

## STAFF REPORT

**SUBJECT:** Muela Willow Glen Preserve Purchase and Preserve Management Plan

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

### DISCUSSION:

#### SUMMARY:

The Muela Willow Glen Road property under consideration is a total of 65 +/- acres. The land owner and SJCOG, Inc. are discussing an easement purchase of 60+/- acres under the habitat plan. The location of the property (elevation of 5-8 feet above sea level) on Willow Glen Road north of Undine Road along Middle River west of the City of Lathrop in the Delta Zone. The potential preserve is near existing SJCOG, Inc. preserves in the Delta Zone, also shown in the attachment 1 and 2.



With the easement purchase, SJCOG, Inc. staff has written this draft PMP to be consistent with the existing Preserve Management Plans of the agricultural habitat and riparian preserves in the Delta Zone for management economies of scale for species under the SJMSCP. The easement will serve for habitat for various species while providing mitigation for agricultural impacts under the habitat plan in the Delta and/or Central Zones.

There have been historical records of Swainson's hawk and other species on/near the property in the California Natural Diversity Database (CNDDB).

#### RECOMMENDATION:

A motion to recommend the SJCOG, Inc. Board to

- 1) approve the conservation easement purchase, and
- 2) approve the preserve management plan.

#### FISCAL IMPACT:

SJCOG, Inc. would purchase an agricultural habitat easement on 60+/- acres under the SJMSCP.

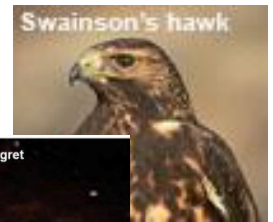
- Easement = **\$390,000** (not to exceed \$6,500 per acre) plus closing costs
- Endowment = **\$272,925** (60+/- acres x \$4,548.75 per acre for 2019 endowment)

## BACKGROUND:



The Muela Willow Glen property, with 5-8 feet elevation above sea level, is along the eastern side of Middle River west of the City of Lathrop in the Delta Zone. The property consists of an active row crop operation which serves as foraging habitat for several SJMSCP covered species and some riparian habitat along the riverway. The conservation easement would cover existing agricultural and riparian land to mitigate for prior development impacts in the Delta and Central Zone under the SJMSCP.

The draft PMP (attachment 3), prepared by ICF, reflects the existing Preserve Management Plans for agricultural land preserves in the Delta Zone for economy of scale on long term monitoring activities. There are no extensive enhancements planned to the landscape. However, any additional future enhancements not displayed in Table 1 would be brought back as a supplemental PMP in cooperation with the land owner. The land owners display very good stewardship practices and there are very few 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	

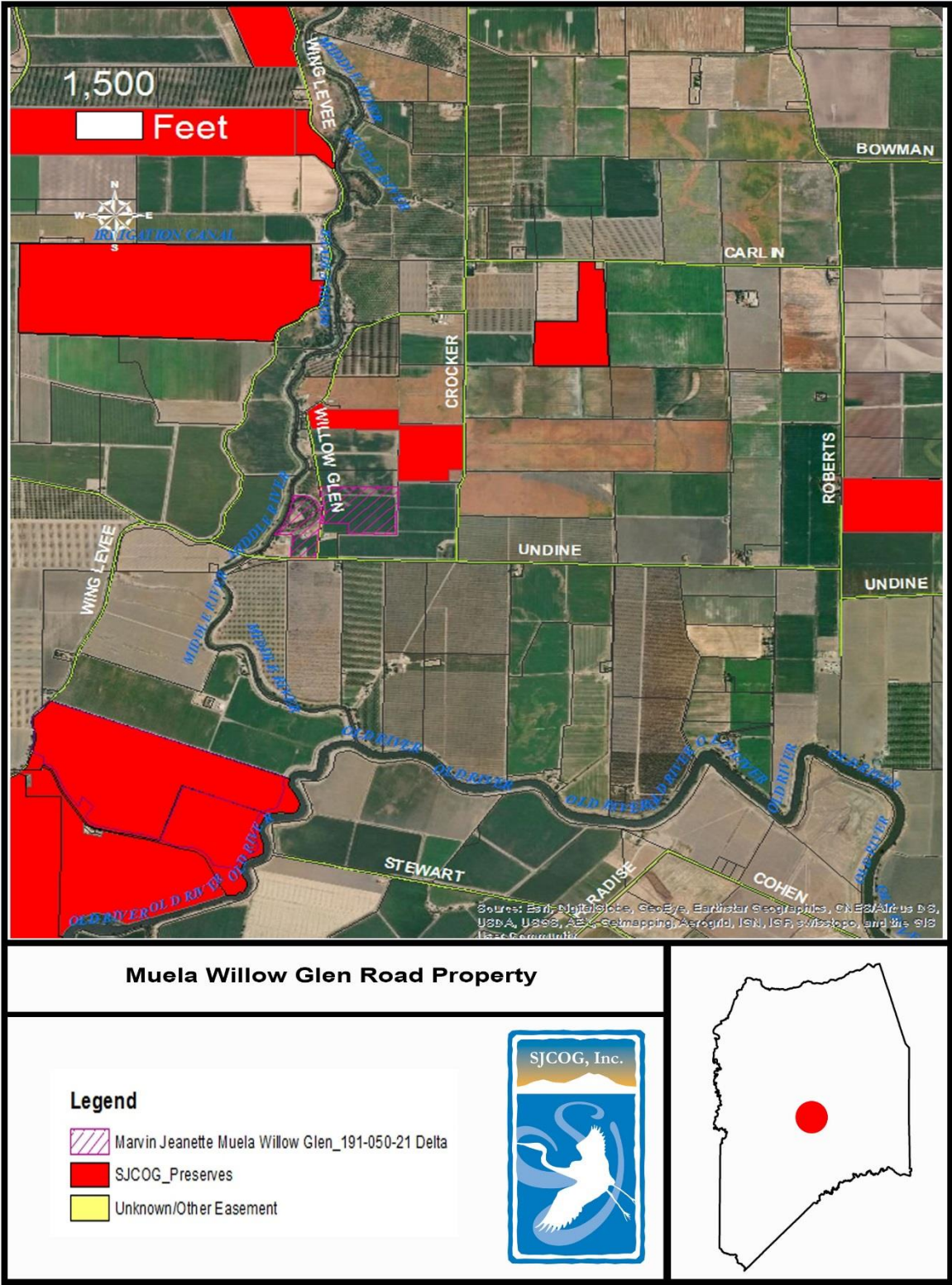
## COMMITTEE ACTIONS:

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

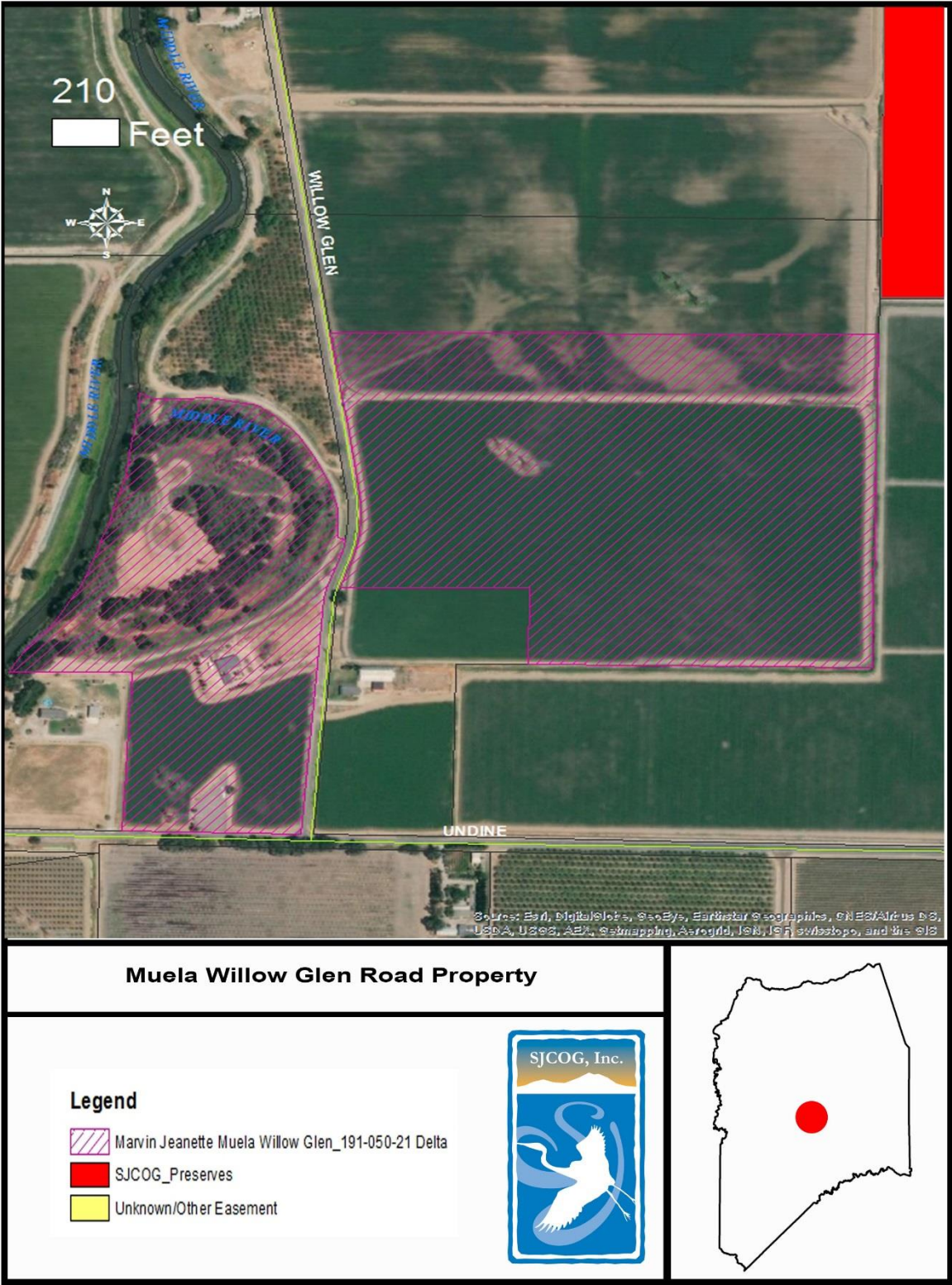
## ATTACHMENTS:

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 MUELA WILLOW GLEN ROAD PRESERVE**

**PREPARED FOR:**

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209.235.0600

**PREPARED BY:**

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Contact: Doug Leslie  
916.737.3000

**April 30, 2019**





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# Tables and Figures

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## Figures appear at end of document

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Figure 1	Muela Willow Glen Road Preserve San Joaquin County
Figure 2	Muela Willow Glen Road Preserve and Other Conservation Easements in the Vicinity
Figure 3	Muela Willow Glen Road Preserve
Figure 4	Agricultural Habitats Present on the Muela Willow Glen Road Preserve
Figure 5	Habitats Present on the Muela Willow Glen Road Preserve
Figure 6	Documented Occurrences of SJMSCP-Covered Species within 2 Miles of Muela Willow Glen Road Preserve

## Acronyms and Abbreviations

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CNDDDB	California Natural Diversity Database
GIS	geographic information systems
HTAC	Habitat Technical Advisory Committee
MWGRP	Muela Willow Glen Road Preserve
SJCOG	SJCOG, Inc.
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
USGS	U.S. Geological Survey

# Chapter 1

## Introduction

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SJCOG, Inc., is currently implementing the *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan* (SJMSCP)<sup>1</sup> (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 Muela Willow Glen Road Preserve (MWGRP), owned by Marvin and Jeanette Muela, on which a conservation easement is being placed. The single parcel addressed in this PMP is approximately 65 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 MWGRP 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 MWGRP is located on the east side of Middle River on Roberts Island, approximately 4.5 miles west of Interstate 5 and the City of Lathrop, CA (Figure 1). Information pertaining to the property is provided in Table 1.

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<sup>1</sup> San Joaquin County Council of Governments. 2001. *San Joaquin County Multi-Species Habitat Conservation & Open Space Plan*. Stockton, CA. Available: <https://www.sjcog.org/DocumentCenter/View/5/Habitat-Planpdf?bidId=>. Accessed April 29, 2019.

**Table 1. Muela Willow Glen Road Preserve Information**

Assessor's Parcel Numbers	191-050-21
Acreage	60 acres
SJMSCP Index Zone	Delta
USGS 7.5-minute quadrangle	Lathrop, Union Island
Township	1S
Range	5E
Section	Unsurveyed
SJMSCP = <i>San Joaquin County Multi-Species Habitat Conservation and Open Space Plan</i> ; USGS = U.S. Geological Survey	

The MWGRP is in close proximity to the Wing Levee Road and Jaques Wing Levee Preserves, the Torlai Property Preserve, the Rosa 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 MWGRP lands in accordance with the PMP are listed below.

### **Landowner**

Marvin and Jeanette Muela  
Contact: Marvin Muela  
13751 Willow Glen Road  
Stockton, CA 95206  
Phone 209.815.0108  
email:losmuela@yahoo.com

### **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

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As noted above, the MWGRP is an approximately 60-acre portion of the property owned by Marvin and Jeanette Muela. The property is just to the east of Middle River. The easement consists of a single parcel comprised of 3 distinct parts. The primary portion of the parcel is a single agricultural field currently used to grow winter wheat and tomatoes, which is bordered by Willow Glen Road on the western side and just north of East Undine Road (Figures 3 and 4). The field is irrigated with water from Middle River using an underground drip irrigation system and has three Electric Transmission towers carrying 3 adjacent lines (Figure 4). Historically grown crops include cucumbers and winter wheat. A smaller field to the south of the house and west of Willow Glen Road contains a second set of 3 transmission towers.

The third portion of the property occurs just west of Willow Glen Road adjacent to Middle River. This portion of the property is circular in shape and approximately 14 acres in size. The center is an open area comprised of non-native grassland and dirt roads with a perimeter of various riparian habitats comprised of Valley oaks (*Quercus lobata*), Cottonwood (*Populus fremontii*), Coyote brush (*Baccharis pilularis*), California wild rose (*Rosa californica*), and other species. Several Blue elderberry bushes (*Sambucus nigra*) occur along the outer perimeter on the east side (Figure 5). There is a low spot on the northern side that retains water and contains some emergent marsh vegetation (i.e. tules [*Schoenoplectus acutus*]). The area has historically been used for target shooting, occasional dove hunting, and camping by a local church group.

The property is surrounded primarily by row and field crops, although orchards and vineyards 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 MWGRP. Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) records are ubiquitous on the property and to the north and south along Middle River, along with several records of nesting Swainson's hawk (*Buteo swainsonii*). There is a single record each of western pond turtle (*Actinemys marmorata*), Modesto song sparrow (*Melospiza melodia mailliardi*), and California Hibiscus/Rose mallow (*Hibiscus lasiocarpus*) within a 2-mile radius of the preserve (Figure 6).

### 2.1 Wildlife Habitat Associations Identified in the SJMSCP

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

- Row and field crop.
- Presence of elderberry stems 1" or greater in diameter
- Presence of rodents.

- Presence of pigeons or mice.
- Presence of short grasses, sometime almost barren ground
- Presence of small reptiles and/or amphibians in shallow waters
- Presence of tall perching sites (i.e., vegetative perches higher than surrounding vegetation which permit the species to survey the surrounding area) normally with adjacent agricultural fields or grasslands
- Presence of snags or trees with a moderate canopy, preferably near riparian areas
- Presence of stands of dense, tall, trees along riparian corridors for roosts or rookeries
- Presence of small birds

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

- Valley elderberry longhorn beetle
- Swainson's hawk
- Northern harrier (*Circus cyaneus*)
- White-tailed kite (*Elanus leucurus*)
- Merlin (*Falco columbarius*)
- California horned lark (*Eremophila alpestris actia*)
- Long-billed curlew (*Numenius americanus*)
- Great blue heron (*Ardea herodias*)
- Great egret (*Ardea alba*)
- Black-crowned night heron (*Nycticorax nycticorax*)
- Loggerhead shrike (*Lanius ludovicianus*)
- Red bat (*Lasiurus blossevillii*)
- Cooper's hawk (*Accipiter cooperii*)
- Sharp-shinned hawk (*Accipiter striatus*)

The agricultural and riparian 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 MWGRP 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 MWGRP 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

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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 MWGRP 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 MWGRP have historically provided benefits for Swainson's hawk and other SJMSCP-covered species. The property is currently being used to grow winter wheat and tomatoes, and has historically been used to grow cucumbers and alfalfa. 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 MWGRP Conservation Easement. *Landowner* refers to Marvin and Jeanette Muela. *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 MWGRP 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, 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 foraging 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 MWGRP 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 MWGRP 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 Willow Glen Road, when necessary (Figure 3). The MWGRP 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

No preserve enhancements are proposed for the MWGRP because the property already contains high quality habitats for a number of SJMSCP-covered species. However, if presence of riparian brush rabbit (*Sylvilagus bachmani riparius*) were to be confirmed in the area, the non-agricultural portion of the MWGRP would provide an opportunity to expand habitat for this species along Middle River.

## 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

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This chapter describes the biological monitoring plan and reporting requirements for land management activities on the MWGRP. 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 – if they are installed - 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. 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 all of the agricultural lands on the 60 acres easement 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 MWGRP. Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs. The principle of

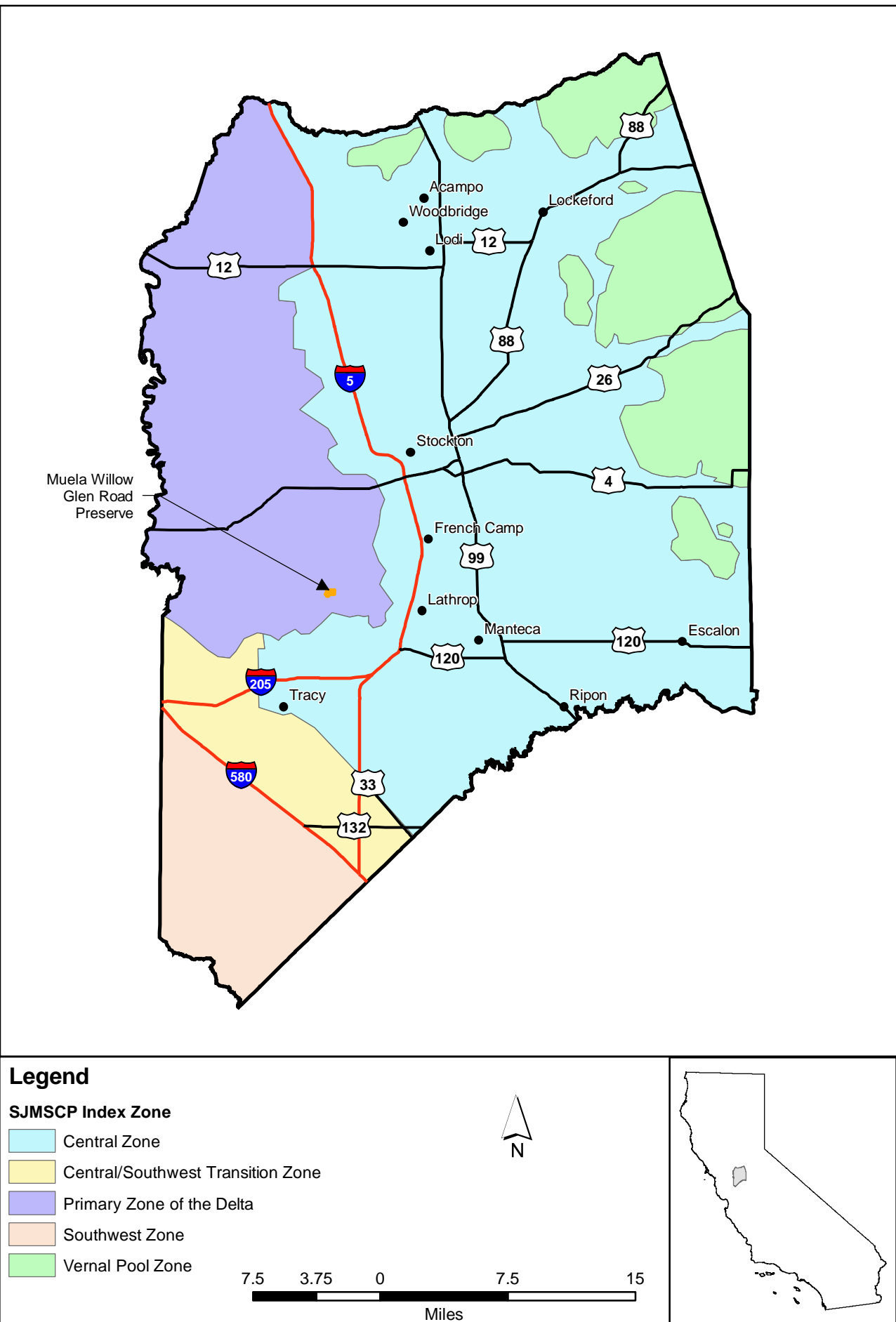


adaptive management recognizes that the resources being managed are dynamic systems and that the state of knowledge regarding natural resource management is constantly improving. Adaptive management, by definition, does not include predetermined actions, but rather identifies new responses based on the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

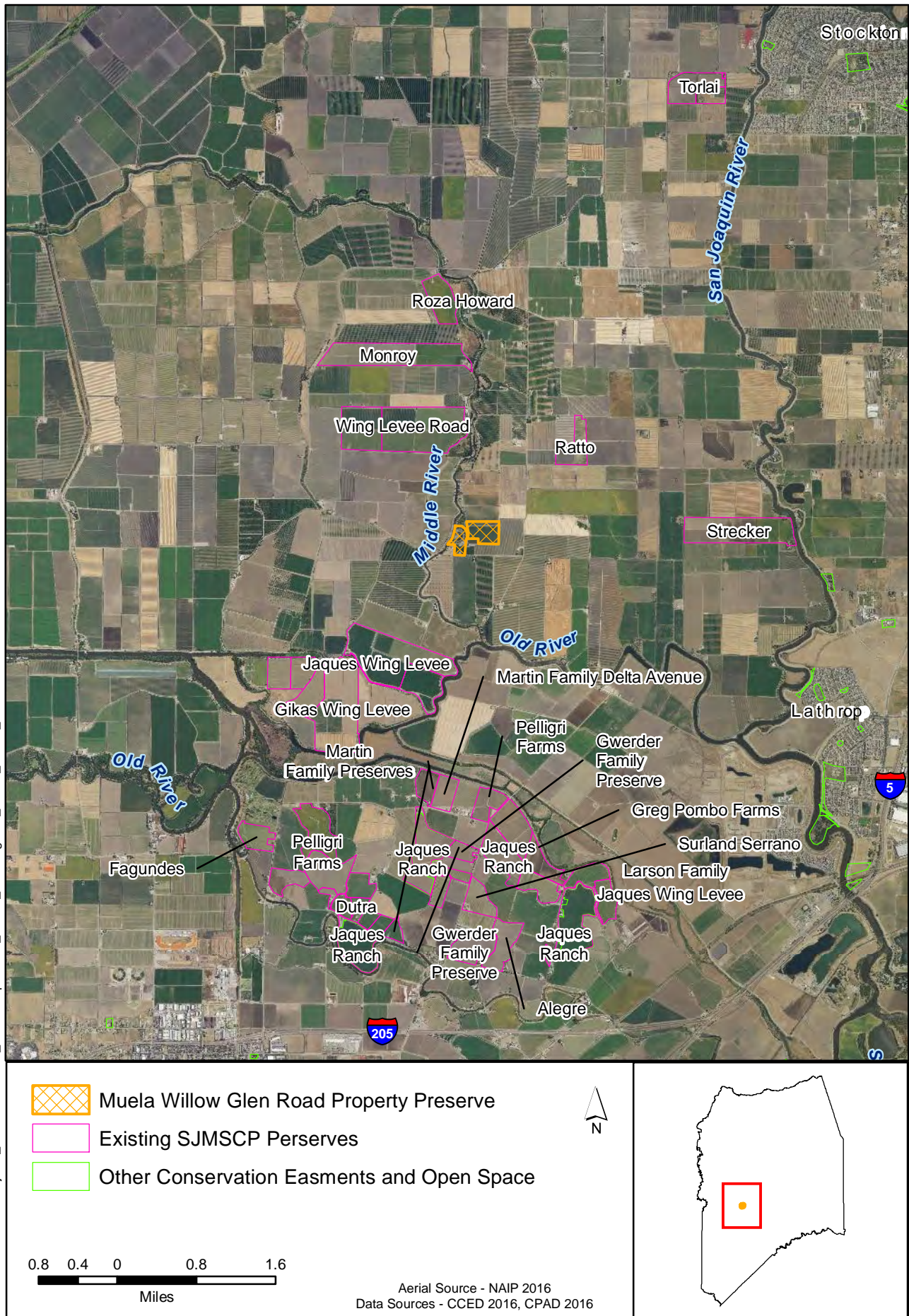
In the context of preserve management, monitoring activities are undertaken to assess the progress of management activities toward achieving the stated management goals. The information collected can then be used to improve management activities, if change is warranted. However, there will be no alteration 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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\\PDC\ITRDSGIS\Projects\_2\SJHCP\05076\_05\arcmap\Muela\_Willow\_Glen\Figure2\_Muela\_Willow\_Glen.mxd ds 5/3/2019



**Figure 2**  
**Muela Willow Glen Road Preserve and**  
**Other Conservation Easements in the Vicinity**



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**Figure 3**  
**Muela Willow Glen Road Preserve**



**Photo 1.** Winter Wheat Field Adjacent to Willow Glen Road.



**Photo 2.** Wheat Field With Underground Drip Irrigation and Electric Transmission Towers





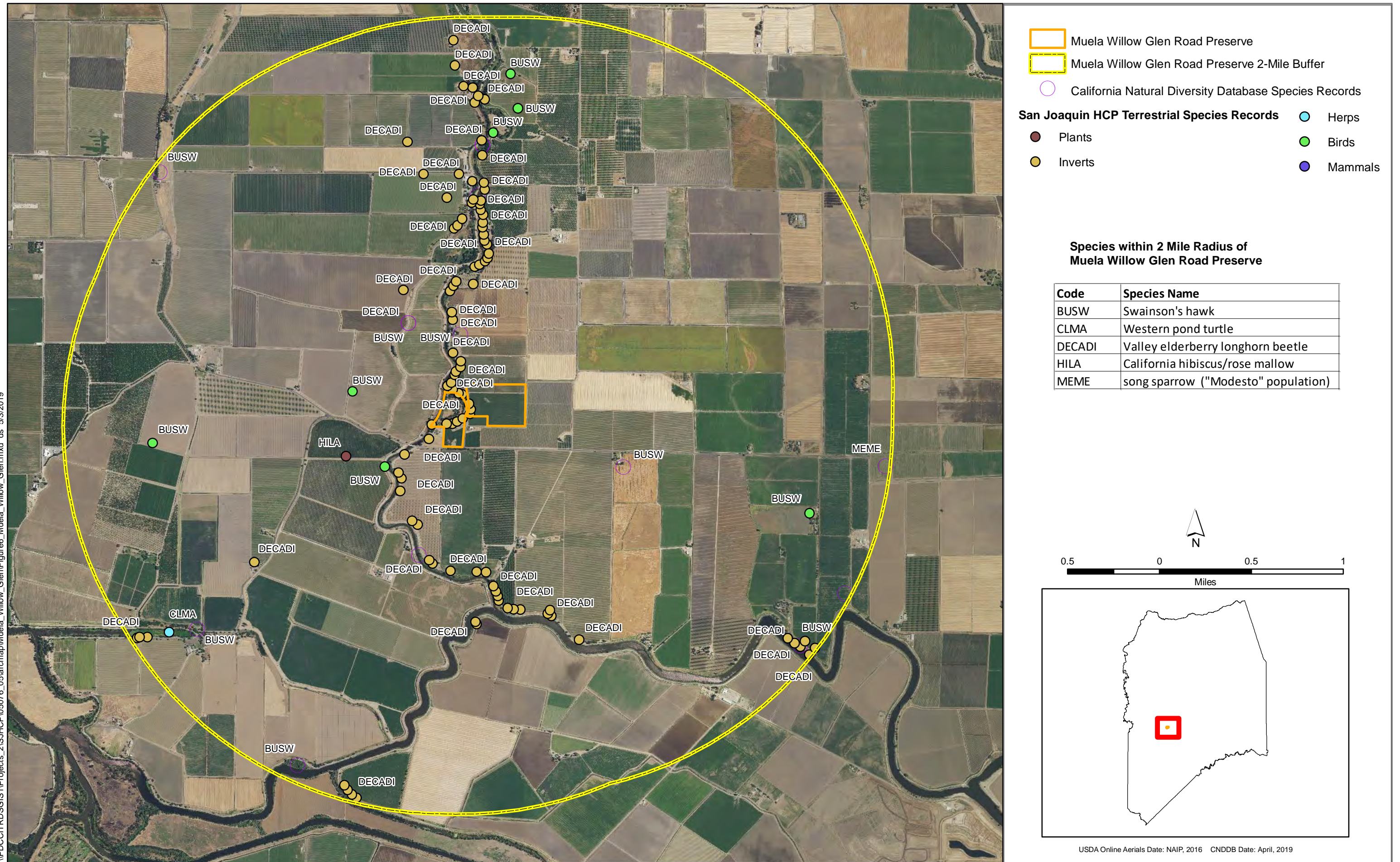
**Photo 1.** Annual Grassland Habitats and Riparian Perimeter Along Middle River.



**Photo 2.** Riparian Habitats along Middle River.



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**Figure 6**  
**Documented Occurrences of SJMSCP-Covered Species**  
**within 2 Miles of Muela Willow Glen Road Preserve**