

STAFF REPORT

SUBJECT: Ratto Property Preserve Acquisition and
Preserve Management Plan

RECOMMENDED ACTION: Motion to 1) Approve the Conservation
Easement Acquisition and 2) Approve the
Preserve Management Plan (PMP) for the
Preserve Site

DISCUSSION:

SUMMARY:

The Ratto Family properties under consideration are a total of 187 +/- acres. The land owner and SJCOG, Inc. are discussing an easement acquisition of the property under the habitat plan of approximately 60 acres on the properties with various enhancements. The location of the property is on Upper Roberts Island east of Middle River and west of the City of Lathrop in the Delta Zone. The potential preserve is near existing SJCOG, Inc. preserves in the Delta Zone area, also shown in the attachment 1 and 2.

With the acquisition, SJCOG, Inc. staff has written this draft PMP to reflect the existing Preserve Management Plans of the row and field crop/irrigated pasture preserves in the Delta Zone for economy of scale for species under the SJMSCP. The PMP has a large enhancement planned for a portion of the easement property which will be compatible with on-going farming activities in cooperation with the land owner to restore habitat for various species since there have been historical records of Swainson's hawks and other species near the property in the California Natural Diversity Database (CNDDB) through a supplemental restoration plan.

RECOMMENDATION:

A motion to 1) approve the conservation easement acquisition and 2) approve the preserve management plan.

FISCAL IMPACT:

SJCOG, Inc. will be acquiring an overall easement on approximately 60 +/- acres of active agricultural habitat under the SJMSCP. The cost of the easement is valued at an average cost not to exceed \$8,920 per acre with a total acquisition cost of approximately **\$535,200** and the applicable closing costs required. Also, SJCOG, Inc. will be providing an endowment to be set aside in a specific endowment fund for the preserve in the amount of roughly **\$260,274** (60+/-

acres x \$4,337.90 per acre for 2018 endowment amount). These funds will be used for land management and enhancements as required under the SJMSCP permits.

BACKGROUND:

The Ratto Property is property is on Upper Roberts Island east of Middle River and west of the City of Lathrop in the Delta Zone. The conservation easement will cover the existing agricultural lands that will continue to be farmed and include a large portion to be restored into a natural setting to serve as mitigation for prior development impacts under the SJMSCP to row and field crop habitat for the betterment of species covered under the SJMSCP.

The draft PMP (attachment 3) drafted by ICF reflect the existing Preserve Management Plans of the row and field crop preserves in the Delta Zone for economy of scale for species under the SJMSCP. Currently, there are enhancements planned to the landscape but any additional future water feature enhancements planned on the property not displayed in Table 1 would be brought back as a supplemental PMP in the future to be completed in cooperation with the land owner. The land owners display very good stewardship practices and there are very little invasive species within the fields on premises.

Table 1 – Enhancements for Row and Field Crop/Riparian Preserves

Enhancement Potential Under SJMSCP	Y	N	N/A
Use of Herbicides, pesticides and/or rodenticide in accordance with Sect. 5.4.5(M) & 5.4.7.1	X		
Create, expand or restore riparian area to enhance nesting	X		
Plant elderberry plants for VELB		X	
Enhance foraging habitat using native grass and forb species (Appendix N)	X		
Install roosting or nest sites and platforms	X		
Fencing of riparian areas			X
Install bat boxes			X
Maintain water quality within creeks and wetlands (e.g. red-legged frog habitat)			X
Create burrowing owl burrows		X	
Eliminate invasive and undesirable species	X		
Plant vegetation (e.g. tules, blackberry thickets & cattails for tricolor blackbird/GGS)	X		

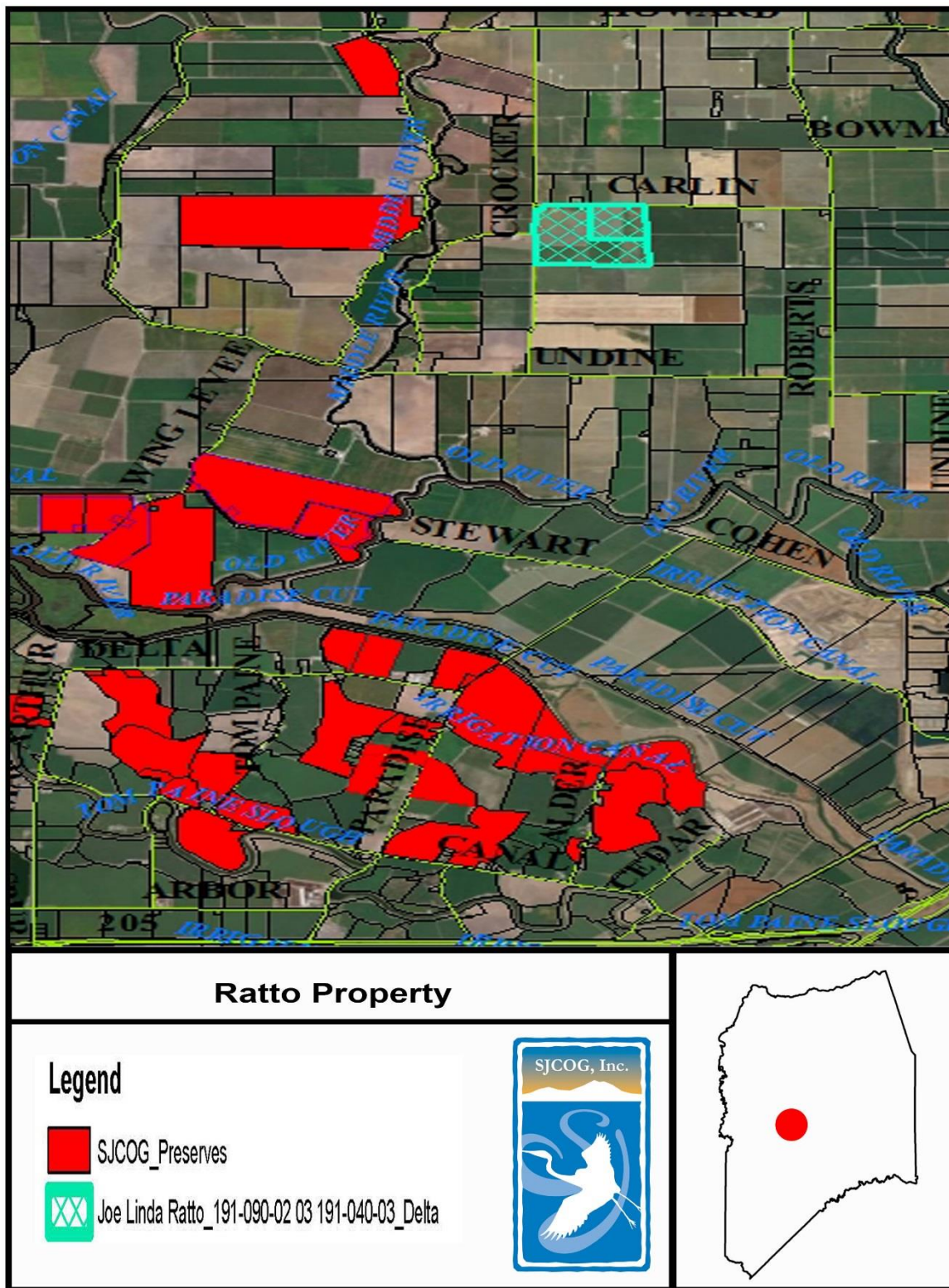
COMMITTEE ACTIONS:

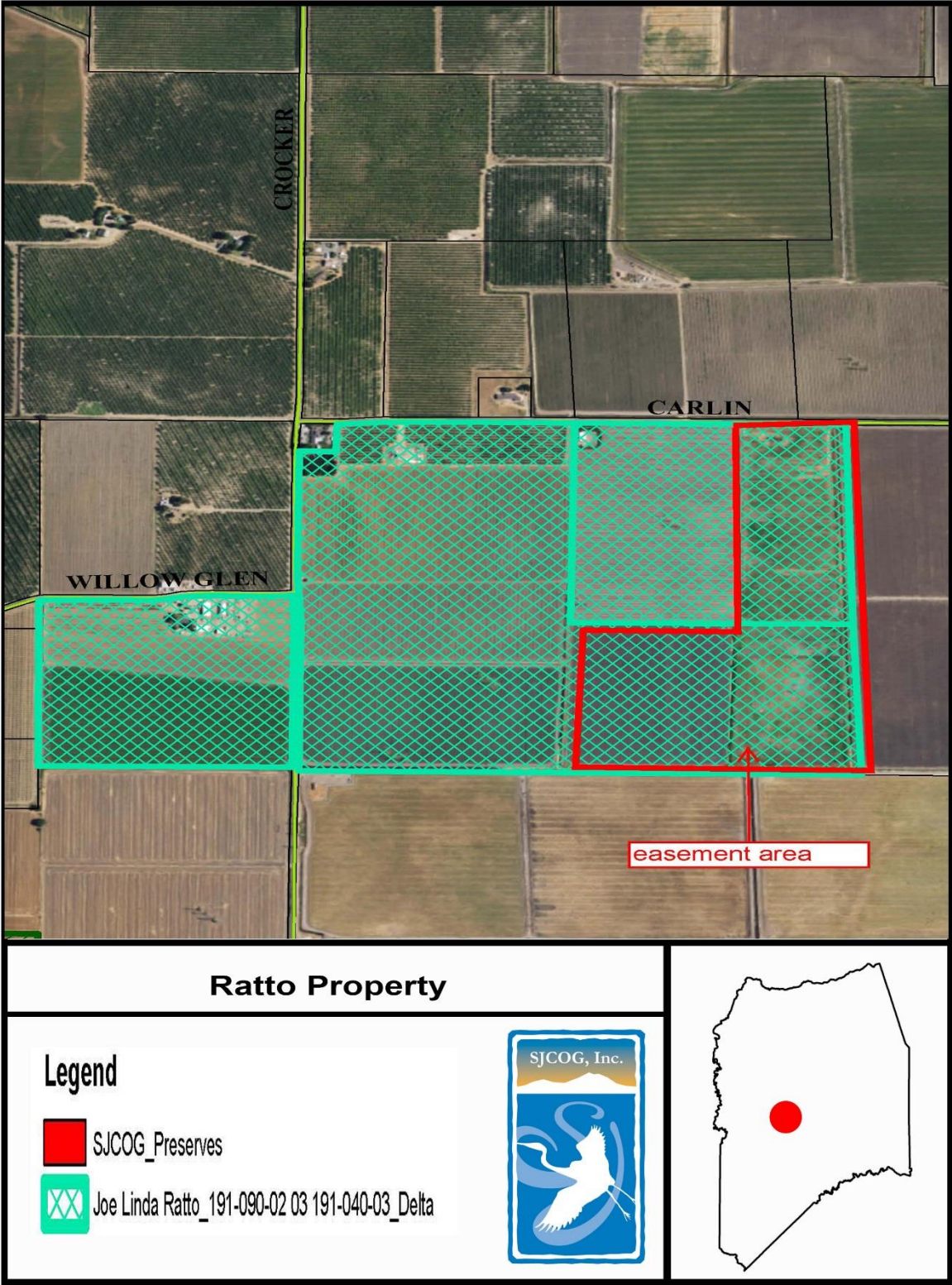
- Habitat Technical Advisory Committee: Recommended Approval
- SJCOG, Inc. Board – Action Required

ATTACHMENTS:

1. Overview Preserve Location Map
2. Preserve Location Map
3. Preserve Management Plan

Prepared by: Steven Mayo, Program Manager





ATTACHMENT 3

DRAFT PRESERVE MANAGEMENT PLAN FOR THE RATTO FAMILY PROPERTY PRESERVE

PREPARED FOR:

SJCOG, Inc.
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Stockton, CA 95202
Contact: Steve Mayo
209.235.0600

PREPARED BY:

ICF International
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Doug Leslie
916.737.3000

March 6, 2018



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Acronyms and Abbreviations

amsl	above mean sea level
CNDDDB	California Natural Diversity Database
GIS	geographic information systems
HTAC	Habitat Technical Advisory Committee
RFPP	Ratto Family Property Preserve
SJCOG	SJCOG, Inc.
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
USGS	U.S. Geological Survey

Chapter 1

Introduction

SJCOG, Inc., is currently implementing the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP)¹ (San Joaquin Council of Governments 2001). The principal biological goal of the SJMSCP (the Plan) is to maintain habitat of sufficient quality and quantity to conserve populations of all fish, wildlife, and plant species covered by the Plan. As part of this Plan, lands within the SJMSCP Plan Area are acquired as preserves from willing landowners through either conservation easements or fee title purchase.

This document is the Preserve Management Plan (PMP) for the Ratto Family Property Preserve (RFPP), owned by Joe and Linda Ratto, on which a conservation easement is being placed. The two parcels addressed in this PMP are approximately 187 acres of farmland on which a conservation easement of approximately 60 acres is being placed by SJCOG, Inc. The preserve will be incorporated into the preserve system as a row and field crop preserve.

The RFPP is intended to offset impacts resulting from the conversion of agricultural lands primarily within the Central Zone, as allowed in Section 5.1.2.6 of the Plan.

1.1 Purpose of the Preserve Management Plan

The PMP sets forth specific guidelines regarding land management and monitoring activities to ensure the landowner(s) and SJCOG, Inc., are in agreement with the conditions of the conservation easement and the manner in which preserve lands will be managed and monitored.

The PMP describes the baseline biological conditions of the property; states the goals and objectives of management; and describes the ongoing land management activities, including permitted and prohibited uses of the property and any affirmative obligations of the landowner(s).

The PMP also sets forth guidelines for adaptive management as required under the SJMSCP. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs.

1.2 Preserve Location

The RFPP is located on Roberts Island, approximately 0.8 miles east of Middle River and 1.7 miles west of the San Joaquin River, west of the City of Lathrop, CA (Figure 1). Information pertaining to the property is provided in Table 1.

¹ San Joaquin County Council of Governments. 2001. *San Joaquin County Multi-Species Habitat Conservation & Open Space Plan*. Stockton, CA. Available: <<http://www.sjcog.org/sections/habitat/sjmscp>>. Accessed August 28, 2009.

Table 1. Ratto Family Property Preserve Information

Assessor's Parcel Numbers	191-090-02, 191-090-03
Acreage	60 acres
SJMSCP Index Zone	Delta
USGS 7.5-minute quadrangle	Lathrop
Township	1S
Range	6E
Section	Unsurveyed
SJMSCP = <i>San Joaquin County Multi-Species Habitat Conservation and Open Space Plan</i> ; USGS = U.S. Geological Survey	

The RFPP is in close proximity to the Wing Levee Road and Jaques Wing Levee Preserves, the Torlai Property Preserve, and to several other properties currently being considered for inclusion in the preserve system (Figure 2).

1.3 Land Ownership and Management

The parties responsible for managing RFPP lands in accordance with the PMP are listed below.

Landowner

Joe and Linda Ratto
Contact: Joe Ratto
12000 Crocker Road
Stockton, CA 95206
Phone 209.462.4738

Conservation easement holder

SJCOG, Inc.
555 East Weber Street
Stockton, CA 95202
Contact: Steven Mayo
Phone: 209.235.0600

Land manager

ICF International
630 K Street, Suite 400
Sacramento, CA 95814
Contact: Doug Leslie
Phone: 916.737.3000

Baseline Preserve Characteristics, Goals and Objectives

As noted above, the RFPP is an approximately 60-acre portion of the property owned by Joe and Linda Ratto. The property is located near the center of Roberts Island between the San Joaquin River and Middle River. The easement consists of two parcels. The northern parcel is bordered by Carlin Road on the north side. The property is currently comprised of two separate fields (Figure 3).

The northern parcel and the eastern half of the western parcel have a relatively low water table, with the water table getting higher from northwest to southeast. There is a set of 3 electric transmission line towers in the northern portion of the northeast parcel (Figure 4). Soils in this field have a relatively high salt content. The southwestern field is used to grow row and field crops such as wheat, hay, and oats. The two parcels are bounded by earthen linear water conveyance features on the east and south sides and part of the west side. A smaller earthen drainage ditch runs north to south, splitting the western from the eastern field (Figure 4).

The property is surrounded primarily by a mix of orchards and row and field crops, although orchards are rapidly becoming more prominent in the surrounding landscape (Figure 2).

The SJMSCP geographic information systems (GIS) database and the California Natural Diversity Database (CNDDB) were searched to identify records of SJMSCP-covered species within approximately 2 miles of the RFPP. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) records are ubiquitous to the west along Middle River, along with several records of nesting Swainson's hawk (*Buteo swainsonii*). There is a total of 12 records of nesting hawks within a 2-mile radius of the property. Other records include California hibiscus / Rose Mallow (*Hibiscus lasiocarpus*, 1 records), western pond turtle (*Actinemys marmorata*, one record), and tricolored blackbird (*Agelaius tricolor*, 1 record)(Figure 5).

2.1 Wildlife Habitat Associations Identified in the SJMSCP

The habitats and preserve elements described in the SJMSCP and currently present on the RFPP are listed below.

- Row and field crop.
- Ditches
- Presence of rodents.
- Presence of pigeons or mice.

These habitats and preserve elements, according to the SJMSCP, provide foraging habitat for the SJMSCP-covered species listed below.

- Swainson's hawk
- Northern harrier (*Circus cyaneus*)

- White-tailed kite (*Elanus leucurus*)
- Merlin (*Falco columbarius*)
- Great blue heron (*Ardea herodias*)
- Great egret (*Ardea alba*)

The agricultural and ditch habitats on the preserve also benefit several other common bird species, including killdeer (*Charadrius vociferus*), House finch (*Haemorrhous mexicanus*), and California horned lark (*Eremophila alpestris*), as well as habitat for jackrabbits (*Lepus californicus*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), and gopher snakes (*Pituophis catenifer*).

2.2 Goal and Objectives of the Management Plan

The RFPP will be managed as a Row and Field Crop Preserve as described in Section 5.4.4.4 of the SJMSCP. The goal of this preserve type is to maintain and enhance the *habitat values* extant on the site for the benefit of Swainson's hawk and other species covered by the SJMSCP that depend to varying degrees upon habitat values provided by agricultural habitats and associated ditch and riparian habitats. **Habitat Values** are defined herein as the resources on the landscape that provide benefits for covered species, such as abundant and accessible prey or forage, cover, perch sites, nest sites, water, or other resources necessary for survival and reproduction. Habitat values decrease with increasing disturbance, pesticide and herbicide use, and increasing habitat uniformity. Because the RFPP is devoted to agricultural production, the primary goal of the preserve is to provide foraging habitat for SJMSCP-covered species.

Chapter 3

Land Management Activities

This chapter discusses the land management activities that will be implemented under the conservation easement. The desired agricultural practices as well as permitted and prohibited land uses are discussed.

The RFPP will be managed according to the guidelines for Central Zone Row and Field Crop Preserves outlined in the SJMSCP. These guidelines state that the key management practice for the agricultural use of row and field crops is to grow only those crops having a canopy structure and other attributes that do not mechanically prevent foraging by raptors or other species covered under the SJMSCP.

3.1 Agricultural Practices

Land management practices on the RFPP have historically provided benefits for Swainson's hawk and other SJMSCP-covered species. The property is currently being used to grow alfalfa and other row and grain crops such as beans, carrots, beets, tomatoes, pumpkins, cucumbers, squash, and other vegetable crops. Vineyards, orchards, blueberries, and other permanent or semi-permanent crops are prohibited without permission from the SJCOG, Inc., Habitat Technical Advisory Committee (HTAC).

3.2 Prohibited Uses and Activities

This section identifies prohibited uses of the preserve under the RFPP Conservation Easement. *Landowner* refers to Joe and Linda Ratto. *SJCOG, Inc.*, refers to all agencies, organizations, or individuals affiliated with or that represent the SJCOG, Inc., during implementation of actions under the preserve management plan.

3.2.1 Access and Trespass/Illegal Uses/Signage

No access to the general public will be permitted. The SJMSCP requires that signage be installed at all preserves under conservation easement. At the landowner's discretion, the signage can identify the property as being part of the San Joaquin County Open Space system, or *No Trespassing* signs can be installed. Signage should be installed on the RFPP within 120 days following approval of the conservation easement. The signs should be installed along public roadways and rights-of-way and should clearly state that public access is prohibited. The signs will be provided by the SJCOG, Inc., and installed by the landowner.

3.2.2 Agricultural Conversion

The conversion of the preserve from production of row and field crops (e.g., tomatoes, corn, beans, cucumbers, or other vegetables; wheat, oats, or other grains; alfalfa or other hay crops) or irrigated pasture to agricultural uses that are not compatible with providing habitat for Swainson's hawk and

other covered species (e.g., conversion to orchards, vineyards, blueberries, or other permanent or semi-permanent crop types) is prohibited without prior approval by the HTAC.

3.2.3 Alteration of Watercourses

The alteration or manipulation of any natural watercourse, wetland, or body of water and activities or uses that are detrimental to water quality, including, but not limited to, degradation, pollution, or fill, are prohibited. This prohibition does not include irrigation of crops, drainage of agricultural fields, routine maintenance of ditches, or installation of preserve enhancements approved by the HTAC.

3.2.4 Chemicals

Except for those pesticides, herbicides, fungicides, or fertilizers used in ongoing row and field crop production in strict compliance with application and labeling instructions, no chemicals will be used on the preserve unless they are used for the specific purpose of controlling exotic weed or pest species that may threaten habitat functions and values. All chemicals will be used, stored, and disposed of in strict compliance with labeling instructions and applicable laws.

3.2.5 Dumping

The dumping, storage, or other disposal of refuse, trash, sewer sludge, and toxic or hazardous materials or chemicals is not permitted on the preserve. This prohibition includes the storage or disassembly of inoperable automobiles, trucks, farm equipment, or other machinery for the purpose of sale or storage.

3.2.6 Hunting and Fishing

Commercial fishing, hunting and trapping are prohibited. No recreational hunting or fishing that could result in take under the federal or stated endangered species acts is permitted.

3.2.7 Vegetation Removal or Destruction

The removal of any natural vegetation (such as riparian habitats or remnant, native oak trees) or vegetation installed as part of a preserve enhancement project is prohibited.

3.2.8 Natural Resource Development

The filling, dumping, excavating, draining, dredging, mining, drilling, removing, exploring, or extracting of or for minerals, soils, sands, gravels, rocks, or other material on or below the surface of the preserve is prohibited, unless otherwise approved by the HTAC.

3.2.9 Pest Management

Pest management is an ongoing activity associated with agricultural production. However, chemical rodent control should be minimized to the extent possible to maximize habitat values for covered species. The implementation of pest management is restricted in accordance with the parameters

listed below to ensure that agricultural activities are consistent with the goals and objectives of the SJMSCP.

- All vertebrate pest control measures will be conducted in accordance with rodenticide labeling instructions, in accordance with Endangered Species Act Bulletins (available from local Agricultural Commissioner), and in accordance with Agricultural Commissioners (regulation and procedures).
- Anti-coagulant pesticides are prohibited.
- Application of rodenticides is restricted to bait feeders and should not be used unless absolutely necessary. Rodenticide baiting in burrows and rodenticide broadcast baiting are prohibited, with the following exceptions:

The use of strychnine or other non-anticoagulant rodenticides (such as ZP Rodent Oat Bait or AG Oat Grain Bait) dispersed underground (using a gopher-baiting machine for example) for pocket gopher abatement is allowed. The intention is to ensure that dead pocket gophers remain underground to eliminate the possibility of secondary poisoning of covered species. While the aforementioned rodenticide labels list other uses for the product, such as vole control in alfalfa fields, their use for control of species other than pocket gophers in a manner other than specified above is prohibited because their above ground use would pose a danger to covered species.

If vertebrate pest control procedures are not effective and additional control is necessary, adaptive management procedures will be followed. The landowner will consult with the HTAC in a timely fashion and in accordance with the SJMSCP.

3.2.10 Recreational Activities

No revenue-generating recreational activities are permitted. Private recreational activities that degrade the habitat values of the property are prohibited.

3.2.11 Roads

The construction of new roads is prohibited.

3.2.12 Structures

The construction or placement of the structures listed below is prohibited on the preserve.

- New residential or other buildings.
- Camping accommodations.
- Mobile homes, house trailers, permanent tent facilities, Quonset huts or similar structures.
- Underground tanks.
- Billboards, signs, or other advertising.
- Streetlights.
- New utility structures or power lines except those required to power new pumps on the property for agricultural purposes.

- New sewer systems.

3.2.13 Vehicle Use

The use of motorized vehicles off designated roadways, except for agricultural purposes, is prohibited.

3.3 Permitted Uses and Activities

This section identifies permitted uses of the preserve under the RFPP Conservation Easement. Although some activities may be permitted under this PMP, all activities are still subordinate and subject to all applicable Federal, State, and local laws and regulations. The primary permitted use of the property is the continuation of row and field crop agriculture.

3.3.1 Hunting and Fishing

Noncommercial fishing, hunting and trapping of wildlife is permitted so long as it is conducted in compliance with applicable laws and regulations and in a manner that does not compromise the habitat values or damage the ecology of the biological resources on the preserve.

3.3.2 Roads

Resurfacing of existing roads with onsite materials and clean gravel is permitted as long as material is kept within the immediate roadway.

3.4 Affirmative Obligations

This section identifies the affirmative obligations of the landowner under the RFPP Conservation Easement. Affirmative obligations include both activities and permissions. All activities and permissions are subordinate and subject to all applicable Federal, State, and local laws and regulations.

3.4.1 Emergency Vehicle Access

The landowner must allow emergency vehicles to have direct access to the preserve from Carlin Road, when necessary (Figure 3). The RFPP is currently not protected by gates and/or cables, and is not actively patrolled.

3.4.2 Maintenance and Repair

SJCOG, Inc., is not responsible for general maintenance, repair, and replacement of existing facilities such as roads, fences, agricultural ditches, and irrigation supply lines and pumps. The landowner retains responsibility for these items and other general maintenance.

3.4.3 Monitoring and Reporting

SJCOG, Inc., is required to track crops grown on the preserve, ensure that the terms of the conservation easement are adhered to, and to conduct monitoring to ensure that acquisition and management of the easement are facilitating the achievement of the SJMSCP goals and objectives. Therefore, the landowner is required to allow reasonable access to the preserve by SJCOG, Inc. for purposes of ensuring compliance with the terms of the conservation easement and for purposes of monitoring use of the preserve by covered species.

3.4.4 Preserve Enhancements

Several preserve enhancements are proposed for the RFPP. Installation of an oak woodland across an approximately 36-acre portion of the property is planned. A portion of this 36-acre restoration may include a wetland feature to provide potential nesting habitat for tricolored blackbird. Details of the preserve enhancements, including the number and types of plants and design of a wetland feature (if include), will be outlined in a separate preserve enhancement plan.

Once preserve enhancements become established, the landowner is responsible for routine maintenance of any preserve enhancements. Routine maintenance includes removal of noxious weeds, where necessary, and protecting enhancements from vehicles, agricultural equipment, and domesticated grazing animals. In cases where additional, non-routine maintenance is required (e.g. plantings are invaded by a new noxious weed that requires excessive control efforts, trees are subjected to a new pathogen, natural succession and senescence of plants), SJCOG, Inc., will assist the landowner in implementing management actions to restore the natural functioning of the preserve enhancements. For wetland features, routine maintenance may include noxious weed treatment and removal, and removal of vegetation clogging open water habitats.

3.5 Implementation and Management Schedule

The landowner will begin implementing and managing the preserve in accordance with this PMP immediately upon formal approval and acceptance of the conservation easement by the landowners, SJCOG, Inc., and the HTAC. The landowners and SJCOG, Inc., intend that the property be preserved and maintained in perpetuity by permitting only those agricultural practices that provide foraging habitat for Swainson's hawk and other SJMSCP-covered species that forage in agricultural habitats. The current and proposed agricultural practices are beneficial to these species.

Chapter 4

Monitoring and Adaptive Management

This chapter describes the biological monitoring plan and reporting requirements for land management activities on the RFPP. This chapter also summarizes remedial measures that may be implemented should the property not provide the desired benefits for Swainson's hawk and other SJMSCP-covered species. The primary objective of monitoring is to ensure that the goals and objectives of the SJMSCP and this PMP are being met.

A preserve monitoring strategy for the entire SJMSCP preserve system is currently being completed. The monitoring plan described in this chapter is considered provisional until the system-wide monitoring plan is completed and approved.

Three general types of monitoring are conducted on a regular basis to ensure that the goals and objective of the SJMSCP are being met; *compliance monitoring*, *effectiveness monitoring* (referred to as *biological monitoring* in the SJMSCP), and *preserve enhancement monitoring*.

4.1 Compliance Monitoring

Compliance monitoring is monitoring that demonstrates compliance with the terms and conditions of the conservation easement, the SJMSCP and its permits. Compliance monitoring will be achieved through an annual site visit(s) to the preserve and annual discussion with the landowner(s) to document changes in agricultural practices or other factors such as water deliveries, drought conditions, market conditions, etc. that could affect the conservation and habitat values of the preserve. A set of photo stations will be established and photographs from each station will be taken annually during the site visit(s). Because breeding populations of Swainson's hawk and other covered species that depend upon agricultural habitats during a significant portion of their life cycle are the primary targets of this PMP, the site visit will typically be conducted during spring or summer, when these species can be found in the region.

Three variables will be reviewed during each site visit: the crop types that are in production; the areal extent of each crop type, if applicable; and any changes in land use or status of the preserve that could substantively influence the habitat values of the preserve.

Noncompliance with the conservation easement will be addressed in accordance with the provisions of the conservation easement.

4.2 Effectiveness Monitoring

Effectiveness monitoring (referred to as *biological monitoring* in the SJMSCP) is comprised of several types of monitoring. The general purpose of effectiveness monitoring as described in the SJMSCP is to track habitat conditions and the status of covered species on and around preserve lands and to determine if management actions maintain and improve habitat conditions for covered species.

Baseline habitat conditions are established at the time of preserve acquisition and are described in this PMP. Because neighboring land uses may change over time, potentially reducing the suitability of habitats on the preserve, habitat/crop cover types within a 2-mile radius of the preserve will also be documented.

Baseline surveys to determine presence of SJMSCP covered species will be conducted within 2 years of acquisition. The survey will consist primarily of a complete search of all potential Swainson's hawk nesting substrates within a 2-mile radius of the preserve to the extent possible given potential access constraints from surrounding landowners. Baseline surveys may also include focused surveys for burrowing owls, loggerhead shrikes, or tricolored blackbirds. All wildlife species detected, including SJMSCP-covered species, will be recorded.

The baseline habitat and focused species surveys will be updated once every 3 years by mapping changes in habitats/crop types found within a 2-mile radius of the preserve and repeating the focused nesting Swainson's hawk survey within a 2-mile radius of the preserve. Mapped data will be recorded in the GIS database. The results of the focused survey and assessment of adjacent land uses will be provided in the SJMSCP program-level annual report.

The information will be used for comparison with results from the original baseline survey to track changes over time and to ensure that the goals and objectives of the preserve management plan are being met.

4.3 Monitoring Preserve Enhancements

Monitoring preserve enhancements is required to ensure that preserve enhancement become well established and to determine if remedial actions need to be taken to achieve the goals of the enhancement. Monitoring is conducted regularly after planting, typically for a period of 3 years, or until it is determined the preserve enhancement plantings are established. Details of the monitoring program will be included in the preserve enhancement plan. After the establishment period, preserve enhancement monitoring is conducted in conjunction with the compliance monitoring and includes a cursory visual inspection of the enhancement plantings to ensure that they are healthy and providing the benefits they were designed to achieve.

4.4 Success Criteria

Two criteria were identified to determine the success of land use centered on cropping patterns. Preserve management will be considered successful if the entire 60 acres of designated agricultural lands are maintained in suitable row and field crops (allowing for fallowing as a part of normal crop rotations and excepting any preserve enhancements that may be installed) each year, and all terms and conditions of the conservation easement are adhered to.

4.5 Adaptive Management

This chapter summarizes the adaptive management provisions of the SJMSCP as they pertain to the RFPP. Adaptive management is a systematic process for continually improving management policies

and practices by learning from the outcomes of operational programs. The principle of adaptive management recognizes that the resources being managed are dynamic systems and that the state of knowledge regarding natural resource management is constantly improving. Adaptive management, by definition, does not include predetermined actions, but rather identifies new responses based on the outcome of management activities.

In the context of preserve management, monitoring activities are undertaken to assess the progress of management activities toward achieving the stated management goals. The information collected can then be used to improve management activities, if change is warranted. However, there will be no alteration of management activities that adversely affect permitted agricultural uses of the land without the agreement of the landowner.

Results of monitoring will be used to determine the effectiveness of the measures outlined in the SJMSCP and this PMP in providing habitat for Swainson's hawk and other SJMSCP-covered species. If substantial changes in populations of covered species occur, or evidence suggests the operating conservation program outlined in the SJMSCP is not meeting the goals and objectives outlined in the SJMSCP, then adaptive management procedures may be warranted. Such measures would include a review of the terms of the conservation easements and a review of the cropping patterns, crop types, monitoring requirements, and other management or monitoring activities on SJMSCP preserves.

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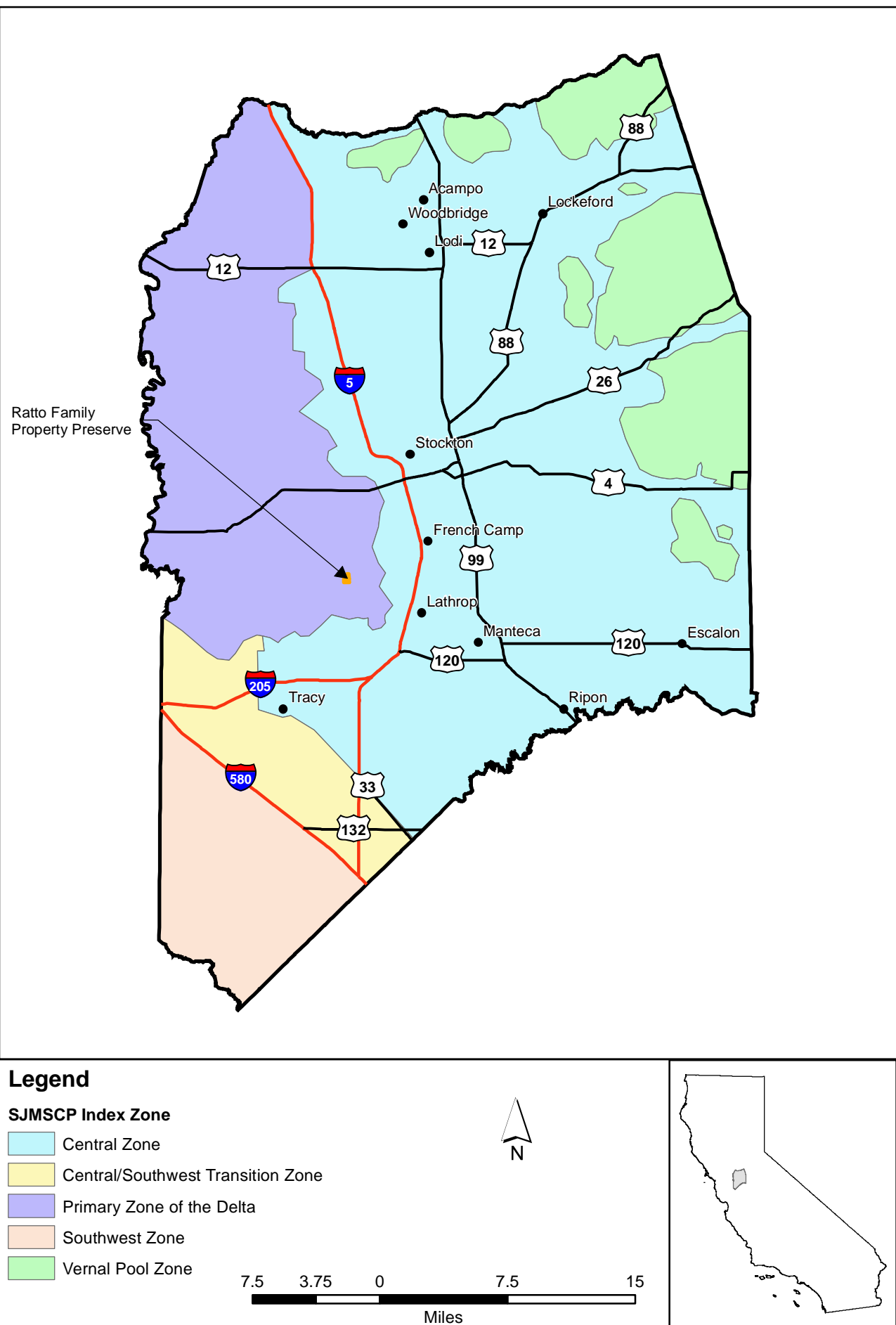
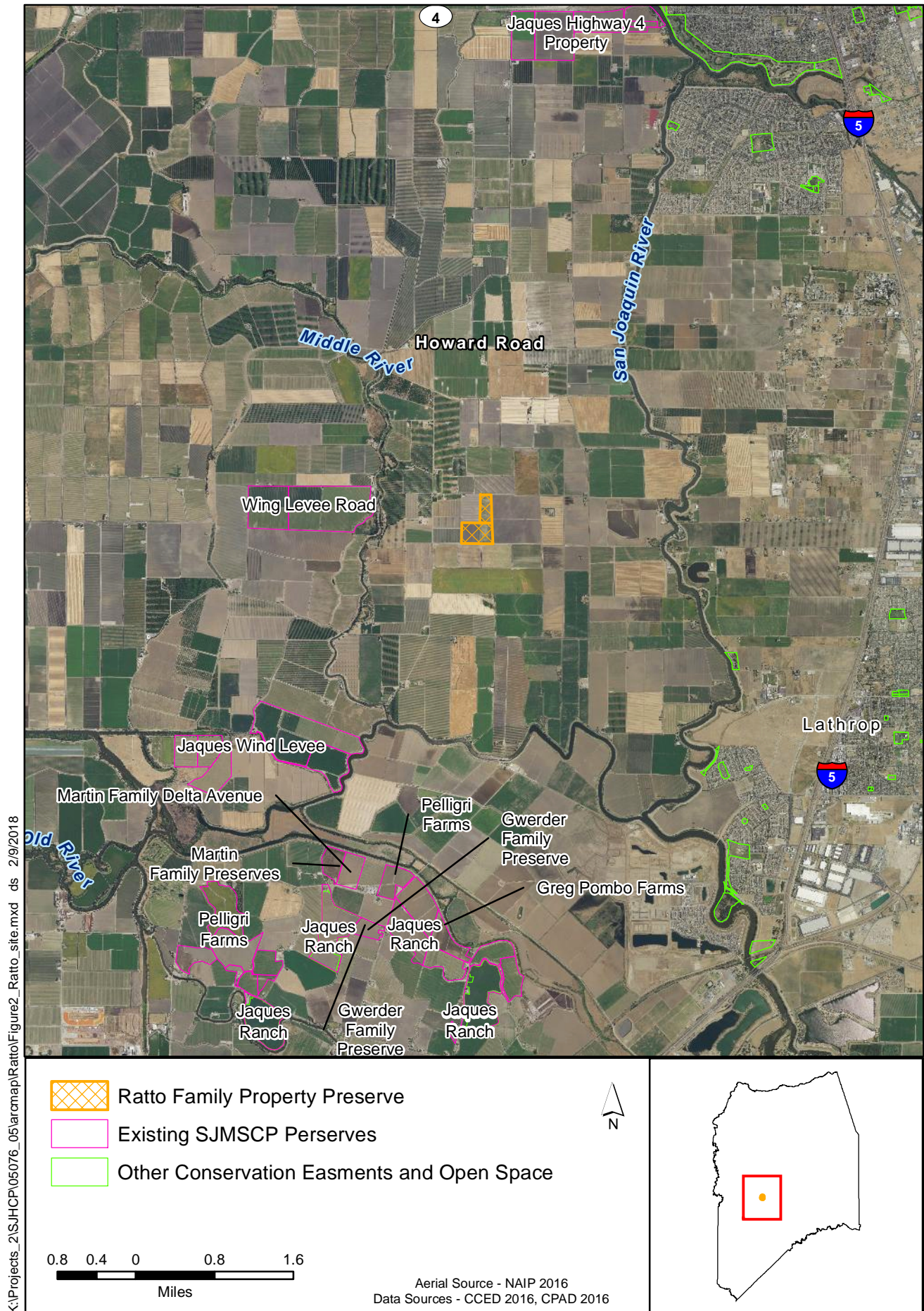


Figure 1
Ratto Family Property Preserve
San Joaquin County



K:\Projects_2\SIHCP\05076_05\arcmap\Ratto\Figure3 Ratto site closeup_B.mxd ds 2/9/2018

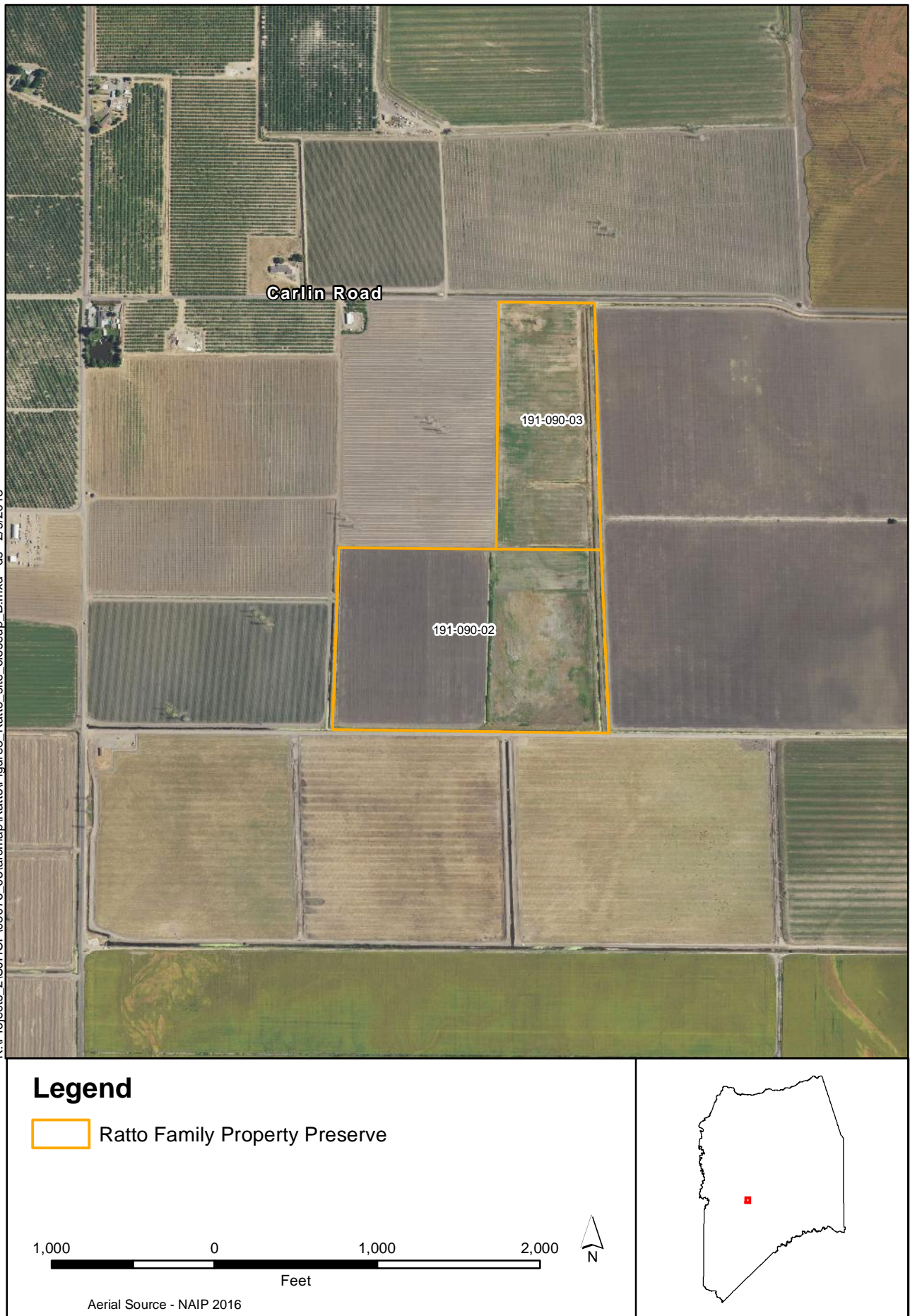


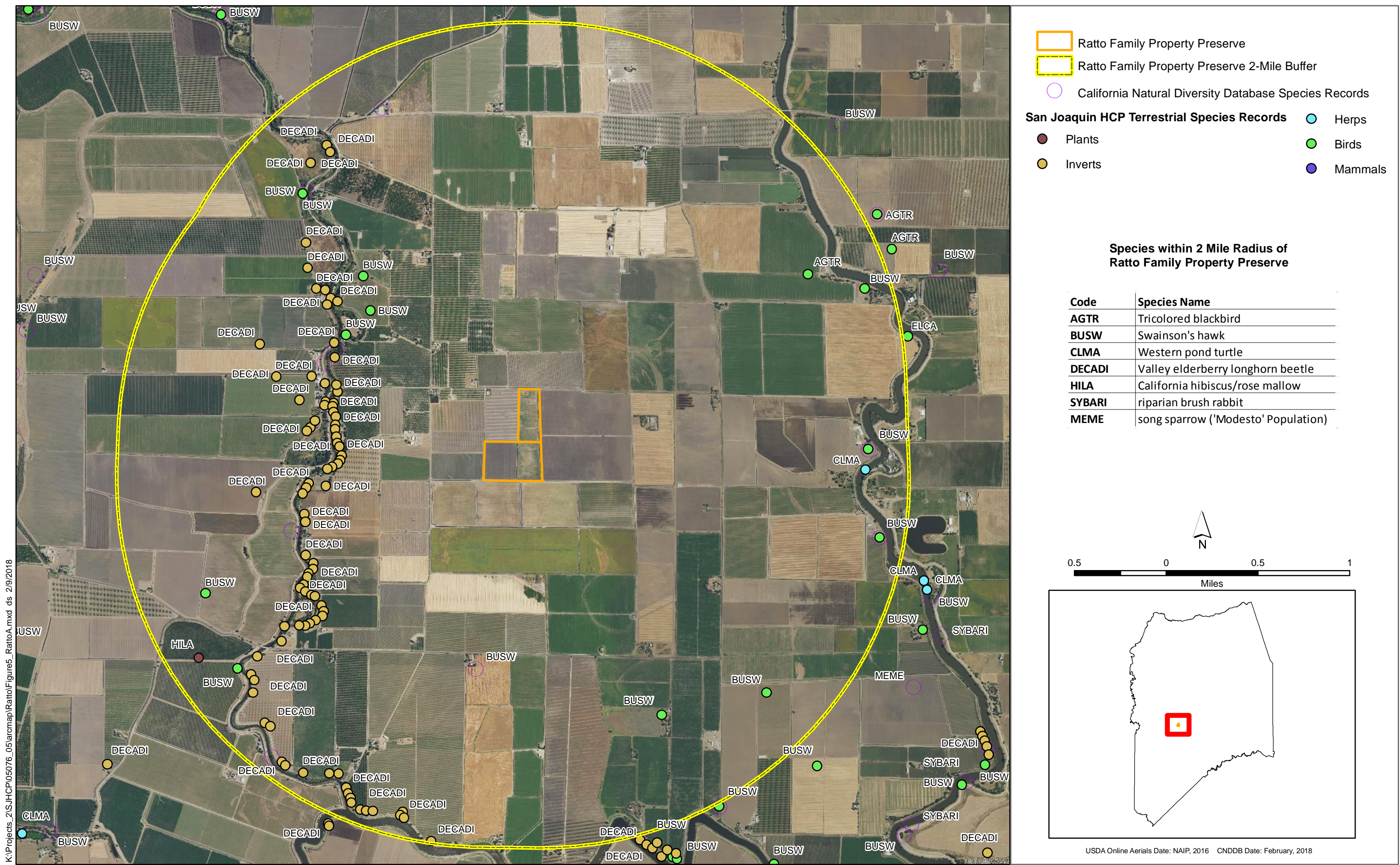
Figure 3
Ratto Family Property Preserve



Photo 1. Transmission Towers in the Restoration Area of the Ratto Family Property Preserve.



Photo 2. Drainage Ditch and Agricultural Habitat on the Ratto Family Property Preserve.



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Figure 5
Documented Occurrences of SJMSCP-Covered Species
within 2 Miles of Ratto Family Property Preserve