

The Alarming Decline in Abundance of California's Blackbird, the Tricolor

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- Agency staff and volunteer observers
- Agency staff and volunteer banders



Overview of Presentation

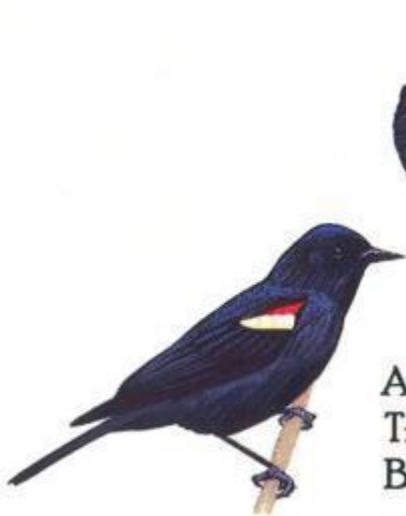
- I. Natural history and field identification
- II. What makes tricolors special?
- III. Trends over past century
 1. Abundance
 2. Distribution
- III. Factors producing trends
- IV. Legal Status
- V. Recovering the tricolor
- VI. The future



Natural History

- Largely endemic to California
> 99% of individuals within state
- Sexually dimorphic in size, plumage, behavior
 - Males ca. 65 g, females ca. 40 g
 - Males glossy black w/red epaulet, white wing bar
 - Females dull brown/grey, heavily streaked ventrally, lesser amounts of color in wings
 - Males attract settling females, typically mate with 2 females, do not help to build nest nor incubate eggs, but do help to feed young

Field Identification



Adult male
Tricolored
Blackbird



Adult male
Red-wing
Blackbird

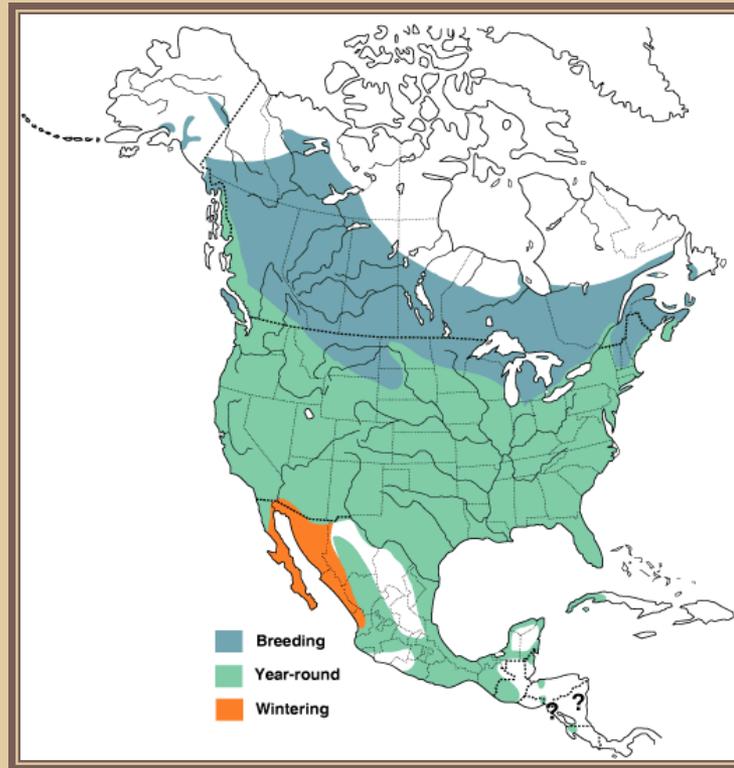




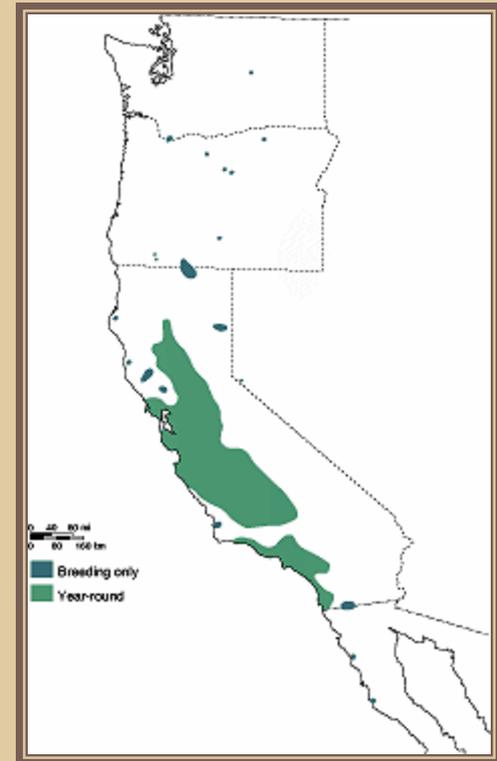
What is the best way to discriminate
between red-wings and tricolors?

Behavior!!!

Comparison to Red-winged Blackbird: Distribution



Red-winged Blackbird



Tricolored Blackbird

Comparison to Red-winged Blackbird: Natural History

Red-winged Blackbird	Tricolored Blackbird
♂ 50-100g	♂ 60-70g
♀ 30-60g	♀ 30-45g
26 subspecies	0 subspecies
Territorial	Highly colonial
Widespread	Nearly endemic to CA
Super-abundant	Much reduced abundance





Natural History

- Nest-building takes 3-4 days
- Females typically lay 3 or 4 eggs
- Nests built in a wide variety of substrates
 - Cattail/bulrush marsh, Himalayan blackberries, nettles, milk thistle, triticale, mustard, mallow, *Arundo donax*
- Incubation ca. 12 days
- Fledging takes 10-14 days
- Brood Reducers
- Itinerant Breeding

Natural History: Breeding Colony Requirements

1. Nesting substrate
2. Open water
3. Food
 1. Require insects and other invertebrates for egg formation and to feed young
 2. Otherwise eat primarily seeds and grains
 3. Very often found in association with livestock due to provisioning of *ad libitum* grains, Sacramento Valley birds often in association with rice





Natural History: Foraging

- Vast majority of foraging occurs within a 6 km radius from colony
- Insects frequently derived from relatively small, highly-productive habitats
 - Agricultural landscapes: alfalfa, sunflowers
 - Remnant shrublands (when caterpillars abundant)
- Exceptions: colonies in grasslands, rice
 - Birds forage widely, may not concentrate on small habitat patches
 - “grasshopper followers”
- Utilize wide range of foraging tactics



What makes tricolors special?

- Colonial
 - Form largest colonies of any North American passerine
- Restricted Range
 - Nearly all individuals in California
 - < 1,000 birds outside California
- Insectivorous during breeding season
 - Females require insects to form eggs
 - Nestlings require insects for first 9 days of life
- Itinerant Breeders
 - Most breed once and then again in a different location (most Central Valley birds)
- Highly diverse foraging tactics



Population Trend

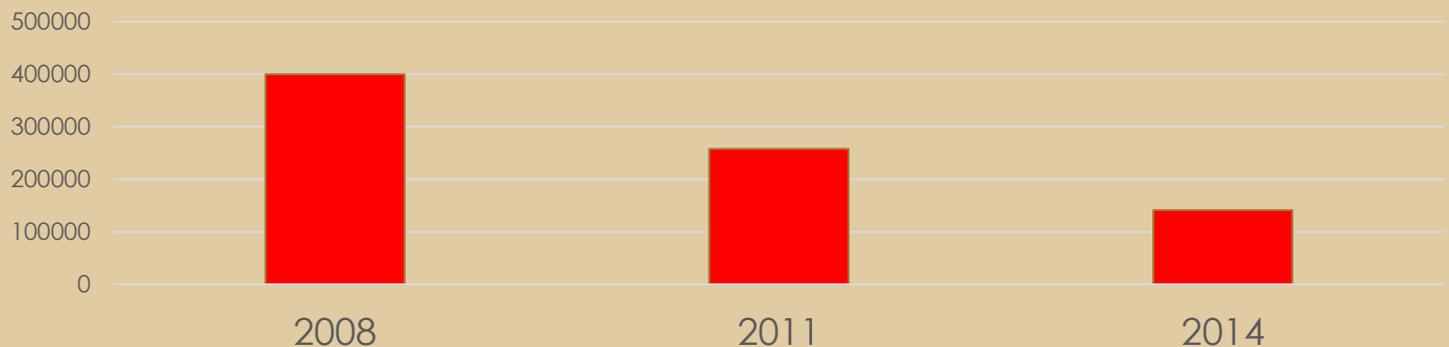
- Pre-Columbian abundance unknown, but certainly in the millions
- Johnson Neff worked with tricolors in 1930's, extrapolation from Central Valley segment: likely 2-3 million birds in 1930s
- "Statewide" Surveys between 1994 and 2005 yielded a wide range of population estimates from 150,000 to 400,000 birds
- Comparing estimates difficult due to differences in completeness, methodology, level of effort, data management, and knowledge

Population Trend

- Statewide Survey methodology changed and Tricolored Blackbird Portal developed in 2008
- 2008, 2011, and 2014 Statewide Surveys **ARE** directly comparable

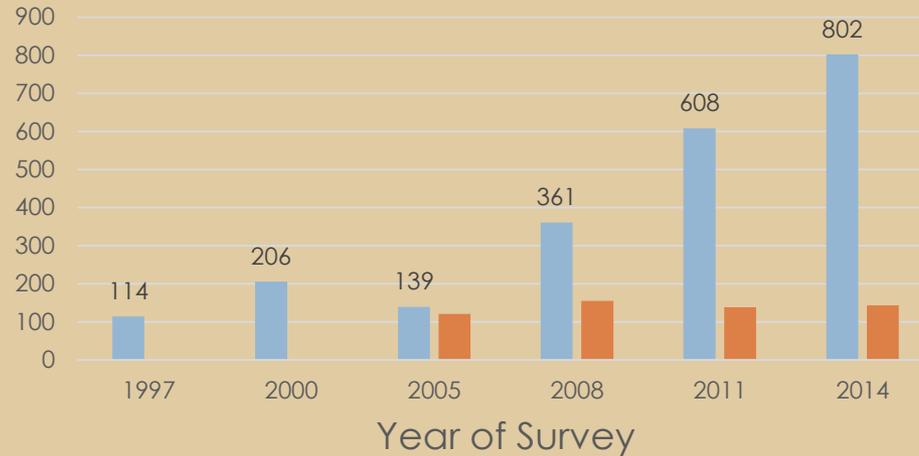
Recent Trend in Abundance

Down 44% in 3 years, 64% in 6 years



Relative Survey Completeness

Statewide Survey Completeness



Number of Counties Surveyed

- 2001: 13
- 2005: 24
- 2008: 35
- 2011: 29
- 2014: 41



Legal Status

- Tricolored Blackbird listed as Endangered under California Endangered Species Act in December, 2014 due to alarming decline documented in the 2008 – 2014 Statewide Surveys and persistent threats to the species
- CBD petitioned for listing under ESA Feb. 3, 2015
 - Is protected under the MBTA
 - Federal species of conservation concern



Distribution Trend

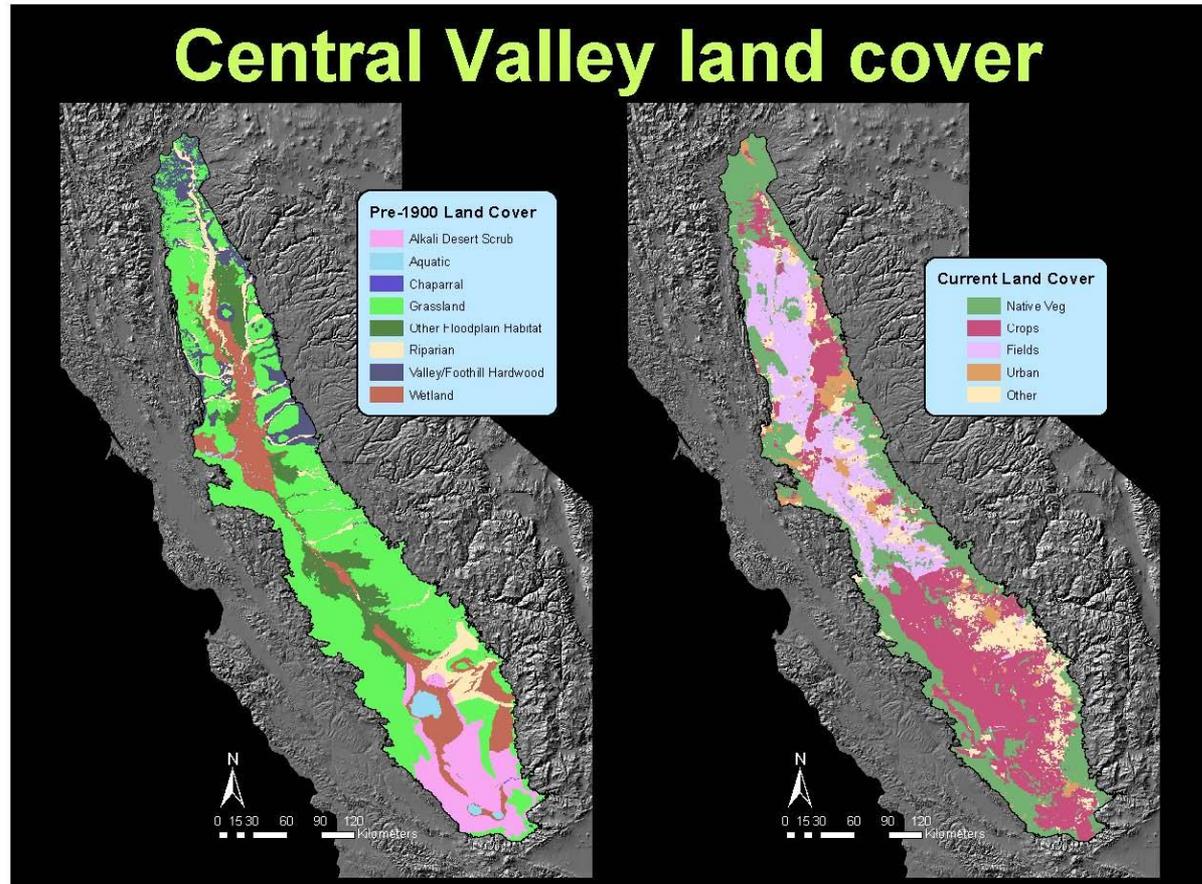
- Almost or entirely eliminated from former coastal marshes in central and southern California
 - Formerly most abundant bird in LA/San Diego region (Unitt 2004)
 - Absent from Orange and Ventura counties
 - 91% reduction in abundance in 6 coastal counties from 2008-2014 (< 700 birds seen in 2014)
- Gaps in distribution in Central Valley
 - Eliminated or nearly eliminated as breeding species from entire counties: San Joaquin, Kings (1)
 - 78% reduction in abundance in San Joaquin Valley from 2008 - 2014



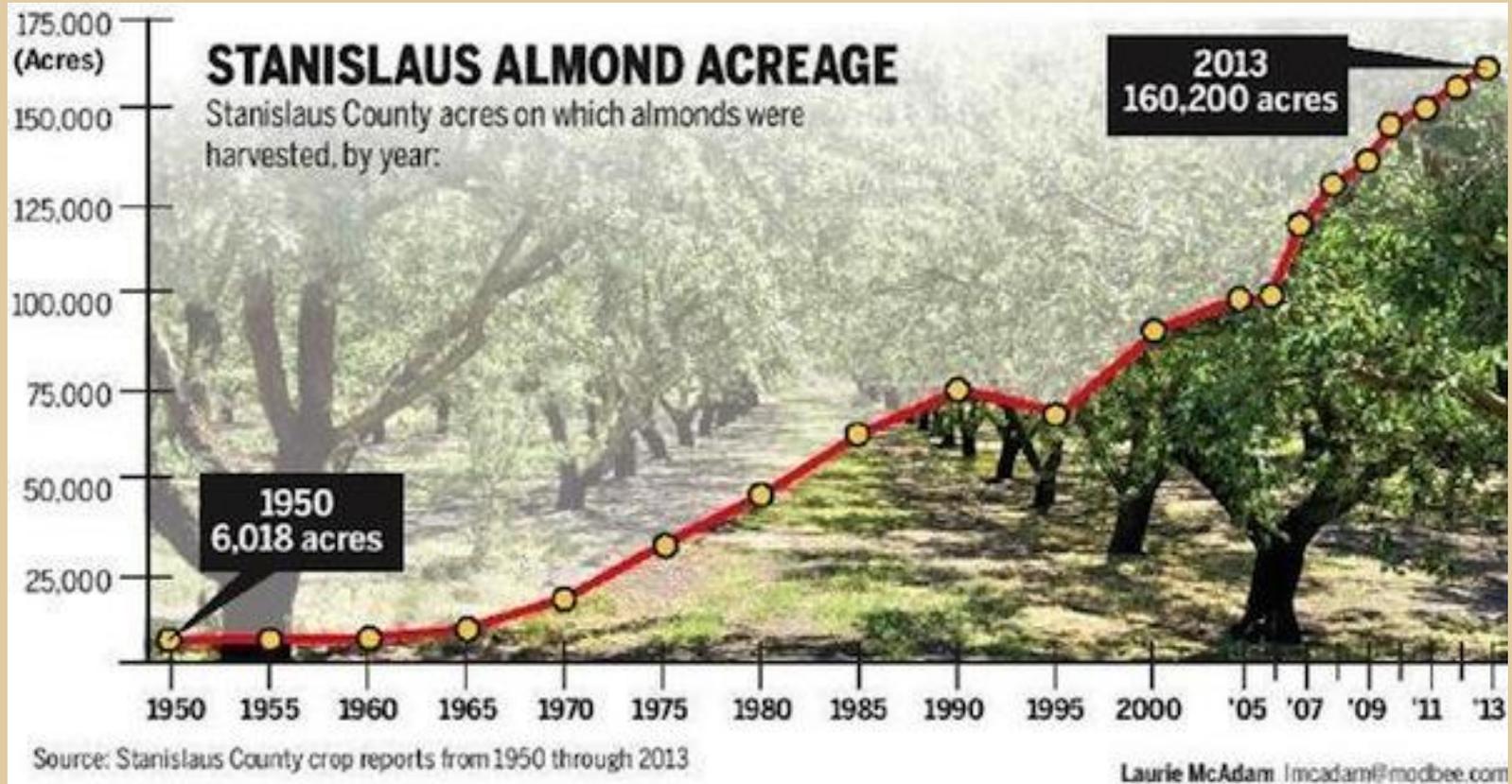
Factors Causing Decline

- Habitat Loss
 - Land conversions
 - Agriculture
 - Urbanization
 - Water Diversions and Overdrafts
 - Loss of extensive Central Valley as well as coastal marsh habitats
- Deliberate poisoning
 - Agricultural pests; strychnine (banned in 1972)
- Shooting
 - Market hunting
 - Agricultural pests (supposed to have stopped when added to list of birds protected under MBTA in 1989 but continues today)
- Destruction of Colonies During Silage Harvest
- Pesticides?

Loss of Habitats



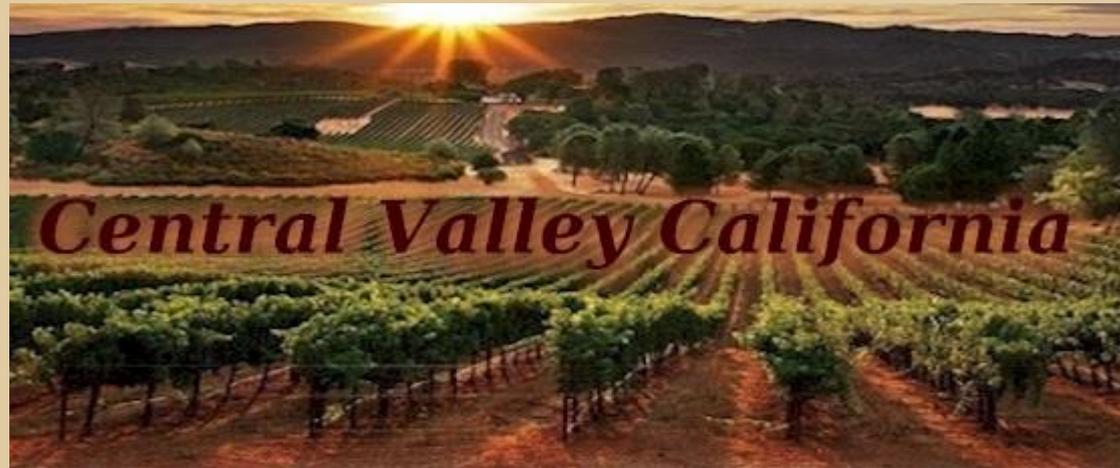
Nut Orchards - Almonds



Nut Orchards - Pistachios



Vineyards



Dairies



Rice



Harvest of Grain Fields used by Birds

Plainsburg Road,
Merced County

Tricolored Blackbird
Colony Destruction

May 19, 2006



Autumnal Shooting in Ripening Rice

- In autumn, tricolors flock with other blackbird species and European starlings in the Sacramento Valley and feed on ripening rice
- These other species are exempted from protections under the Migratory Bird Treaty Act when causing or are about to cause depredations to ripening rice, may be legally shot
- In autumn, an unknown number of birds is shot when in multi-species flocks in ripening rice
- New reporting requirements may help, but any tricolor shot may bring penalties under CESA



Recovering the Tricolor

- Recovering the Tricolored Blackbird will be exceedingly difficult
 - Primary driver of decline: habitat loss
 - Colonial nesting habit + insect-dependence means intense demands on nearby landscapes
 - In nearly the entire Central Valley floor, foraging habitats are either anthropogenic and unproductive or semi-natural remnants and too small
 - Insecticides reduce insect populations further
- Strategic Choices in Strategic Locations
 - In San Joaquin Valley
 - Private duck club (nesting habitat + water) adjacent to large (160 acres+) amounts of unsprayed alfalfa
 - National Wildlife Refuge (nesting habitat + water) adjacent to rangelands
 - Sympathetic dairyman (nesting habitat) adjacent to rangelands



Recovering the Tricolor

- Sacramento Valley
 - National Wildlife Refuges and State Wildlife Areas are nesting habitat islands in a sea of rice – where are birds to forage?
 - Conservation Easements on strategic properties where adequate foraging habitat exists
 - Conaway Ranch, Yolo County
 - Organic rice, nearby alfalfa and sunflowers
 - Yuba County
 - Ranches with ponds and Himalayan blackberries plus irrigated pasture
- Southern California
 - Protected areas for nesting but severely limited foraging
 - Man-made wetlands
 - water treatment facilities (artificial wetlands)
 - flood protection
 - alfalfa for foraging?
- Coast
 - 91% reduction in abundance 2008-2014
 - Work with private landowners to conserve and enhance existing wetlands
 - Foraging in grasslands, coast live oaks for caterpillars?



Recovering the Tricolor

- Central Sierra Foothills
 - Population up 25% in 6 years (2008-2014)
 - Extensive foraging in rangelands – grasshoppers
 - Livestock + tricolors mutually beneficial
 - Expand nesting habitats?
- Education and outreach
 - Ranchers, dairymen, RCDs, county ag commissioners
- Administrative + Legal
 - Modify MBTA to prohibit shooting in autumn?
 - Eliminate mortality to post-breeding adults foraging with other blackbird species in ripening rice
 - Review County General Plans, HCPs for tricolor-specific provisions



The Future

- Near-term outlook bleak
 - Decline will continue - we're not at the bottom
 - Habitat losses continue – options few
 - 2012-2014 worst 3 years of breeding ever recorded
 - On-going drought intensifying effects
 - No stable age distribution: population aging
- We're getting started very (too?) late
- On-the-ground actions must start now
- All man-caused mortality must cease
 - Killing of eggs and nestlings during harvest
 - Shooting of adults in autumn
- Productivity must increase
 - Foraging habitats/insect availability key to productivity

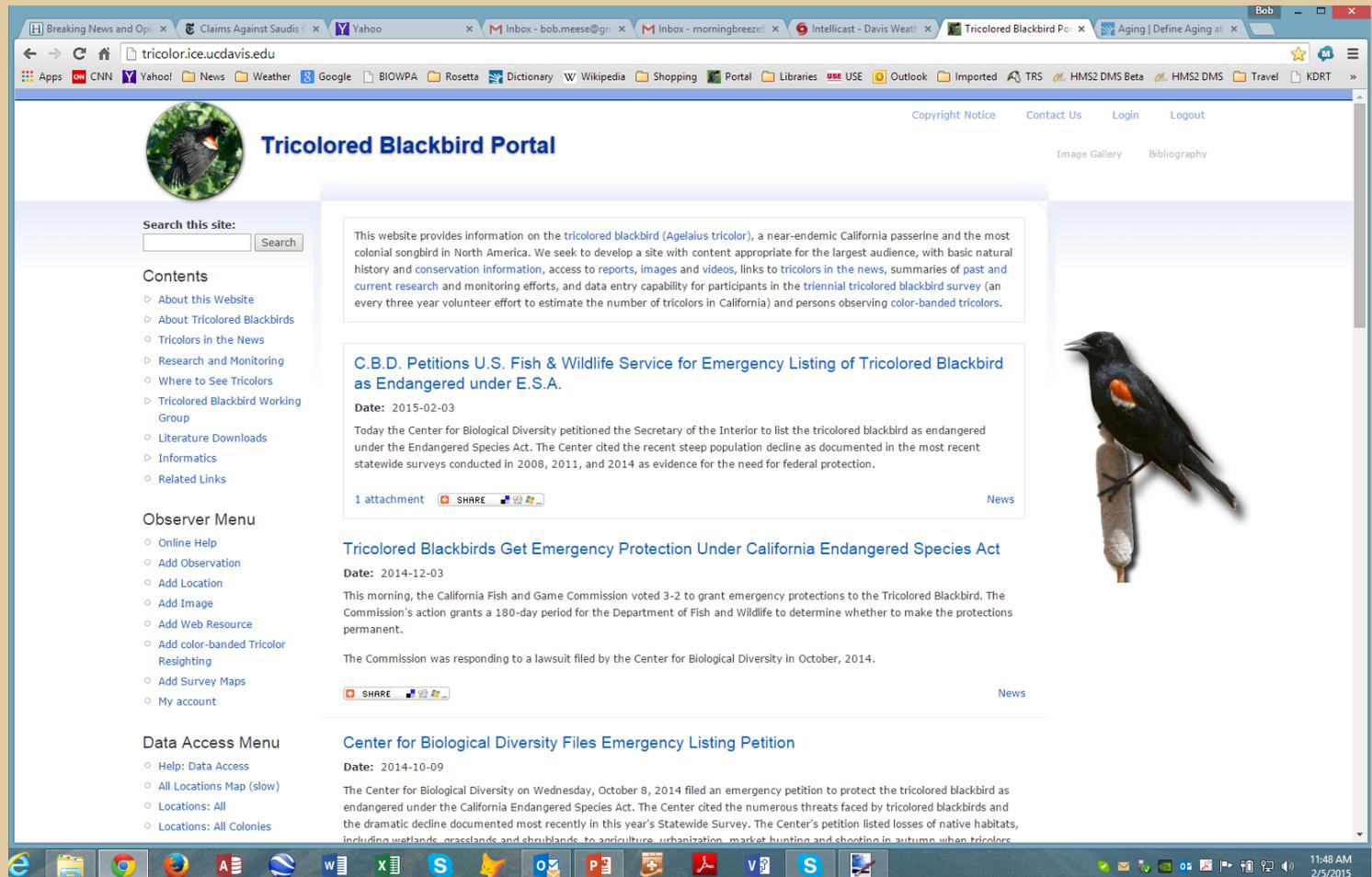


The Future

- We must get started now with strategically-chosen actions in strategically-chosen locations
- Focus on southern California and San Joaquin Valley where birds were recently the most abundant
- We need an “all hands on deck” approach that includes industry, land owners, county, state, and federal agencies, experts and public and private protected areas including DOD properties, State Wildlife Areas, National Wildlife Refuges, private ranches

Tricolored Blackbird Portal:

<http://tricolor.ice.ucdavis.edu>



The screenshot shows a web browser window displaying the Tricolored Blackbird Portal. The browser's address bar shows the URL tricolor.ice.ucdavis.edu. The website has a blue header with the title "Tricolored Blackbird Portal" and a circular logo of a blackbird. Navigation links include "Copyright Notice", "Contact Us", "Login", "Logout", "Image Gallery", and "Bibliography".

Search this site:

Contents

- ▷ About this Website
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- ▷ Literature Downloads
- ▷ Informatics
- ▷ Related Links

Observer Menu

- Online Help
- Add Observation
- Add Location
- Add Image
- Add Web Resource
- Add color-banded Tricolor Resighting
- Add Survey Maps
- My account

Data Access Menu

- Help: Data Access
- All Locations Map (slow)
- Locations: All
- Locations: All Colonies

News Article 1:

This website provides information on the **tricolored blackbird** (*Agelaius tricolor*), a near-endemic California passerine and the most colonial songbird in North America. We seek to develop a site with content appropriate for the largest audience, with basic natural history and **conservation information**, access to **reports**, **images** and **videos**, links to **tricolors in the news**, summaries of **past and current research** and monitoring efforts, and data entry capability for participants in the **triennial tricolored blackbird survey** (an every three year volunteer effort to estimate the number of tricolors in California) and persons observing color-banded tricolors.

C.B.D. Petitions U.S. Fish & Wildlife Service for Emergency Listing of Tricolored Blackbird as Endangered under E.S.A.

Date: 2015-02-03

Today the Center for Biological Diversity petitioned the Secretary of the Interior to list the tricolored blackbird as endangered under the Endangered Species Act. The Center cited the recent steep population decline as documented in the most recent statewide surveys conducted in 2008, 2011, and 2014 as evidence for the need for federal protection.

1 attachment

News Article 2:

Tricolored Blackbirds Get Emergency Protection Under California Endangered Species Act

Date: 2014-12-03

This morning, the California Fish and Game Commission voted 3-2 to grant emergency protections to the Tricolored Blackbird. The Commission's action grants a 180-day period for the Department of Fish and Wildlife to determine whether to make the protections permanent.

The Commission was responding to a lawsuit filed by the Center for Biological Diversity in October, 2014.

News Article 3:

Center for Biological Diversity Files Emergency Listing Petition

Date: 2014-10-09

The Center for Biological Diversity on Wednesday, October 8, 2014 filed an emergency petition to protect the tricolored blackbird as endangered under the California Endangered Species Act. The Center cited the numerous threats faced by tricolored blackbirds and the dramatic decline documented most recently in this year's Statewide Survey. The Center's petition listed losses of native habitats, including wetlands, grasslands and shrublands, to agriculture, urbanization, market hunting and shooting in autumn when tricolors



The End...

