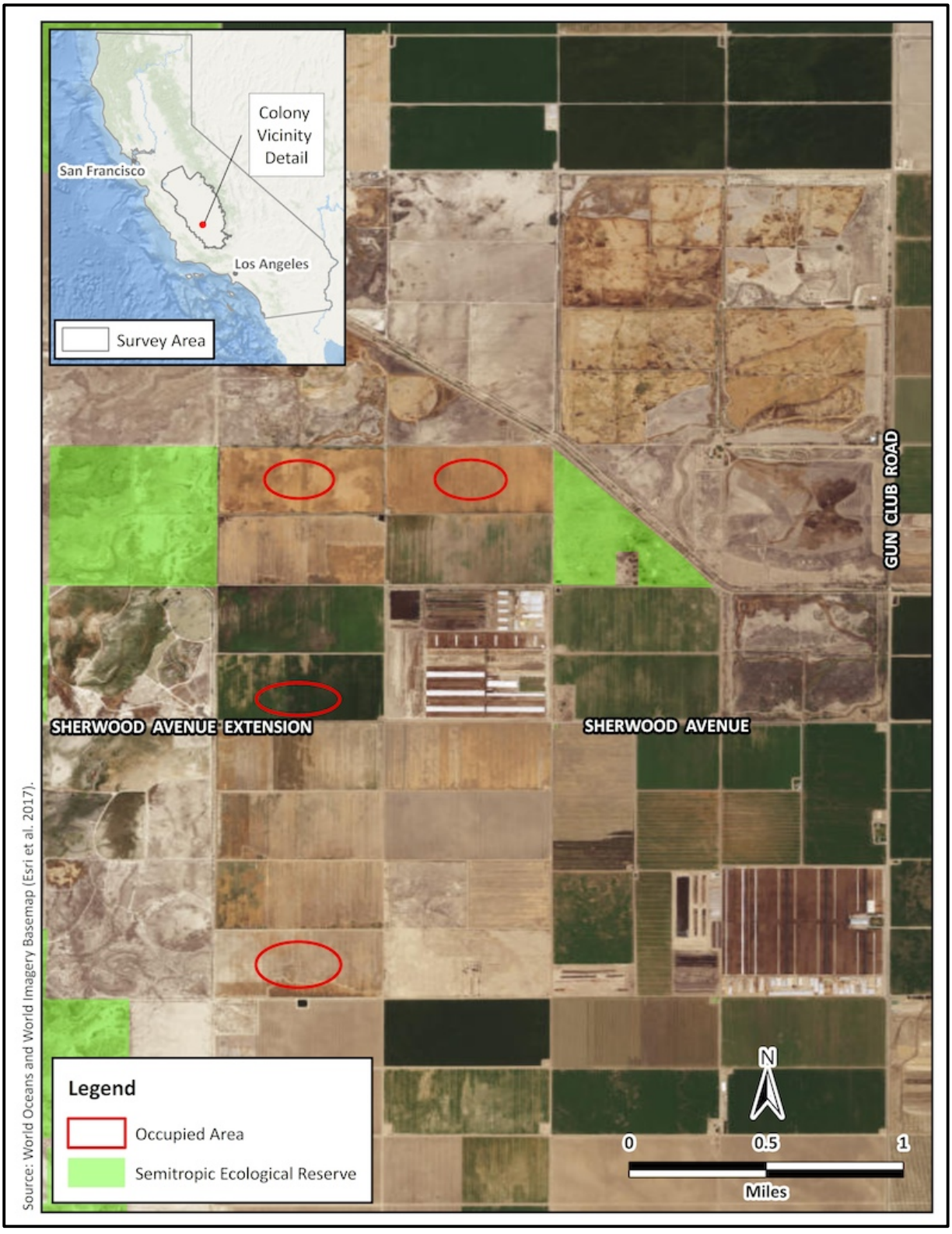

Figure 13. Poso, Kern County. Agricultural fields planted with triticale.

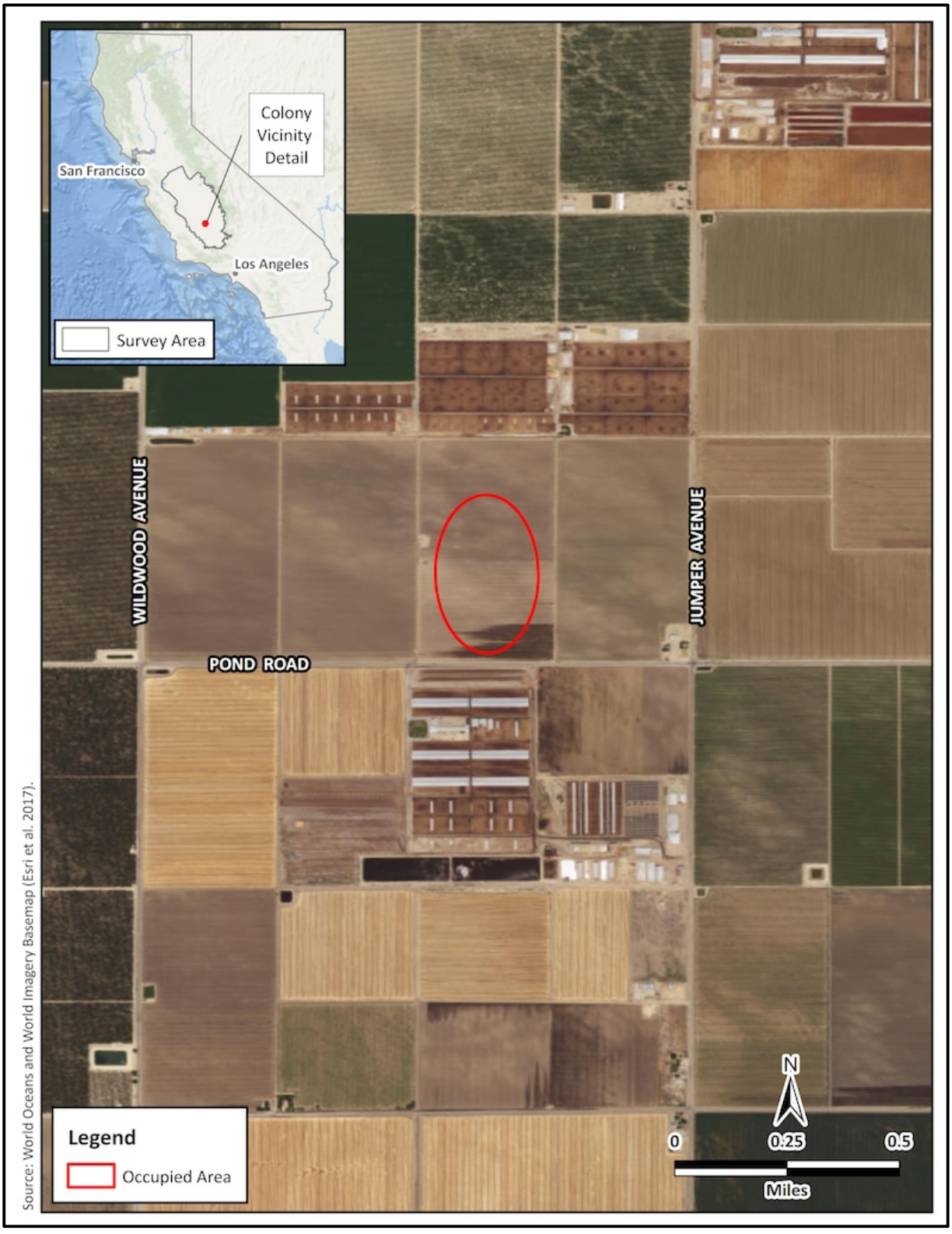

Figure 14. Pond Road, Kern County. Agricultural field planted with forage mix.

Discussion

Agricultural Impacts

Two or three tricolored blackbird colonies were adversely impacted by agricultural activities.

Road 14 and Avenue 15

Despite early colony detection and communication between the Natural Resources Conservation Service (NRCS) and the landowner, one of the largest tricolored blackbird colonies detected during the 2017 field season (Road 14 and Avenue 15) was essentially destroyed by grain harvest. The landowner was informed of silage-harvest-delay programs but moved forward with the harvest rather than receiving payment and delaying harvest. The landowner indicated post-harvest that he was unaware of the legal protected status of the tricolored blackbird. This breakdown in communication highlights the need for an improved process to prevent such destruction of tricolored blackbird colonies in the future.

During a 19 April 2017 field visit to the Road 14 and Avenue 15 site, we estimated 5,000 to 10,000 tricolored blackbird nests based on the area occupied. However, shortly after this visit, a large portion of the field containing the colony was harvested. Scott Frazer met with CDFW Warden Garrett Lenz on 27 April 2017 to assess the impact of the harvest on the colony. Mr. Frazer walked 200 feet into the unharvested portion of the field and documented three nests with eggs, two nests with nestlings, seven empty nests, one partial nest, two juvenile tricolored blackbirds, and one nest that had been destroyed by harvesting. Although the colony was quiet, the unharvested portion of the field remained at least partially occupied. Nevertheless, the reproductive success of this colony was minimal due to the harvest activities. All monitoring at this site ceased following this site visit due to the initiation of a CDFW law enforcement investigation. Consequently, the estimated number of tricolored blackbirds fledged from the unharvested portion of the field was not determined.

Cherokee Forebay

The Cherokee Forebay colony site was heavily grazed throughout the tricolored blackbird nesting period, which adversely impacted the nesting substrate and disrupted nesting activities. In addition, a silage field near the Cherokee Forebay colony that contained male tricolored blackbirds during an early season visit was harvested four to six weeks early, prior to colony establishment. Although the extent of the impact was not quantifiable, the minimal reproductive success of this colony is likely attributable to the grazing disturbance.

West of Lone Tree

During a 06 April 2017 field visit to the West of Lone Tree site, we found that a portion of the grain crops there had recently been harvested. Tricolored blackbirds at the site were behaving chaotically, consistent with behavior observed at colonies immediately following colony destruction by harvest. We did not confirm nesting at this site and had assumed the colony was disrupted or destroyed by harvest operations. However, Audubon California (2017) independently documented breeding about 0.1 miles north of this historical colony location. Therefore, we cannot confirm whether a colony was ever present at the historical location in 2017.

Nest Transects

With few exceptions, nest transects were not conducted during the 2017 field season due to extenuating circumstances. The vegetation at some sites (e.g., Pond Road) was determined to be so dense that conducting transect surveys would incidentally damage tricolored blackbird nests. Access to other sites (e.g., Poso and Cherokee Forebay) was not authorized. We did not enter asynchronous colonies (e.g., Fahey South) to avoid triggering premature fledging. And we did not enter wetland colonies (e.g., Marshall Levee Pond, Atwell Island Ton Tache Unit 4, Kern National Wildlife Refuge, and Tule Road) as they were not the focus of the contract. Nest surveys were conducted at three sites (Cornerstone, Deer Creek Dairy, and Road 14 and Avenue 15). However, these were not protocol level nest transects, and the results provided only anecdotal information on the reproductive success at these sites.

Field Types

Two of the largest tricolored blackbird colonies (Avenue 14 and Road 15 and Pond Road) were in agricultural fields planted with forage mix. More typically, the largest colonies in agricultural fields are in fields planted with triticale. While the Avenue 14 and Road 15 site was largely destroyed by harvest, the Pond Road colony was successful and had high reproductive success. This suggests that early breeding season reconnaissance surveys for tricolored blackbird colonies should not overlook fields planted with forage mix as potential tricolored blackbird nesting habitat.

Conservation Successes

The colonies at Fahey South, Pond Road, and Poso represent substantial conservation successes. These large colonies were untouched by farming operations for several months throughout the duration of the breeding season, and multiple cycles of breeding occurred, resulting in high reproductive success. These colonies serve as good examples of how communication and cooperation between regulators and landowners can result in a positive conservation outcome for tricolored blackbirds.

Conclusion

Monitoring of San Joaquin Valley tricolored blackbird colonies throughout the breeding season and communication between Tricolored Blackbird Working Group partners and landowners of silage fields resulted in conservation successes at most of the eight dairy-associated colonies. The large tricolored blackbird colony at Road 14 and Avenue 15 in Madera County, however, was largely destroyed by harvest despite early detection and communication between NRCS and the landowner.

Recommendations for Conservation

Early Colony Detection

Due to delays in contracting, tricolored blackbird surveys were not initiated until late March. However, tricolored blackbird colonies can become established well before late March, and large colonies can be overlooked in the incubation phase (Hamilton 2004). In addition, based on nest records, nesting colonies from 2000 to present have initiated earlier in the season than they did historically (Frazer 2016). To locate and monitor colonies that initiate early, we recommend that future contracts start at the beginning of March to minimize the potential for large colonies to go undetected, as early colony detection is key to their conservation.

Alternative Measure of Reproductive Success

We recommend that an alternative quantitative measure of reproductive success be developed in addition to or instead of current nest transect protocol surveys. During nest transect protocol surveys, the number of 7-9-day-old tricolored blackbird chicks is documented along a specified transect. The number of 7-9-day-old tricolored blackbird chicks detected is assumed to represent the number of tricolored blackbirds that will successfully fledge from a given area in the colony (Meese et al. 2014). However, fragile or patchy nest substrate, asynchronous colonies, and limited access to colonies on private lands can render nest transect surveys inadequate or infeasible. Transects in dense, intertwined nesting substrate can be difficult to walk and may cause inadvertent damage to nest structures. Transects in patchy nest substrate, where waking is less impeded, may not be representative of the entire colony. Asynchronous tricolored blackbird colonies may contain large numbers of 10-12-day-old tricolored blackbird chicks, which tend to jump from nests when approached by human observers. These “jumper” chicks may not survive once outside the immediate protection of the nest.

We propose exploring the use of an unmanned aerial vehicle (UAV) to capture aerial imagery of tricolored blackbird nesting colonies during the 2018 field season, then reviewing these images using software such as Timelapse Image Analyzer (Greenberg 2015) to determine the number of nests. We suggest conducting same-day walking nest transects in addition to aerial image analysis to ground truth the potential usefulness of UAV technology in determining the number

of nests. Similar methods are currently used with great success for colonial nesting seabirds (e.g., Hodgson et al. 2016), and UAV technology has also been used to count songbirds (Wilson et al. 2017). We recommend that the Tricolored Blackbird Working Group discuss this strategy and alternative strategies for quantitatively measuring reproductive success at problematic tricolored blackbird colonies. Accurate and reproducible measures of reproductive success across the range of colony types are critical for informing conservation based management decisions for the tricolored blackbird.

Landowner Education

To prevent the destruction of known tricolored blackbird colonies in silage fields, we propose that the Tricolored Blackbird Working Group in collaboration with CDFW draft a flyer or brochure on tricolored blackbird life history, breeding phenology, and legal protections under the California Endangered Species Act, other sections of the California Fish and Game Code, and the Migratory Bird Treaty Act. We propose that NRCS share this brochure with landowners when they initiate contact to discuss silage-harvest-delay and silage-buyout programs. This brochure would help educate landowners on tricolored blackbird colonies and their legal protection status and would help NRCS successfully implement silage-harvest-delay and silage-buyout programs. Preventing destruction of large colonies in silage fields is critical to the conservation of tricolored blackbirds in the San Joaquin Valley.

Timing of Water Deliveries

Lastly, the timing and quantity of water deliveries affect the suitability of ephemeral wetland habitats for nesting by tricolored blackbirds (Frazer 2016). For example, during the 2017 field season, the Atwell Ton Tache Unit 4 site hosted a vigorous tricolored blackbird colony with high reproductive success. However, due to water delivery issues, the wetland dried up and prevented subsequent breeding efforts. Likewise, the Tule Road tricolored blackbird colony occupied only a small portion of the historical colony area due to the lack of well-timed water deliveries. To help promote the success of tricolored blackbird nesting colonies at wetland sites, we recommend that ensuring adequate and well-timed water deliveries at known wetland colony sites be a focus of Tricolored Blackbird Working Group conservation efforts.

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