Dillard Ranch Natural Resource Assessment

June 26, 2020

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I visited Dillard Ranch on May 26, 2020 with Amber Veselka, to assess the Dillard Ranch property for a natural resource assessment, in support of a future Dillard Ranch Master Plan. During our tour, we interviewed an employee from Sac/Yolo Mosquito and Vector Control, who was monitoring the irrigation ditches. Attachment A includes a map of the Dillard Ranch, with photographs taken during the site visit. I returned to the area on May 30, 2020 to interview John Durand, a naturalist, who has lived on property adjacent to Dillard Ranch for the past 30 years.

Overview

Dillard Ranch is a historic dairy that is currently being grazed for beef cattle. Most of the property is leveled, flood irrigated pasture that is harvested twice a year for hay and grazed year-round by beef cattle. An unleveled, unirrigated 19-acre triangle at the southeastern end of has a Conservation Easement for Swainson Hawk foraging habitat. There is a farmhouse, several outbuildings, and a one-acre pond associated with the historic dairy. There are also powerlines serving the irrigation pumps over a portion of the farm.

Water

The largest portion of Dillard Ranch consists of flood irrigated pastures, presumably fed by a well. The fields have been leveled to drain into a series of irrigation canals and ditches, and water is recirculated by pump, from the canals back onto the fields. The fields and the ditches were flooded during our site visit.

There is a rectangular 1-acre perennial pond near the barns, maintained with pumped well water (presumably) and a seasonal pond, associated with an irrigation canal along Davis Road.

North Fork Badger Creek, a seasonal tributary to Badger Creek and the Cosumnes River, meanders through the south-eastern portion conservation easement triangle, where it also forms seasonal ponds and wetlands. During our site visit, most channel area was dry, except for the deeper wetland areas which were ponded (see map and photos).

Soils

Soils at Dillard Ranch are San Joaquin silt loams (USDA 2018). Most of the planning area, including the irrigated pasture, have been leveled, with 0 to 1 percent slopes. An 80-130 foot strip of land bordering Davis Road on the western edge of the Dillard Ranch property is unleveled with 0 to 3 percent slopes. Most of the southeastern triangle (conservation easement) is also unleveled with 3 - 8 percent slopes.

The Soil Conservation Service, United States Department of Agriculture, has classified these soils as moderately well drained and as moderately deep over a cemented hardpan/duripan. Soils that include duripans are generally used for grazing or wildlife habitat, and are seldom cultivated. The pan is cemented or indurated in more than 50 percent of the volume of some horizon which means that more than half the horizon is made up of cemented materials. In this type of soil,

plant roots can penetrate the hardpan only along vertical fractures, with a horizontal spacing of 10 cm or more, which is a limitation for land management. However, it can be noted that an adjacent neighbor to the south (John Durand) has successfully forested his property with many trees, on the same soil type.

Dillard Ranch soils have been designated "Farmland of statewide importance". Generally, this land includes areas of soils that *almost* meet the requirements for "Prime Farmland" and produces high yields of crops when adequate farming methods are applied.

Birds and Wildlife

My inventory for birds and wildlife was limited to one site visit, supplemented with interviews from people knowledgeable about Dillard Ranch.

The day I visited, I observed many redwinged blackbirds exhibiting nesting behaviors within the tules and cattails of the 1 acre rectangular farm pond. They were also nesting in similar habitat within portions of the irrigation canals. A Red-tail hawk was circling and a Cooper's Hawk flew through the property. We saw California quail and Northern mockingbirds. We listened for Tricolor blackbirds, but did not detect any calls. We did not observe any evidence of avian nesting (such as barn swallows) within the farm outbuildings.

There are several scattered mature valley oak trees and a few black walnut trees that provide good raptor roosting and nesting habitat. (No nests were observed on my May 26 visit, but there was an active red shouldered hawk nest on an adjacent property to the south.) Many mature and younger oak trees were growing along the railroad easement that borders the eastern edge of the property.

The irrigation canals and ditches often had hedgerow of Himalayan blackberry, willow, valley oak, and/or cottonwoods. Where the water collected at the lower elevation ditches, there were also tules and cattails, some of which contained nesting red-winged blackbirds.

The twice-annual hay harvests are associated with up to 20 Swainson Hawks foraging the newly mowed fields (John Durand, personal communication).

The vector control employee (Richard) that was monitoring for mosquitoes reported that he has seen coyote, red fox, cottontail rabbits, garter snakes, and tree frogs on the property or in the near vicinity.

In my interview with John and Jacquie Durand, they shared with me their most recent list of bird observations (Attachment B) on their property, which is immediately adjacent to Dillard Ranch. The nesting boxes on their property, and have been very successful with wood ducks, western bluebirds, cliff swallows, and barn owl - all of them I was able to easily observe on my May 30th, visit. They also had a nesting red-shouldered hawk in a tree on their property, which they indicated had deterred other raptors from nesting nearby.

Natural Resource Opportunities and Constraints

Based on initial impressions and my interviews, the Dillard Ranch natural resources could be enhanced by planting additional native trees and shrubs along the existing irrigation canals, and adding nesting boxes for a variety of cavity nesting birds. Maintaining the existing agricultural practices would also be beneficial to maintaining and enhancing the existing wildlife habitats.

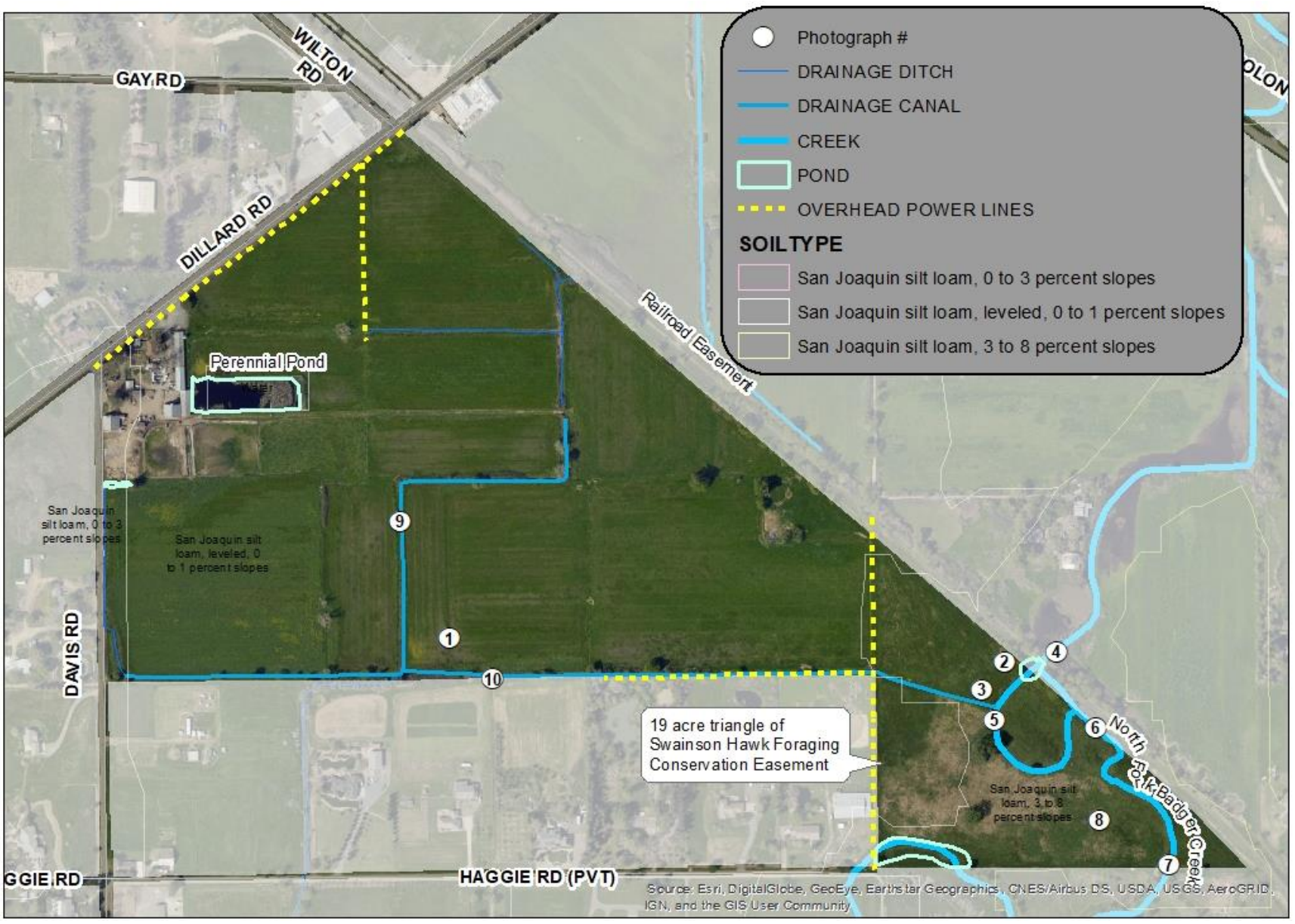
Expanding the width, length, and/or height of existing hedgerows would add and enhance habitat for a variety of songbirds and small mammals. Larger growing trees, such as cottonwoods and valley oaks, could also eventually become nesting and roosting habitat for raptors and other birds. Associated constraints include working around the existing soil hardpan and powerlines, and maintaining the pumped water regime. Soils would need additional testing to determine the depth and continuity of the hardpan layer in proposed planting areas, as hardpan may limit planting success, or may require drilling prior to planting trees. Taller trees should not be planted under the powerlines. The existing practice of flood irrigation with pumped water would also need to continue, as the canals and their existing hedgerows currently depend on this pumped water.

Nestboxes placed in strategic areas, would add habitat for cavity nesting birds. Boxes for Wood ducks in the large pond area, for Barn owls under the eaves of the outbuildings, for bluebird and kestrel along open fields would likely be successful, as these birds are already using nest boxes on the adjacent Durand property. Constraints include having resources to maintain the boxes by cleaning them and making any needed repairs, at least annually.

There are certainly other opportunities and constraints for natural resources that are not listed in this report, that may be revealed with additional expertise and site understanding. For example, because Red-winged blackbird are already nesting in certain areas at Dillard Ranch, it may be possible to expand or alter these areas to increase habitat opportunities for the Tricolor blackbird. Other opportunities may include adding or expand habitats for bat species or pollinator species.

As a final note, it is also apparent that maintaining the existing practices, such as flood irrigation, hay harvest, and grazing have been beneficial to the wildlife that are already using Dillard Ranch. Although improvements and enhancements can be made, there are already many wildlife benefiting from the existing agricultural practices at Dillard Ranch and conversion from agriculture to another use, such as recreational turf, could be detrimental to many of these existing wildlife and their habitat.

Dillard Ranch Map with Photos (5/26/2020)



1. Wet irrigated pasture, looking east, with spikerush wetlands (dark green) and railroad easement in background.

2. Wetland along North Fork Badger Creek

3. Bend in North Fork Badger Creek with oaks

4. North Fork Badger Creek at Railroad trestle

5. Dry bottom of North Fork Badger Creek

6. Railroad easement next to Conservation Area

7. North Fork Badger Creek at south boundary

8. Conservation Area, looking west towards valley oaks

9. Irrigation canal with tules and nesting Red-wing blackbirds

10. (Two photos) Wet irrigated pasture, spikerush wetland (dark green), Irrigation canal with Himalayan blackberry and cottonwood tree

ATTACHMENT B

John and Jacquie Durand's bird list (2017 to present)

Wading birds

Snowy egret
Great egret
Great blue heron
Green heron
Black crowned night heron
Sand-hill crane – flying over to nearby areas
Killdeer
California gull

Water Fowl

Hooded merganser (nesting at Durand pond)
Mallard duck
Wood duck (nesting in nest boxes at Durand pond)
Canada goose (nesting on island on Durand pond)

Birds of Prey

Barn Owl (nesting in nest box at Durand barn)
Cooper's Hawk
Swainson Hawk (up to 20 forage during and after Dillard Ranch hay harvests)
Red shouldered hawk (nesting in tree at Durand property)
Red Tailed hawk

Woodpeckers

Northern Flicker
Nuttall's woodpecker

Game Birds

Wild turkey (exotic)
California quail
Ring-necked pheasant (exotic)
Rock pigeon (exotic)
Mourning dove

Hummingbirds

Anna's hummingbird
Black chinned hummingbird

Rufous hummingbird

Woodpeckers
Nuttall's woodpecker
Northern flicker

Perching birds
American Crow
American Robin
Black Phoebe (nesting near Durand pond)
Bushtit
European starling (exotic)
Gold Finch
House Finch
House Wren
Northern Mockingbird
Red-winged blackbird (nesting in Dillard Ranch pond and wetlands)
Ruby-crowned Kinglet
Scrub jay
Sparrows: Fox, Golden crowned, House (exotic), Lark, Song, and White crowned
Tree swallow (nesting in Durand nest boxes)
Towhee, Spotted and California
Western Bluebird (nesting in Durand nest boxes)
Yellow-rumped warbler
Yellow-throated warbler