

## **APPENDIX B**

### **BIOLOGICAL RESOURCES REPORTS**



## **MEMORANDUM**

**TO:** City of Galt and Raney Planning & Management

**FROM:** ECORP Consulting, Inc.

**DATE:** June 19, 2019

**RE:** Biological Resources Assessment: East Galt Infill Annexation Area

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### **1.0 INTRODUCTION**

#### **1.1 Purpose**

This memorandum provides a programmatic-level assessment of the potential effects of implementing the East Galt Infill Annexation Area (Annexation Area) on biological resources. This information is intended to support the completion of a California Environmental Quality Act (CEQA) Appendix G -Environmental Checklist Form, Section IV. Biological Resources.

This memorandum includes a programmatic-level description of the Annexation Area's habitats; a description of special-status plant and wildlife species that could potentially occur in the Annexation Area; potential impacts of the annexation (based on the questions the Checklist Form, *Section IV. Biological Resources*); and recommendations to avoid and minimize potential impacts. The Annexation Area includes the Simmerhorn Ranch Project (Simmerhorn Project); several studies have been completed for the Simmerhorn Ranch Project and when available, detailed information on biological resources for this portion of the annexation area is provided. The project-specific effects of the Simmerhorn Ranch Project are also discussed in detail under separate cover: *Biological Resources Assessment: Simmerhorn Ranch* (ECORP 2019a). The Annexation Area lies within the Plan Area of the South Sacramento Habitat Conservation Plan (SSHCP). Therefore, this memorandum describes the biological conditions of the Annexation Area using the terms of the SSHCP.

#### **1.2 Location**

##### **1.2.1 Annexation Area**

The Annexation Area consists of a total of 341.04 acres in Galt, Sacramento County, California (Figure 1. *Annexation Area: Project Location and Vicinity*). The Study Area corresponds to a portion of the Sanjon De Los Moquelemnes Land Grant and portions of Sections 23 and 26, Township 5 North, Range 6 East (Mount Diablo Base and Meridian) of the "Galt, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1960). The approximate center of the Study Area is located at 38.261873° latitude and -121.288646° longitude within the Upper Cosumnes and Upper Mokelumne watersheds

(Hydrologic Unit Code #18040013 and 18040012, respectively, Natural Resources Conservation Service [NRCS], et al. 2016).

The Annexation Area consists of the annexation of rural farms and residences located in an area east of U.S. Highway 99. The Annexation Area is located north of Boessow Road, west of Marengo Road, and south of Amador Avenue and the Southern Pacific Railroad track alignment.

### **1.2.2 Simmerhorn Ranch Project**

The Simmerhorn Project consists of Simmerhorn Ranch and associated offsite sewer extension. The Simmerhorn Project is located east of U.S. Highway 99, south of Simmerhorn Road and north of Boessow Road in Sacramento County, California (Figure 2. *Simmerhorn Ranch Project: Location and Vicinity*). The Simmerhorn Project corresponds to a portion of Section 26, Township 5 North, Range 6 East (Mount Diablo Base and Meridian) of the "Galt, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1960). The approximate center of the Study Area is located at 38.260029° latitude and -121.284664° longitude.

## **2.0 REGULATORY SETTING**

The federal, state, and regional regulations pertaining to plant and wildlife species and the regulatory agencies that enforce these standards are discussed in the *Biological Resources Assessment: Simmerhorn Ranch* (ECORP 2019a) and incorporated by reference in this document.

## **3.0 METHODS**

### **3.1 Annexation Area**

The information presented for the Annexation Area was generated from a literature review and aerial photographic assessment; no reconnaissance-level or determinate field surveys for special-status plant and wildlife species were conducted. Upland communities and aquatic resources are described based on the SSHCP Land Cover Type mapping database.

The following resources were queried to determine whether any special-status species other than SSHCP-Covered Species have potential to occur within the Project (**Attachment A**).

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) record search for the "Galt, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CDFW 2019a);
- U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System Resource Report List for the Annexation Area (USFWS 2019);

- California Native Plant Society's (CNPS') electronic *Inventory of Rare and Endangered Plants of California* was queried for the "Galt, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CNPS 2019).
- In addition to the database queries, SSHCP-Modeled Species Habitat data were used to determine which SSHCP-Covered Species have the potential to occur within the Annexation Area. The SSHCP Land Cover Type data and Modeled Species Habitat data were obtained from the City of Galt and were not modified by ECORP based on site conditions.

## 3.2 Simmerhorn Project

In addition to the literature review described for the Annexation Area, within the Simmerhorn Project, ECORP biologists Clay DeLong and Emily Mecke conducted an aquatic resource delineation of the Project site on November 7, 2018. An additional site visit at the offsite sewer extension was conducted by Mr. DeLong on April 4, 2019. During the surveys, the Simmerhorn Project area was walked on foot, and topographic maps and aerial imagery were referenced. A portion of the area along Simmerhorn Road was not accessible by foot due to access limitations on private property. Biological communities occurring within the Simmerhorn Project were characterized and the following biological resource information was collected:

- Potential aquatic features (also described separately in the Aquatic Resources Delineation [ECORP 2019b]);
- Animal species directly observed;
- Habitat and vegetation communities (including Sensitive Natural Communities); and
- Representative photographs of the Simmerhorn Project are provided as Attachment B in ECORP 2019a.

Based on the site reconnaissance, ECORP revised the type and extent of the SSHCP Land Cover types to accurately reflect current field conditions and vegetation communities in the Simmerhorn Project.

## 4.0 RESULTS

### 4.1 Site Characteristics and Land Use

#### 4.1.1 Annexation Area

The Annexation Area is located within existing agricultural fields and low-density development at approximately 50 - 60 feet above mean sea level in the Sacramento Valley region of California (Baldwin et. al. 2012). The average winter low temperature in the vicinity of the Project is 38.9°F and the average summer high temperature is 90.1°F. Average annual precipitation is approximately 19 inches, which falls as rain (National Oceanic and Atmospheric Administration [NOAA] 2018).



#### 4.1.2 Simmerhorn Project

The ±126.71-acre Simmerhorn Project is located within an existing agricultural field that used to be a dairy farm.

### 4.2 Soils

According to the *Web Soil Survey* (NRCS 2019), the Annexation Area and Simmerhorn Project are almost entirely one soil unit with small areas of two additional units, or types, as described below and shown on Figure 3. *Natural Resources Conservation Service Soil Types*:

- 213 – San Joaquin silt loam, leveled, 0 to 1 percent slopes
- 214 – San Joaquin silt loam, 0 to 3 percent slopes
- 219 – San Joaquin-Urban land complex, 0 to 2 percent slopes.

San Joaquin soils are formed in alluvium derived from granite rock. No soil units derived from serpentinite or other ultramafic parent materials have been reported to occur within the Annexation Area its immediate vicinity (NRCS 2018).

### 4.3 Vegetation Communities and SSHCP Cover Types

#### 4.3.1 Annexation Area

SSHCP Land Cover data provides a useful summary of the vegetation communities in the Annexation Area (Figure 4. *SSHCP Land Cover*). The approximate area by land cover type is presented in Table 1 and the characteristics of the land cover types are described below. Aquatic land cover types are described in Section 4.4.

Table 1. SSHCP Land Cover Types within Annexation Area	
SSHCP Land Cover Type	Acreage
Valley Grassland	113.94
Cropland	103.25
Low Density Development	81.19
Irrigated Pasture-Grassland	18.57
Orchard	8.29
Major Roads	6.05
Disturbed	3.92
Recreation/Landscaped	0.17
High Density Development	0.03
Aquatic Resources	5.65
Total:	341.06

## **Valley Grassland**

Valley Grassland as described in the SSHCP Plan Area is an annual herbaceous plant community now characterized mostly by naturalized annual grasses. This land cover type is the most common land cover type in the Annexation Area. Valley Grassland supports numerous plant and wildlife species.

## **Cropland**

The Cropland land cover type is the second most abundant cover type in the Annexation Area. In the SSHCP Plan Area, it includes annual row and field crops, as well as short-term perennial crops.

## **Low-Density Development**

The Low-Density Development land cover type consists of existing rural residential development including buildings/structures and ornamental trees. Ruderal vegetation is present within this land cover and is dominated primarily by a mix of nonnative annual grasses and forbs. This cover type provides limited wildlife habitat.

## **Irrigated Pasture-Grassland**

The Irrigated Pasture-Grassland land cover includes hay production (alfalfa, clovers, and mixed grasses), seasonal summer pasture for livestock (primarily cattle), and year-round pasture for livestock (primarily cattle or horses). There is a single parcel of irrigated pasture/grassland that occurs in the northeast portion of the Annexation Area.

## **Orchard**

The Orchard land cover type occurs in the northeast corner of the Annexation Area (Figure 4). The Orchard land cover has limited wildlife habitat value but provides perches for raptors foraging in adjacent Cropland and Valley Grassland and may host bat roosting sites.

## **Major Roads, Disturbed, High Density Development**

The Major Roads and Disturbed land cover types in the Annexation Area are primarily major paved roads including East Amador Avenue, Simmerhorn Road, Carillion Boulevard, Marengo Road, and Boessow Road (Figure 4).

## **Recreation/Landscaped**

The recreation/landscaped land cover type includes gardens, parks, golf courses, off-highway vehicle parks, and greenbelts. In the Annexation Area, Canyon Creek Park near Amador Avenue is mapped as this land cover type (Figure 4). Most of these areas are regularly maintained but do provide limited wildlife habitat.

### 4.3.2 Simmerhorn Project

As described in Section 3.2, the SSHCP Land Cover types within the Simmerhorn Project were refined based on the site assessment. The following section describes the refined land cover types for the Simmerhorn Project only.

### 4.3.3 Terrestrial Land Cover Types

Based on the site assessment, the primary SSHCP Terrestrial Land Cover types within the Simmerhorn Project include Cropland, Low-Density Development, and Major Roads (Figure 5. *Simmerhorn Project: Revised SSHCP Land Cover Type*). The original SSHCP Terrestrial Land Cover data for the Simmerhorn Project also described Mixed Riparian Scrub and Valley Grassland land cover, but these were removed from the land cover map as the site assessment determined they were not present. Cover types and acreages occurring within the Simmerhorn Project are summarized in Table 2. The following descriptions are based on the revised land cover map (Figure 5).

Table 2. Land Cover Types within Study Area	
SSHCP Land Cover Type	Acreage
Cropland	102.75
Low Density Development	15.80
Major Roads	5.10
Valley Grassland	1.43
Aquatic Resources	1.64
Total:	126.72

#### Cropland

The Cropland land cover type includes annual row and field crops, as well as short-term perennial crops. This land cover is dominated by Italian ryegrass (*Festuca perennis*). Other plant species scattered throughout the Simmerhorn Project within the Cropland land cover include prickly lettuce (*Lactuca serriola*), prostrate knotweed (*Polygonum aviculare* ssp. *depressum*), and morning glory (*Convolvulus arvensis*). Croplands provide rodent and insect prey populations and plant material for foraging.

#### Low-Density Development

The Low-Density Development land cover type consists of existing rural residential development including buildings/structures and ornamental trees. This land cover also corresponds to the extent of defunct dairy structures and infrastructure. Ruderal vegetation is present within this land cover and is dominated primarily by a mix of nonnative annual grasses and forbs such as wild oat (*Avena*

*fatua*), ripgut brome (*Bromus diandrus*), milk thistle (*Silybum marianum*), prickly lettuce, and goose grass (*Galium aparine*).

## Major Road

Major Roads on the Simmerhorn Project include Simmerhorn Road, Marengo Road, and Boessow Road.

## Valley Grassland

The Valley Grassland land cover type consists of annual grassland along a portion of Simmerhorn Road. This Valley Grassland land cover is dominated by soft brome (*Bromus hordeaceus*), Italian ryegrass, and bur clover (*Medicago polymorpha*).

## 4.4 Aquatic Resources

### 4.4.1 Annexation Area

Aquatic resources in the Annexation Area were characterized based on SSHCP Aquatic Cover Type mapping. Six SSHCP aquatic land cover types are mapped in the Annexation Area and are shown on Figure 4. The approximate area by aquatic land cover type is presented in Table 3. The character of each aquatic land cover types is described below.

Table 3. SSHCP Aquatic Land Cover Types Within the Annexation Area	
SSHCP Land Cover Type	Acreage
Vernal Pool	1.82
Seasonal Wetland	2.13
Swale	0.36
Stream/Creek (non-VPIH)	0.43
Riparian Scrub	0.58
Riparian Woodland	0.33
<b>Total:</b>	<b>5.65</b>

VPIH – Vernal pool invertebrate habitat

### Vernal Pool

Under the SSHCP, the Vernal Pool aquatic land cover type is described as seasonal ephemeral wetlands that fill and dry each year. In Central Valley annual grasslands, they form in shallow depressions that are underlain with a soil or a soil layer impermeable to water and are characterized as vernal pool invertebrate habitat (VPIH).

## **Swale**

Under the SSHCP, the Swale aquatic land cover type consists of shallow ephemeral drainages found in flat to gently rolling Valley Grassland in association with vernal pool complexes, on soils with an impermeable layer. Swales convey runoff as shallow, gently sloping ephemeral wetlands during, and for short periods after, winter rainstorms. Swales are associated with vernal pools and provide VPIH.

## **Seasonal Wetland**

Under the SSHCP, the Seasonal Wetland aquatic land cover type is characterized as wetlands that pond for an extended period during a portion of the year, generally filling during the rainy winter season and drying relatively slowly, typically in the summer or early fall. Seasonal Wetlands tend to be isolated wetlands that occur within moderate to large depressional features along streams, creeks, and rivers; along the edges of open water, or scattered within the Valley Grassland land cover. In addition, some impounded drainages, excavated stock ponds, and graded or excavated former vernal pools can also be Seasonal Wetland. Under the SSHCP, Seasonal Wetlands do not represent habitat for vernal pool invertebrates.

## **Stream/Creek non-VPIH**

Under the SSHCP, the Stream/Creek land cover type includes intermittent and perennial linear water features such as rivers, streams, creeks, drainages, and roadside and irrigation ditches. These features typically exhibit a bed and bank and an ordinary high-water mark. These features do not represent habitat for vernal pool invertebrates due to the highly ephemeral nature of the features. In the Annexation Area, the Stream/Creek aquatic cover type is primarily drainage ditches constructed to convey water (Figure 4).

## **Riparian Scrub/Riparian Woodland**

Under the SSHCP, Riparian land covers are associated with Streams/Creeks and typically occur in the zone between the active stream channel and adjacent upland land covers. The SSHCP defines riparian areas as transitional between terrestrial and aquatic ecosystems and distinguished by gradients in biophysical conditions, ecological processes, and biota. In the Annexation Area, riparian scrub is mapped in association with Canyon Creek and riparian woodland is mapped in a small isolated area of the northeast corner (Figure 4).

### **4.4.2 Simmerhorn Ranch**

An aquatic resources delineation was conducted for the Simmerhorn Project, in accordance with the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers [USACE] 2008). A total of 1.641 acres of aquatic resources were mapped within the Simmerhorn Project (Table 4; ECORP 2019b). Based on the SSHCP Aquatic Land Cover types

these aquatic resources are Vernal Pools (seasonal wetlands that provide vernal pool invertebrate habitat), Seasonal Wetland (seasonal wetlands that do not provide vernal pool invertebrate habitat), and Stream/Creek non-VPIH (Figure 4). Based on aquatic resource terminology, these features include seasonal wetlands and drainage ditches; an aquatic resources delineation map is presented in Figure 5. *Simmerhorn Project: Aquatic Resources Delineation*.

<b>Table 4. Simmerhorn Project: Aquatic Resources</b>	
<b>Type</b>	<b>Acreage<sup>1</sup></b>
Wetlands	
Seasonal wetland	0.747
Other Waters	
Drainage ditch	0.894
<b>Total</b>	<b>1.641</b>

<sup>1</sup>Acreages represent a calculated estimation and are subject to modification following the USACE verification process.

A discussion of the aquatic resources found on the Simmerhorn Project site is presented below by SSHCP Aquatic Land Cover Type (Aquatic Resource Type).

### **Vernal Pool (Seasonal Wetland)**

Two of the seasonal wetlands in the Simmerhorn Project (SW-02 and SW-03, Figure 6. *Simmerhorn Ranch: Aquatic Resources Delineation*) are characterized as Vernal Pool aquatic land cover type under the SSHCP due to their capacity to provide vernal pool invertebrate habitat. Dominant plant species observed within these features include rabbitsfoot grass (*Polypogon monspeliensis*), barnyard grass (*Echinochloa crus-galli*), and Italian ryegrass.

### **Seasonal Wetland (Seasonal Wetland)**

Two of the seasonal wetlands with the Simmerhorn Project are defunct dairy ponds used for storage of effluent runoff that were excavated when the site was an active dairy. These seasonal wetlands (SW-01 and SW-04, Figure 6) do not represent habitat for vernal pool invertebrates and as such are considered to be Seasonal Wetland under the SSHCP aquatic land cover type. Dominant plant species observed within these seasonal wetlands include curly dock (*Rumex crispus*), goose grass, rabbitsfoot grass, and prickly lettuce.

### **Stream/Creek non-VPIH (Drainage Ditches)**

Stream/Creek non-VPIH aquatic land cover type on the Simmerhorn Project are drainage ditches. These linear features were constructed to convey water. These features occur along roads on the northern boundary (Simmerhorn Road); along a portion of the eastern boundary; along a portion of the western boundary; and through the northern portion of the site in an east to west alignment

(Figure 6). These drainage ditches are dominated by dallis grass (*Paspalum dilatatum*), tall flatsedge (*Cyperus eragrostis*), barnyard grass, and curly dock.

## 4.5 SSHCP Covered Species and Special-Status Species

### 4.5.1 Annexation Area

Based on SSHCP-Modeled Species Habitat data, the Annexation Area contains habitat for 24 Covered Species. SSHCP-Modeled Species Habitat maps are provided in Attachment B.

The literature sources described in *Section 3.0 Methods* were queried to determine the potential for occurrence of any other special-status species that are not SSHCP-Covered Species. These queries resulted in the identification of 34 additional species for consideration.

Tabulated results of all species evaluated for the Annexation Area are presented in Table 5. Each of the species identified by these resources were evaluated for their potential to occur within the Annexation Area or vicinity based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Annexation Area based on documented occurrences within the CNDDb, SSHCP, or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Annexation Area based on site assessment, literature research, or SSHCP-Modeled Species Habitat data.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Annexation Area based on CNDDb records and other available documentation. This designation is only used for species that are not SSHCP-Covered Species.
- **Absent** - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Annexation Area based on CNDDb records and other documentation or SSHCP-Modeled Species Habitat data does not indicate that habitat for the species occurs within the site.

### 4.5.2 Simmerhorn Project

Tabulated results of all species evaluated for the Simmerhorn Project are presented in Table 5. Potential occurrence was evaluated based on the literature review and site visits and refined based on the revised SSHCP land cover type mapping.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Plants								
Watershield  ( <i>Brasenia schreberi</i> )	–	–	2B.3	Freshwater marshes and swamps (98'–7,218').	June–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Valley brodiaea  ( <i>Brodiaea rosea</i> ssp. <i>vallicola</i> )	-	-	4.2	Old alluvial terraces; silty, sandy, and gravelly loam soils in swales within Valley and foothill grassland and vernal pools (33' – 1,099')	April-May (June)	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Bristly sedge  ( <i>Carex comosa</i> )	–	–	2B.1	Marshes and swamps, including lake margins, coastal prairie, and valley and foothill grassland (0'–2,051').	May–September	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Succulent Owl's Clover  ( <i>Castilleja campestris</i> ssp. <i>succulenta</i> )	FT	CE	1B.2	Vernal pools, often in acidic environments.(164'–2,461').	April–May	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Parry's rough tarplant  ( <i>Centromadia parryi</i> ssp. <i>rudis</i> )	–	–	4.2	Alkaline, vernally mesic areas and seeps in valley and foothill grassland, vernal pools, sometimes found on roadsides (0'–328').	May–October	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Bolander's water–hemlock  ( <i>Cicuta maculata</i> var. <i>bolanderi</i> )	–	–	2B.1	Coastal, freshwater, or brackish marshes and swamps (0'–656').	July–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Peruvian dodder  ( <i>Cuscuta obtusiflora</i> var. <i>glandulosa</i> )	–	–	2B.2	Freshwater marshes and swamps (49'–918').	July–October	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.



**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Dwarf downingia ( <i>Downingia pusilla</i> )	–	–	2B.2, SSHCP Covered Species	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches) (Baldwin et al. 2012) (3'–1,460').	March–May	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Boggs Lake hedge-hyssop ( <i>Gratiola heterosepala</i> )	–	CE	1B.2, SSHCP Covered Species	Marshes, swamps, lake margins, and vernal pools (33'–7,792').	April–August	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Hogwallow starfish ( <i>Hesperevax caulescens</i> )	–	–	4.2	Mesic areas with clay soils and shallow vernal pools within valley and foothill grassland, sometimes in alkaline soils (0'–1,657').	March–June	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Woolly rose-mallow ( <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> )	–	–	1B.2	Marshes and freshwater swamps (0'–394').	June–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Black walnut <i>Juglans hindsii</i>			1B.1	Riparian forests and woodlands (0' – 1,444')	April–May	NA	Low potential to occur. Limited habitat available onsite.	Absent. No suitable habitat present onsite.
Ferris' goldfields ( <i>Lasthenia ferrisiae</i> )	–	–	4.2	Alkaline and clay vernal pools (66'–2,297').	February–May	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Delta tule pea ( <i>Lathyrus jepsonii</i> var. <i>jepsonii</i> )	–	–	1B.2	Freshwater and brackish marshes and swamps (0'–16').	May–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Legenere ( <i>Legenere limosa</i> )	–	–	1B.1, SSHCP Covered Species	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Heckard's pepper-grass ( <i>Lepidium latipes</i> var. <i>heckardii</i> )	–	–	1B.2	Alkaline flats within valley and foothill grasslands (7'–656').	March–May	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
Mason's lilaeopsis ( <i>Lilaeopsis masonii</i> )	–	CR	1B.1	Brackish or freshwater marshes or swamps and riparian scrub (0'–33').	April–November	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Delta mudwort ( <i>Limosella australis</i> )	–	–	2B.1	Freshwater or brackish marshes and swamps and riparian scrub, usually on mud banks (0'–10').	May–August	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Hoary navarretia ( <i>Navarretia eriocephala</i> )	-	-	4.3	Vernally mesic areas in cismontane woodland and valley and foothill grassland (345' - 1,312').	May-June	NA	Potential to occur.	Potential to occur.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Pincushion navarretia <i>(Navarretia myersii</i> ssp. <i>myersii)</i>	–	–	1B.1, SSHCP Covered Species	Often acidic soils in vernal pools (66'–1,083').	April–May	Vernal Pool	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.
Slender Orcutt grass <i>(Orcuttia tenuis)</i>	FT	CE	1B.1, SSHCP Covered Species	Vernal pools, often gravelly (115'–5,774').	May–September	Vernal Pool	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.
Sacramento Orcutt grass <i>(Orcuttia viscida)</i>	FE	CE	1B.1, SSHCP Covered Species	Vernal pools (98'–328').	April–July	Vernal Pool	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.	Absent. No SSHCP Modeled Species Habitat present in this portion of the SSHCP Plan Area.
Sanford's arrowhead <i>(Sagittaria sanfordii)</i>	–	–	1B.2, SSHCP Covered Species	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Marsh skullcap <i>(Scutellaria galericulata)</i>	–	–	2B.2	Lower montane coniferous forest, mesic areas in meadows and seeps, and marshes and swamps (0'–6,890')	June–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Side-flowering skullcap <i>(Scutellaria lateriflora)</i>	–	–	2B.2	Mesic areas in meadows and seeps and marshes and swamps (0'–1,640').	July–September	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Suisun marsh aster <i>(Symphyotrichum lentum)</i>	–	–	1B.2	Brackish and freshwater marshes and swamps (0'–10').	May–November	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Saline clover <i>(Trifolium hydrophilum)</i>	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools (0'–984').	April–June	NA	Low potential to occur. Marginal habitat present onsite.	Low potential to occur. Marginal habitat present onsite.
<b>Invertebrates</b>								
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	-	SSHCP Covered Species	Vernal pools/wetlands.	November–April	Valley Grassland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Midvalley fairy shrimp <i>(Branchinecta mesoatlantica)</i>	-	-	CNDDDB, SSHCP Covered Species	Vernal pools/wetlands.	November – April	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Valley elderberry longhorn beetle <i>(Desmocerus californicus dimorphus)</i>	FT	-	SSHCP Covered Species	Elderberry shrubs.	Any season	Riparian Scrub, Riparian Woodland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Ricksecker's water scavenger beetle  <i>Hydrochara rickseckeri</i>	-	-	SSHCP Covered Species	Vernal pools/wetlands.	-	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Vernal pool tadpole shrimp  <i>(Lepidurus packardii)</i>	FE	-	SSHCP Covered Species	Vernal pools/wetlands.	November-April	Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
<b>Fish</b>								
Delta smelt  <i>(Hypomesus transpacificus)</i>	FT	CE		Sacramento-San Joaquin Delta	N/A	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Steelhead (CA Central Valley DPS)  <i>(Oncorhynchus mykiss irideus)</i>	FT			Undammed rivers, streams, and creeks	N/A	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Sacramento splittail  <i>(Pogonichthys macrolepidotus)</i>			SSC	San Francisco bay estuary. Spawns in upstream floodplains and backwater sloughs.	N/A	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Longfin smelt  <i>(Spirinchus thaleichthys)</i>	FC	CT	SSC	Freshwater and seawater estuaries.	N/A	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.

Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.								
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Amphibians								
California tiger salamander (Central California DPS)  ( <i>Ambystoma californiense</i> )	FT	CT	SSC, SSHCP Covered Species	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Vernal Pool, Valley Grassland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Foothill yellow-legged frog  ( <i>Rana boylei</i> )		CC	SSC	Foothill yellow-legged frogs can be active all year in warmer locations, but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May–October	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Western spadefoot  ( <i>Spea hammondi</i> )			SSC, SSHCP Covered Species	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Vernal Pool, Valley Grassland, Stream/Creek	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Reptiles								
Giant garter snake  ( <i>Thamnophis gigas</i> )	FT	CT	SSHCP Covered Species	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Riparian Scrub, Riparian Woodland, Stream/Creek, Seasonal Wetland, Cropland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Absent. No SSHCP Modeled Species Habitat onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Northwestern pond turtle <i>(Actinemys marmorata)</i>			SSC, SSHCP Covered Species	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Vernal Pool, Valley Grassland, Riparian Scrub, Riparian Woodland, Stream/Creek	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
<b>Birds</b>								
Cooper's hawk <i>(Accipiter cooperii)</i>			CDFW WL, SSHCP Covered Species	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes	March-July	Riparian Scrub, Riparian Woodland, Orchard	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Tricolored blackbird <i>(Agelaius tricolor)</i>		CT	BCC, SSC, SSHCP Covered Species	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos S. to San Bernardino, Riverside and San Diego Cos. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Cos. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy fields, , riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Valley Grassland, Riparian Scrub, Riparian Woodland, Orchard, Irrigated Pasture, Cropland, Seasonal Wetland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Greater sandhill crane <i>(Antigone canadensis tabida)</i>	-	CT	CFP, SSHCP Covered Species	Breeds in NE California, Nevada, Oregon, Washington, and BC, Canada; winters from CA to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	March-August (breeding); September-March (wintering)	Valley Grassland, Irrigated Pasture, Cropland, Vernal Pool, Seasonal Wetland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Burrowing owl <i>(Athene cunicularia)</i>			BCC, SSC, SSHCP Covered Species	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g. prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Valley Grassland, Irrigated Pasture, Cropland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.



**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Ferruginous hawk <i>(Buteo regalis)</i>			BCC, CDFW WL, SSHCP Covered Species	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Vernal Grassland, Irrigated Pasture	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Swainson's hawk <i>(Buteo swainsoni)</i>		CT	BCC, SSHCP Covered Species	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Valley Grassland, Irrigated Pasture, Cropland, Riparian Scrub, Riparian Woodland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Northern harrier <i>(Circus hudsonius)</i>	-	-	SSC, SSHCP Covered Species	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April-September	Valley Grassland, Irrigated Pasture, Cropland, Seasonal Wetland, Vernal Pool	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Western yellow-billed cuckoo  ( <i>Coccyzus americanus</i> )	FT	CE	BCC	Nests in riparian woodland. Winters in South America. In California, nests along the upper Sacramento River and the S.F. Kern River from Isabella Reservoir to Canebrake Ecological Reserve and other locations.	June 15-  August 15	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
White-tailed kite  ( <i>Elanus leucurus</i> )			CFP, SSHCP Covered Species	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Valley Grassland, Cropland, Orchard, Mixed Riparian Scrub	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
Merlin  ( <i>Falco columbarius</i> )			CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September–April (wintering in the Central Valley); does not breed in California	NA	Potential to occur. Winter foraging habitat present.	Potential to occur. Winter foraging habitat present.
Loggerhead shrike  ( <i>Lanius ludovicianus</i> )	-	-	BCC, SSC, SSHCP Covered Species	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March-July	Valley Grassland, Cropland, Orchard	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
California black rail <i>(Laterallus jamaicensis coturniculus)</i>		CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer counties)	March–September (breeding)	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Song sparrow "Modesto" <i>(Melospiza melodia heermanni)</i>			BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April–June	NA	Potential to occur.	Potential to occur.
Double-crested cormorant <i>(Phalacrocorax auritus)</i>			CDFW WL	Nests near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines and typically forages in shallow water. Non-nesters are found in many coastal and inland waters.	April–August	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Bank swallow <i>(Riparia riparia)</i>		CT		Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May–July	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.

**Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Yellow warbler <i>(Setophaga petechia)</i>			SSC, BCC	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte Counties), Sierra Nevada range above tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America.	May-August	NA	Low potential to occur.	Absent. No suitable habitat present onsite.
Yellow-headed blackbird <i>(Xanthocephalus xanthocephalus)</i>			SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange, Lake counties and locally in the Central Valley. Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes.	April-July	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.

Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.								
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project
Mammals								
Riparian brush rabbit  ( <i>Sylvilagus bachmani riparius</i> )	FE	CE	-	Riparian brush rabbits inhabit dense, brushy areas of valley riparian forests marked by extensive thickets of California wild rose ( <i>Rosa californica</i> ), California blackberries ( <i>Rubus ursinus</i> ), and willows ( <i>Salix</i> spp.). Thriving mats of low-growing vines and shrubs serve as ideal living sites where they build tunnels under and through the vegetation.	Any season	NA	Absent. No suitable habitat present onsite.	Absent. No suitable habitat present onsite.
Western red bat  ( <i>Lasiurus blossevillii</i> )	-	-	SSC, SSHCP Covered Species	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).	April-September	Riparian Scrub, Riparian Woodland, Orchard, Vernal Pool, Seasonal Wetland, Stream/Creek	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.
American badger  ( <i>Taxidea taxus</i> )			SSC, SSHCP Covered Species	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Valley Grassland, Cropland	Potential to occur. SSHCP Modeled Species Habitat present onsite.	Potential to occur. SSHCP Modeled Species Habitat present onsite.

Table 5. SSHCP Covered Species and Special-Status Species Known or Potentially Occurring in the Annexation Area and Simmerhorn Project.								
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Associated SSHCP Land Cover Type	Potential To Occur	
	ESA	CESA	Other				Annexation Area	Simmerhorn Project

Status Codes:

ESA	Endangered Species Act
CESA	California Endangered Species Act
AMM	SSHCP Avoidance and Minimization Measure
FE	ESA listed, Endangered.
FT	ESA listed, Threatened.
FPD	Listed under ESA, but formally proposed for delisting.
FC	Candidate for ESA listing as Threatened or Endangered.
CFP	California Fish and Game Code Fully Protected Species
CE	CESA or NPPA listed, Endangered.
CT	CESA or NPPA listed, Threatened.
CC	Candidate for CESA listing as Endangered or Threatened.
BCC	USFWS Bird of Conservation Concern
CDFW WL	CDFW Watch List
Delisted	Formally Delisted (delisted ESA species are monitored for 5 years).
SSC	CDFW Species of Special Concern
SSHCP	South Sacramento Habitat Conservation Plan
1B	California Rare Plant Ranks (CRPRs)/Rare or Endangered in California and elsewhere.
2B	CRPR /Rare or Endangered in California, more common elsewhere.
2	CRPR /Rare or Endangered in California, more common elsewhere.
4	CRPR /Plants of Limited Distribution - A Watch List.
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

## 4.6 Sensitive Natural Communities

Five sensitive natural communities were identified as having the potential to occur within the Annexation Area (including the Simmerhorn Project) based on the literature review (CDFW 2019a). These included:

- Coastal and Valley Freshwater Marsh,
- Great Valley Mixed Riparian Forest,
- Great Valley Valley Oak Riparian Forest,
- Northern Hardpan Vernal Pool, and
- Valley Oak Woodland.

Based on SSHCP land cover mapping, a review of aerial photographs, and the site assessment at Simmerhorn Project, there is no marsh habitat present within the Annexation Area. The small, isolated stands of trees along the Boessow Road at the southeastern boundary of Simmerhorn Project and in the northwest corner of the Annexation Area and the narrow riparian corridor along Canyon Creek in the northeast corner of the Annexation Area are not large enough to be considered Great Valley Mixed Riparian Forest, Great Valley Oak Riparian Forest, or Valley Oak Woodland. Though SSHCP aquatic vernal pool land cover type is mapped onsite, the Annexation Area (including the Simmerhorn Project) has been converted to Cropland and rural residents and the Annexation Area soils do not support a Northern Hardpan Vernal Pool community. Therefore, no sensitive natural communities occur within the Annexation Area.

## 4.7 Wildlife Movement/Corridors and Nursery Sites

The Annexation Area (including the Simmerhorn Project) is located in a rural residential and undeveloped area within the sphere of influence of the City of Galt, roughly 0.25 mile east of U.S. Highway 99. Additionally, the Annexation Area is surrounded by development to the west and north, and a development is currently being constructed immediately south of the Annexation Area. The Annexation Area does not fall within an Essential Habitat Connectivity area or mule deer migration area mapped by the CDFW (2019b). The Canyon Creek Park riparian corridor is narrow, but nevertheless likely supports localized movements by birds such as passerines and raptors and highly mobile mammal species such as raccoon (*Procyon lotor*) and coyote (*Canis latrans*). The drainage ditches on the Simmerhorn Project lack significant riparian vegetation and likely only serve as marginal movement corridors for wildlife.

No nursery sites have been documented within the Annexation Area or Simmerhorn Project (CDFW 2019a).

## 5.0 IMPACTS AND RECOMMENDATIONS

This section specifically addresses the questions raised by the CEQA - Appendix G Environmental Checklist Form, IV. Biological Resources. Two actions that may affect biological resources are considered in this section: annexation of lands into the City of Galt and development of the Simmerhorn Project. Impacts to biological resources would arise when a Project Proponent submits a development application to the City within the Annexation Area. The Simmerhorn Project proposes to construct a residential development on 126.7 acres within the Annexation Area that may have impacts to biological resources as described below. This section also identifies the appropriate recommendations to reduce potential impacts of the actions to less than significant. The recommendations are described in detail in Section 6.0.

**Impact BIO-1 Result in effects, either directly or through habitat modifications, to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.**

### 5.1.1 *Annexation Area Effects.*

Several special-status plants and wildlife species have potential to occur within the Annexation Area. If these species are present or habitat for these species are present within an area proposed for development, potential effects to special-status plants and wildlife species may occur. When an application for development within the Annexation Area is submitted to the City, it is recommended that the Project Proponent implement the following mitigation measures: BIO-MM1, BIO-MM2. Based on the findings of BIO-MM1 and BIO-MM2, the Project Proponent will implement the appropriate mitigation measures as described in BIO-MM6 through BIO-MM20.

### 5.1.2 *Simmerhorn Project Effects*

Several special-status plants and wildlife species have the potential to occur on the Simmerhorn Project. If these species are present or habitat for these species are present within the Simmerhorn Project, development of the site could result in adverse effects to special-status plants and wildlife species. Implementation of mitigation measures BIO-MM6 through BIO-MM20 is recommended to reduce potential adverse effects to special-status plant and wildlife species.

**Impact BIO-2. The proposed project/action could adversely affect riparian habitat and other sensitive natural communities identified in local or regional plans, policies or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.**

### 5.1.3 *Annexation Area Effects*

As discussed in *Section 4.6*, based on the literature review, there are no sensitive natural communities in the Annexation Area. Based on the SSHCP land cover type mapping, there is riparian habitat



associated with Canyon Creek Park in the northwest corner of the Annexation Area. Development within the Annexation Area could result in potential adverse effects to riparian habitat if present onsite. Before a Project Proponent submits an application to the City, occurrence of these features should be confirmed through implementation of mitigation measure BIO-MM1. Implementation of mitigation measure BIO-MM2 is recommended to reduce potential adverse effects to riparian habitat and/or sensitive natural communities.

#### **5.1.4      *Simmerhorn Project Effects***

The Simmerhorn Project would not affect sensitive natural communities or riparian habitat and no mitigation measures are recommended.

**BIO Impact-3. Result in effects to federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

#### **5.1.5      *Annexation Area Effects***

Waters of the U.S. are present within the Annexation Area and could be adversely affected if present within an area proposed for development. When a Project Proponent submits a development application to the City, it is recommended that mitigation measures BIO-MM1 through BIO-MM4, and BIO-MM6 and BIO-MM7 are implemented to reduce potential adverse effects to wetlands and other Waters of the U.S.

#### **5.1.6      *Simmerhorn Project Effects***

A wetland delineation was conducted at the Simmerhorn Project and 1.64 acres of potential Waters of the U.S. are anticipated to be filled. The Project applicant is anticipated to apply for Clean Water Act (CWA) Section 404 and 401 authorization under the SSHCP Aquatic Resource Program (ARP), and to mitigate for Project impacts using the SSHCP In-Lieu Fee Program. The applicant would separately apply for a CDFW 1602 LSAA if required. Mitigation Measures BIO-MM2 through BIO-MM4 and BIO-MM6 and BIO-MM7 are recommended to address adverse effects to wetlands and other Waters of the U.S.

**BIO Impact 4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

#### **5.1.7      *Annexation Area Effects***

As discussed in Section 4.7, limited wildlife corridors may occur in the Annexation Area and there are no mapped nursery sites (CDFW 2019a). However, absence of these resources cannot be confirmed without a site visit. Before a Proponent submits an application to the City, it is recommended to implement mitigation measure BIO-MM1 to confirm presence and/or absence of wildlife corridors

and/or nursery sites. Implementation of BIO-MM2 is further recommended to reduce potential adverse effects if wildlife corridors and/or nursery sites are present within the development area.

#### **5.1.8 Simmerhorn Project Effects**

While the Simmerhorn Project will impact the existing stream/channels (drainage ditches) occurring onsite, these features likely do not provide high quality wildlife movement corridors for wildlife due to the lack of significant riparian vegetation present and/or perennial water. Further, the Simmerhorn Project does not include a known nursery site or critical mule deer fawning site. However, potential bat roosting habitat may occur onsite. Implementation of mitigation measures BIO-MM2 and BIO-MM19 are recommended to reduce potential effects to wildlife corridors and nursery sites.

#### **BIO Impact 5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

#### **5.1.9 Annexation Area Effects**

Section 18.52.060: *Cutting and Removal of Heritage Oak Trees* of the Galt Municipal Code requires a tree permit for removal of any heritage oak trees. Heritage oak trees are defined as a tree with a single trunk with a diameter of six inches or greater measured four feet above the ground or a multi-trunk tree with a diameter of eight inches or greater measured four feet above the ground. Species covered include Valley oak (*Quercus lobata*), interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), coast live oak (*Quercus agrifolia*), and oracle oak (*Quercus morehus*). For discretionary projects, the preservation or removal of trees as a condition of approval is enforced by the Community Development Director or his duly authorized representative as part of the conditions of approval (City of Galt 2018).

An arborist survey has not been conducted for the Annexation Area; however, it is likely that oak trees that may be protected by § 18.52.060 of the Galt Municipal Code (i.e., heritage oak trees) occur in the Annexation Area. Therefore, the implementation of BIO-MM5 is recommended to reduce adverse effects to heritage oak trees.

#### **5.1.10 Simmerhorn Project Effects**

An arborist survey has not been conducted for the Simmerhorn Project; however, oak trees that may be protected by § 18.52.060 of the Galt Municipal Code (i.e., heritage oak trees) were observed onsite during the November 2018 site visit. Therefore, the implementation of BIO-MM5 is recommended to reduce adverse effects to heritage oak trees.

**BIO Impact 6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**5.1.11 Annexation Area Effects**

The annexation of lands into the City of Galt is not expected to conflict with the SSHCP or other local, regional or state conservation plans. When a development application is submitted to the City within the Annexation Area, implementation of mitigation measure BIO-MM2 is recommended to ensure consistency with the SSHCP.

**5.1.12 Simmerhorn Project Effects**

The Project does not conflict with the provisions of the SSHCP. Implementation of mitigation measure BIO-MM2 is recommended to ensure consistency with the SSHCP.

The Project's consistency with the SSHCP and the Covered Species AMMs are described in detail in *Simmerhorn Ranch Project; Biological Resources Assessment* (ECORP 2019a).

**6.0 RECOMMENDATIONS**

A complete set of the SSHCP AMMs are included in Attachment C.

**BIO-MM1 Prepare Biological Resources Assessment and Preliminary Wetland Assessment**

If a proposed development within the Annexation Area includes undisturbed areas or is adjacent to undisturbed areas, a Biological Resources Assessment (BRA) shall be prepared to determine the potential biological sensitivities associated with the development. The BRA shall include (but not be limited to) the following:

- A review of existing biological information in the region and any documentation specific to the area (i.e., aerial photography and any documentation of projects in the vicinity of the site),
- A query of the CDFW CNDDb, USFWS Species List, and CNPS Inventory of Rare and Endangered Plants for potentially occurring special-status species in the vicinity of the project site,
- A reconnaissance pedestrian field survey to verify mapped SSHCP terrestrial and aquatic land cover types
- A reconnaissance pedestrian field survey to assess the onsite biological resources/constraints, including a delineation of aquatic resources,
- A summary of the findings including data on special-status species, jurisdictional waters of the U.S., sensitive natural communities, and wildlife habitat movement corridors,

- Recommendations for appropriate findings and mitigation measures, and
- Identification of any required permits and approvals to implement the project design and construct the project.

#### **BIO-MM2. Obtain an SSHCP Permit**

Before the approval of grading and improvement plans and before any groundbreaking activity associated with the project, the Project applicants shall ensure that authorization pursuant to SSHCP will be obtained. To obtain such authorization, the SSHCP Permit Application shall include the following components as identified in Chapter 10, Section 10.4.2 of the SSHCP:

- Applicant Information
- Project Description and Map
- Land Cover Type Map
- Wetland Delineation Map
- Modeled Species Habitat map
- Description of How the Development Complies with the SSHCP Avoidance and Minimization Measures outlined in Chapter 5, Section 5.4 of the SSHCP.
- Proposed Mitigation
- Results of Covered Species (special-status species) Pre-Construction Surveys.

#### **BIO-MM3 Clean Water Act Section 404 Permit and Section 401 Permit and Implement All Permit Conditions**

Before the approval of grading and improvement plans and before any groundbreaking for a development project in the Annexation Area, the Project Proponent shall ensure that authorization pursuant to CWA Section 404 from the USACE and CWA Section 401 from the Central Valley Regional Water Quality Control Board (RWQCB) is obtained (i.e., through permitting under the SSHCP ARP). The construction contractor shall adhere to all conditions outlined in the SSHCP ARP. The Project applicants shall ensure that the Project replaces, restores, or enhances on a “no net loss” basis (in accordance with the USACE and the Central Valley RWQCB) the acreage of all wetlands and other waters of the United States/State that would be removed, lost, and/or degraded due to project implementation, either through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, the Central Valley RWQCB, and the City, as appropriate, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

**BIO-MM4      Obtain CDFW 1602 Streambed Alteration Agreement and Implement All Permit Conditions**

Before the approval of grading and improvement plans and before any groundbreaking for a development project in the Annexation Area, the Project Proponent shall ensure that authorization pursuant to Section 1600-1616 of the California Fish and Game Code (CDFW 1602 Streambed Alteration Agreement) has been obtained (i.e., through direct application to CDFW for a Section 1602 SAA or through participation in the SSHCP). The construction contractor shall adhere to all conditions outlined in the Section 1602 SAA or SSHCP.

**BIO-MM5      Heritage Oak Tree Removal**

A tree removal permit shall be procured from the City for removal of any heritage oak trees and the Project Proponent will provide appropriate mitigation as required by the tree removal permit. Mitigation may include payment into the City's Tree Preservation Fund.

**BIO-MM6.      Best Management Practices**

Before any groundbreaking for a development project in the Annexation Area, the Project Proponent shall comply with SSHCP AMMs BMP-1 through BMP-11.

**BIO-MM7.      Mitigate for Impacts to Aquatic Features and Habitat**

Before the approval of grading and improvement plans and before any groundbreaking for a development project in the Annexation Area, the Project Proponent shall ensure that mitigation for impacts to aquatic features and other habitat for special-status species has been implemented through the SSHCP In-Lieu Fee Program or by other methods agreeable to the USACE, RWQCB, USFWS, CDFW, and the City, as appropriate, depending on agency jurisdiction.

**BIO-MM8.      Special-Status Plant Surveys and Protection**

Before any groundbreaking for a development project in the Annexation Area, the Project Proponent shall comply with SSHCP AMM PLANT-1 (Rare Plant Surveys). Though some special-status plant species are not considered SSHCP-Covered Species (see Table 5), special-status plant surveys conducted per PLANT-1 shall identify whether these additional species are present.

If SSHCP-covered plants are determined to be present, PLANT-2 (Rare Plant Protection) will be implemented. If non SSHCP-covered plant species are determined to be present, a mitigation plan shall be prepared for review and approval by the City of Galt. Depending on the listing status of the plant, appropriate mitigation will be determined and may include avoidance, transplantation, or inoculation (if species are present in wetland habitats). Avoided areas containing special-status plants shall be fenced with orange construction fencing.

**BIO-MM9 Invertebrates**

There are no species-specific SSHCP AMMs for vernal pool fairy shrimp (*Branchinecta lynchi*), mid-valley fairy shrimp (*Branchinecta meso Vallensis*), Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*), Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*), and vernal pool tadpole shrimp (*Lepidurus packardii*). However, these are Covered Species, and the Project applicants shall comply with SSHCP requirements, In-Lieu Fee Program, and relevant general AMMs.

**BIO-MM10 California Tiger Salamander**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for California Tiger Salamander (*Ambystoma californiense*), the Project Proponent shall comply with SSHCP AMMs CTS-1 through CTS-7.

**BIO-MM11 Western Spadefoot**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Western Spadefoot (*Spea hammondi*), the Project Proponent shall comply with SSHCP AMMs WS-1 through WS-6.

**BIO-MM12 Western Pond Turtle**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Western Pond Turtle (*Actinemys marmorata*), the Project Proponent shall comply with SSHCP AMMs WPT-1 through WPT-9.

**BIO-MM13 Tricolored Blackbird**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Tricolored Blackbird (*Agelaius tricolor*), the Project Proponent shall comply with h SSHCP AMMs TCB-1 and TCB-2 and based on the results of surveys conducted under those measures, comply with TB-3 through TCB-5.

**BIO-MM14 Swainson's Hawk**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Swainson's Hawk (*Buteo swainsoni*), the Project Proponent shall comply with SSHCP AMMs SWHA-1 and SWHA-2 and based on the results of surveys conducted under those measures, comply with SWHA-3 and SWHA-4.

**BIO-MM15 Greater Sandhill Crane**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Greater Sandhill Crane (*Antigone canadensis tabida*), the Project Proponent shall comply with SSHCP

AMMs GSC-1 and GSC-2 and based on the results of surveys conducted under those measures, comply with GSC-3 through GSC-5.

#### **BIO-MM16 Western Burrowing Owl**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Western Burrowing Owl (*Athene cunicularia*), the Project Proponent shall comply with SSHCP AMMs WBO-1 and WBO-2 and based on the results of surveys conducted under those measures, comply with WBO-3 through WBO-7.

#### **BIO-MM17 Other Raptors**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Other Raptors, the Project Proponent shall comply with SSHCP AMMs RAPTOR-1 and RAPTOR-2 and based on the results of surveys conducted under those measures, comply with RAPTOR-3 and RAPTOR-4.

#### **BIO-MM18 Other Nesting Birds**

A qualified biologist shall conduct a preconstruction nesting bird survey (can be conducted concurrently with BIO MM-14) of all areas associated with construction activities, and a 100-foot buffer around these areas, within 14 days prior to commencement of construction if construction occurs during the nesting season (February 1 through August 31). These surveys can be conducted concurrently with surveys required under BIO MM-14. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with the CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

#### **BIO-MM19 Bat Species**

If a development project in the Annexation Area contains Modeled Covered Species Habitat for Western Red Bat (*Lasiurus blossevillei*) or other special-status bat species, the Project Proponent shall comply with SSHCP AMM BAT-1, and based on the results of the survey conducted, comply with BAT-2 through BAT-5.

#### **BIO-MM20 American Badger**

There are no species-specific SSHCP AMMs for American badger (*Taxidea taxus*). However, if a development project in the Annexation Area contains Modeled Covered Species Habitat for species, and the Project Proponent shall comply with SSHCP requirements, In-Lieu Fee Program, and relevant AMMs.

## 7.0 REFERENCES

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## **LIST OF FIGURES**

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Figure 1. Annexation Area: Project Location and Vicinity

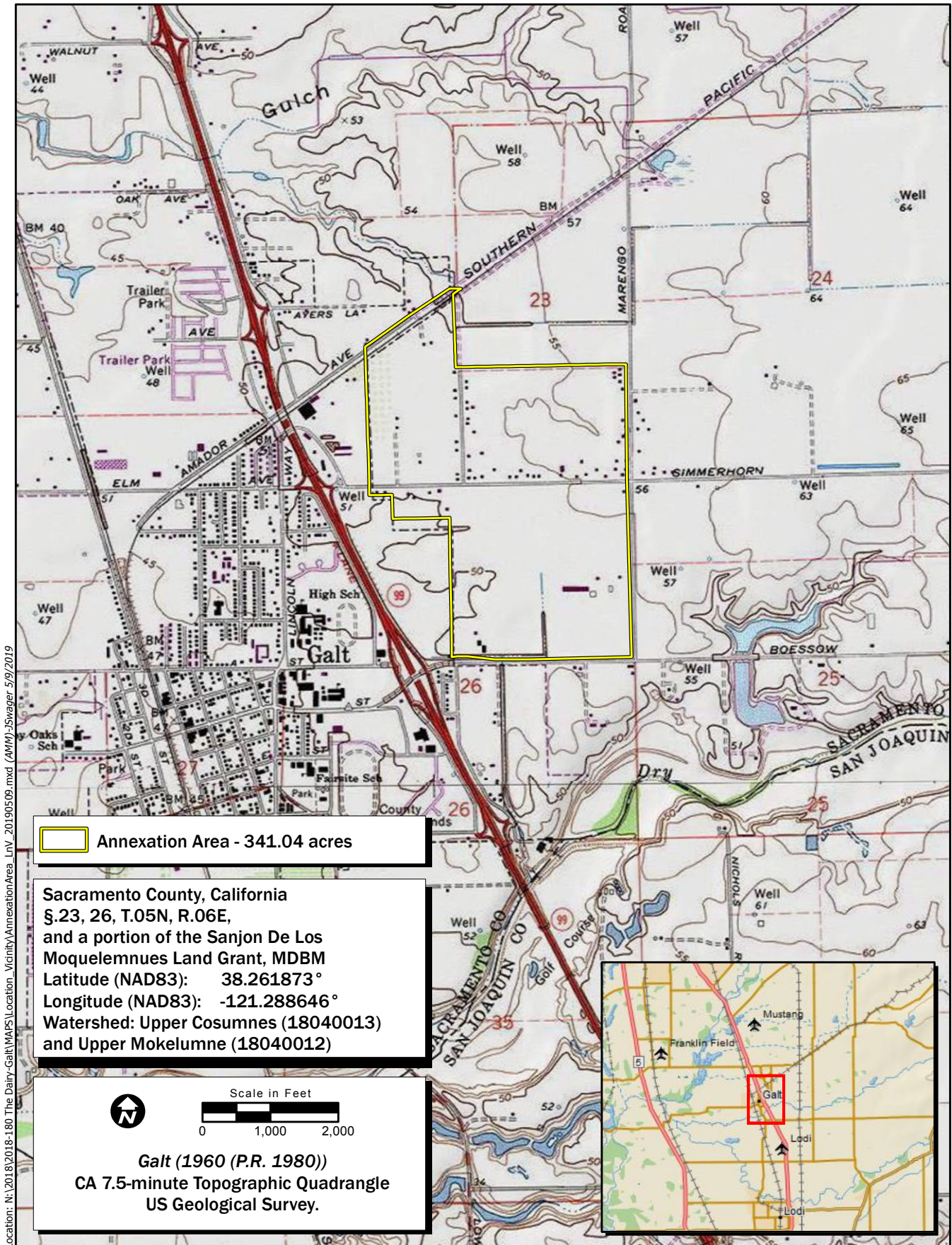
Figure 2. Simmerhorn Ranch Project: Location and Vicinity

Figure 3. Natural Resources Conservation Service Soil Types

Figure 4. SSHCP Land Cover

Figure 5. Simmerhorn Project: Revised SSHCP Land Cover T

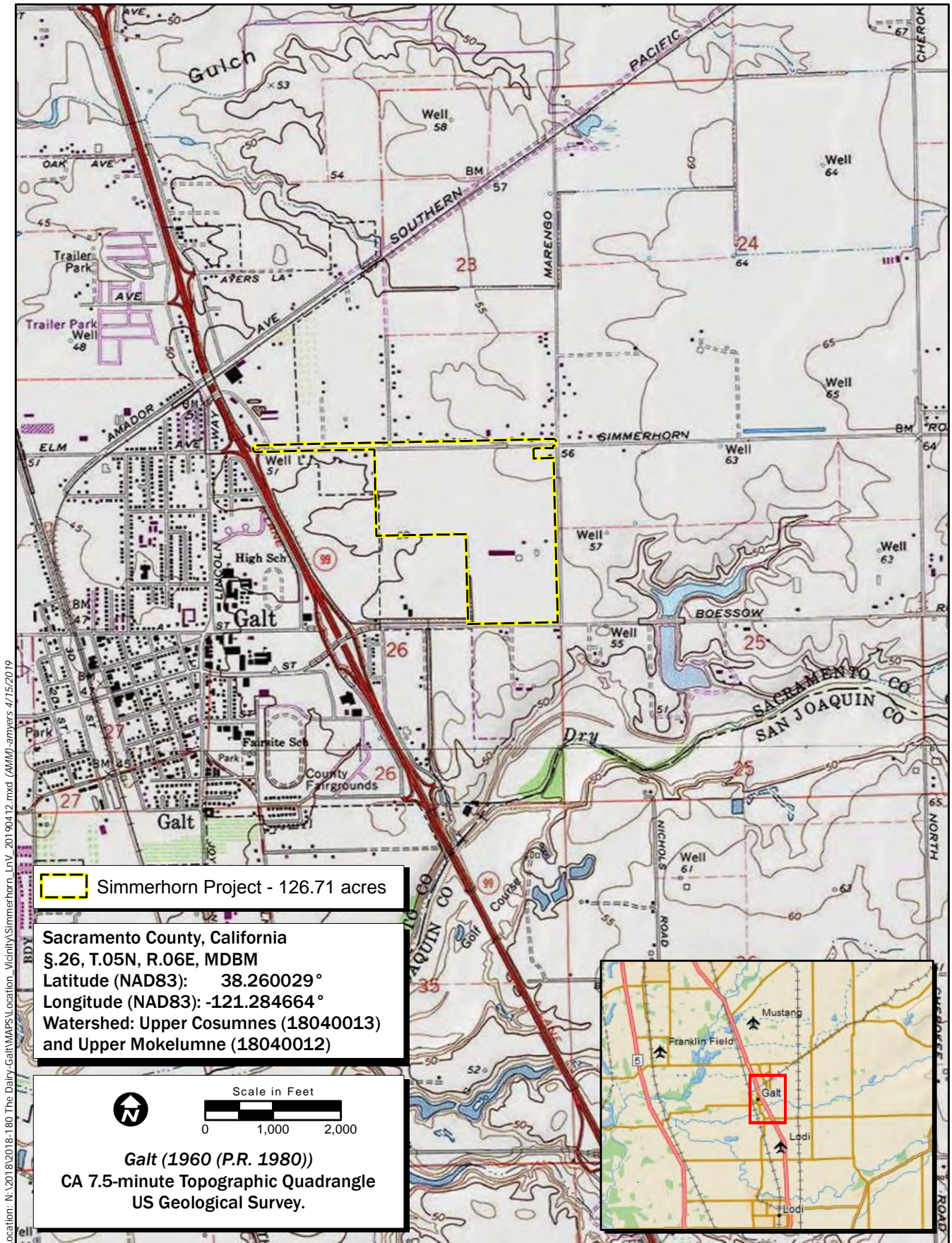
Figure 6. Simmerhorn Ranch: Aquatic Resources Delineation



**Figure 1. Annexation Area: Project Location and Vicinity**

2018-180 Simmerhorn Ranch Annexation Area

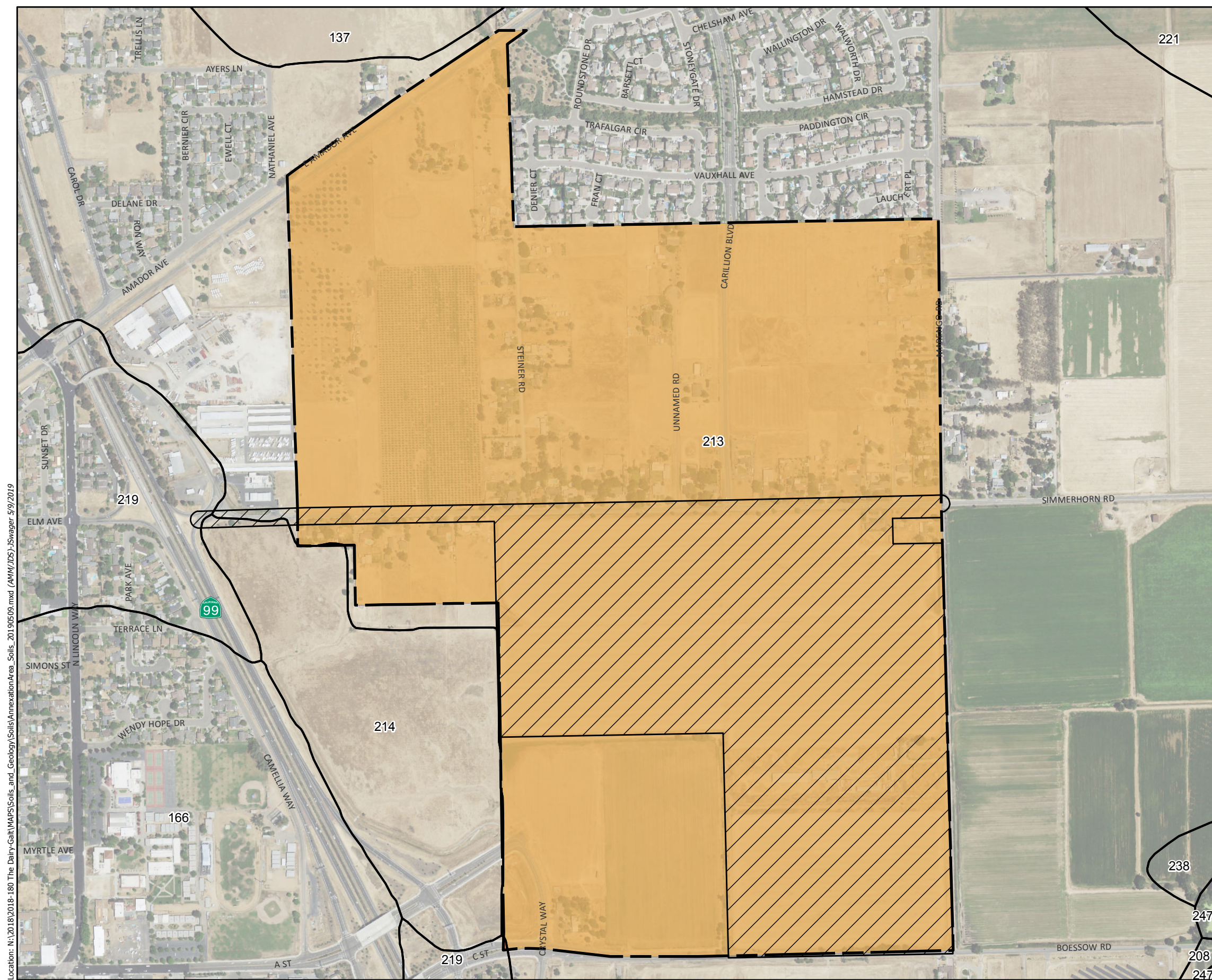




**Figure 2. Simmerhorn Ranch Project: Location and Vicinity**

*2018-180 Simmerhorn Ranch*





### Figure 3.

## Natural Resources Conservation Service Soil Types

**Map Features**

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

**NRCS Soil Types**

*Series Number - Series Description*

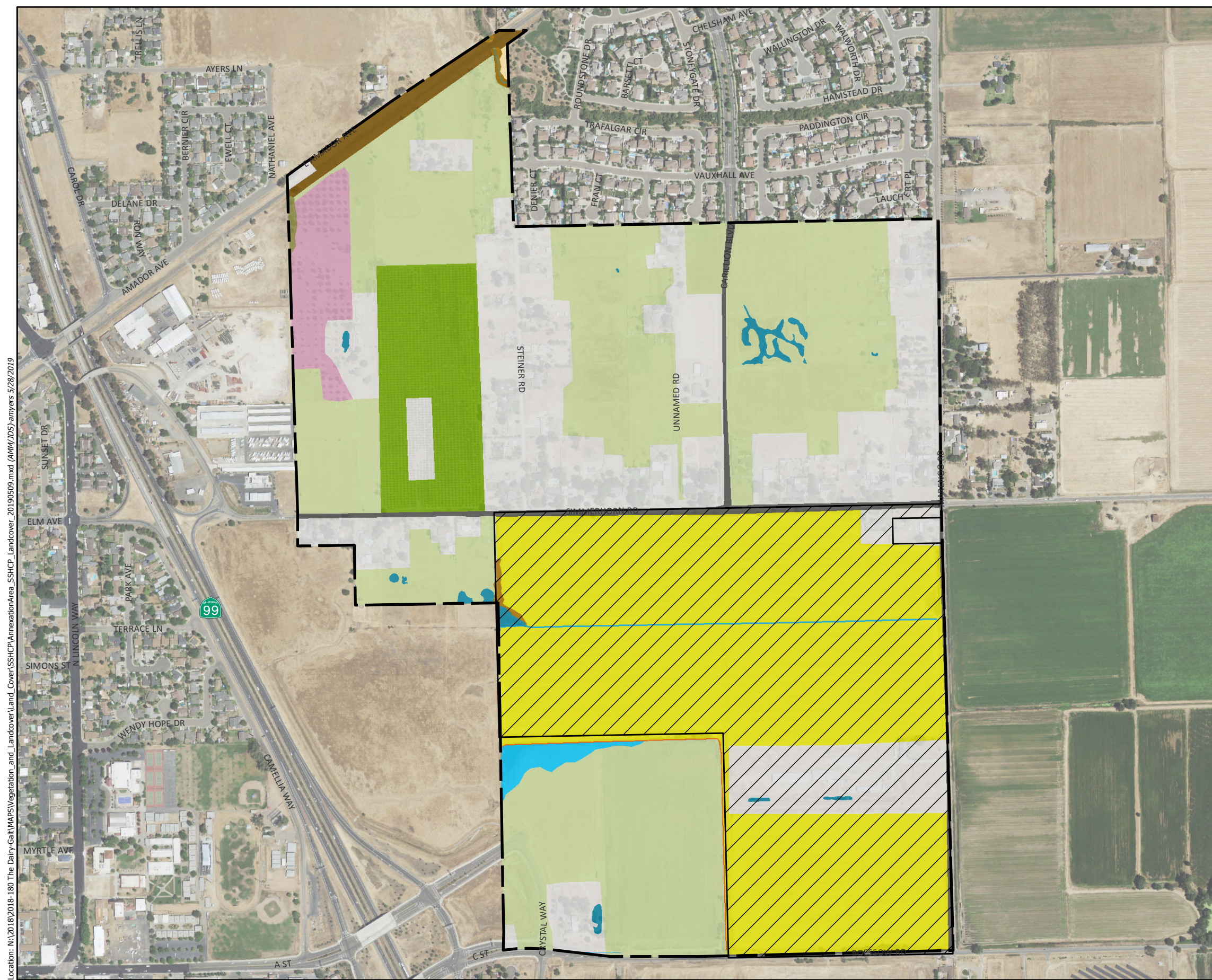
- 213 - San Joaquin silt loam, leveled, 0 to 1 percent slopes
- 214 - San Joaquin silt loam, 0 to 3 percent slopes
- 219 - San Joaquin-Urban land complex, 0 to 2 percent slopes

**Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Sacramento County, CA**

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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ENVIRONMENTAL CONSULTANTS





**Figure 4.**  
**SSHCP Land Cover Types**

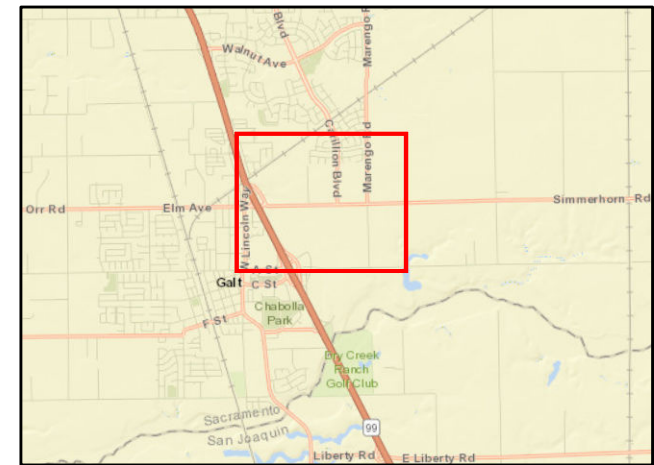
**Map Features**

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area

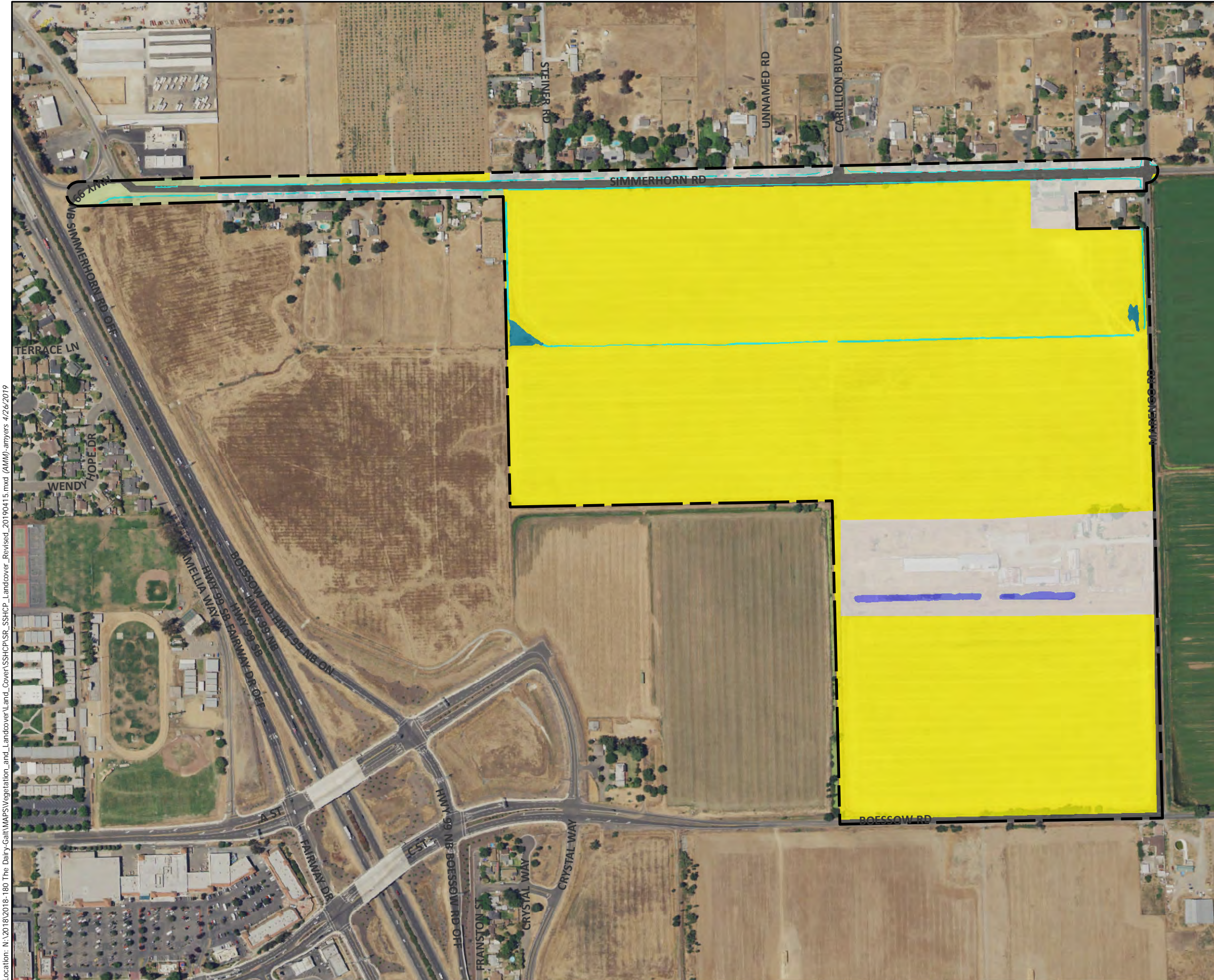
**SSHCP Land Cover Type**

- Cropland - 103.25 ac.
- Disturbed - 3.92 ac.
- High Density Development - 0.03 ac.
- Irrigated Pasture-Grassland - 18.57 ac.
- Low Density Development - 81.19 ac.
- Major Roads - 6.05 ac.
- Mixed Riparian Scrub - 0.58 ac.
- Mixed Riparian Woodland - 0.33 ac.
- Orchards - 8.29 ac.
- Recreation/Landscaped - 0.17 ac.
- Seasonal Wetlands - 2.13 ac.
- Streams/Creeks - 0.43 ac.
- Swale - 0.36 ac.
- Valley Grassland - 113.94 ac.
- Vernal Pool - 1.82 ac.

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







**Figure 5. Simmerhorn Project:  
Revised SSHCP Land Cover Type**

**Map Features**

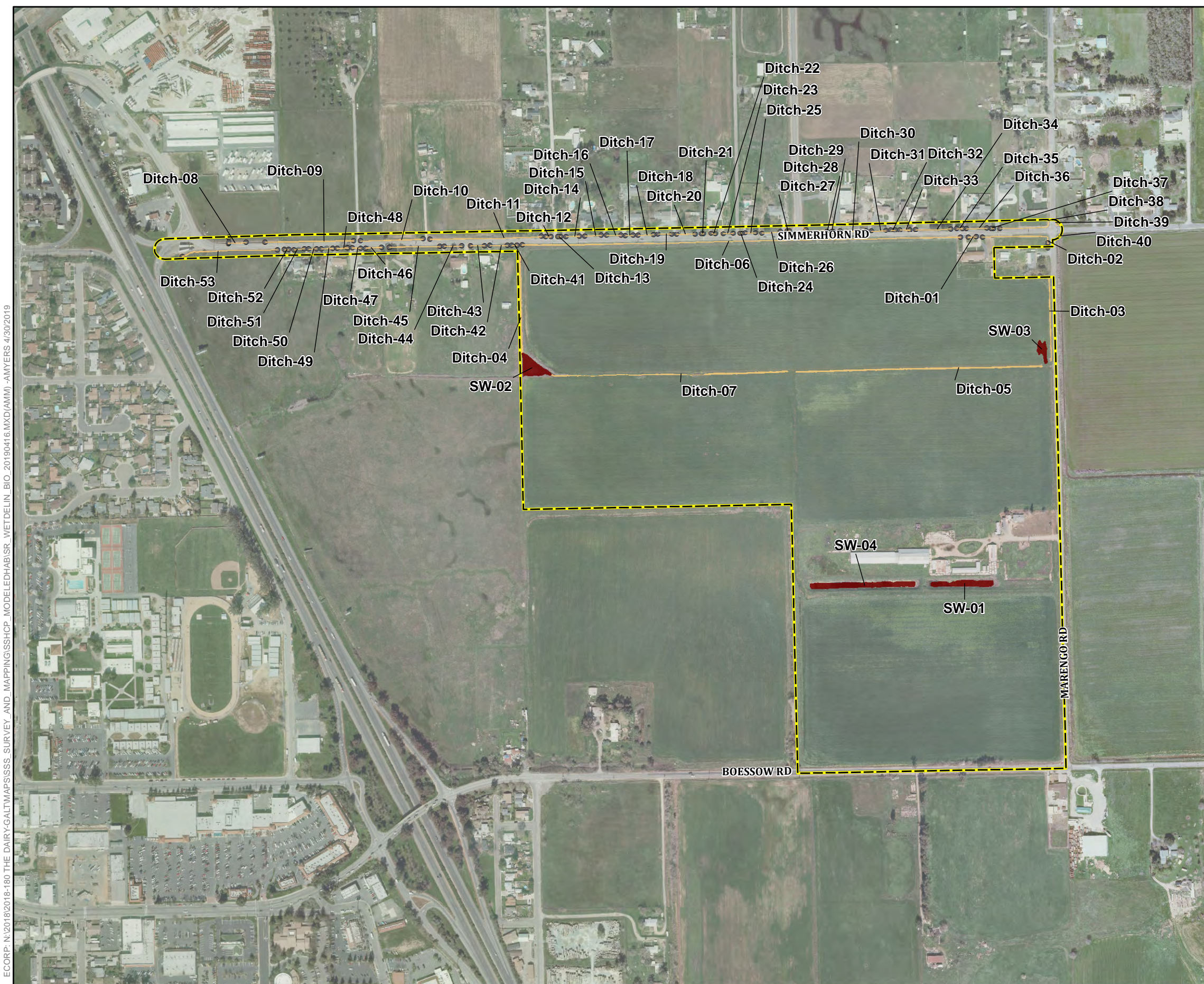
- Study Area - 126.71 acres
- SSHCP Revised Landcover**
- Cropland - 102.75 acres
- Low Density Development - 15.80 acres
- Major Roads - 5.10 acres
- Seasonal Wetland - 0.47 acres
- Streams/Creeks (non VPIH) - 0.89 acres
- Valley Grassland - 1.43 acres
- Vernal Pool - 0.28 acres

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





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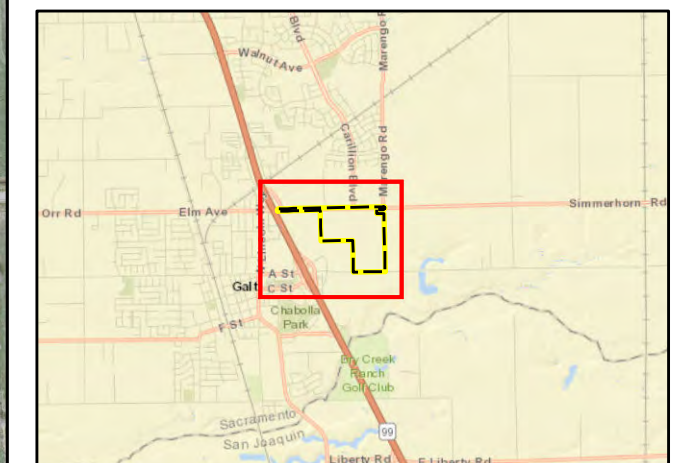
**Figure 6. Simmerhorn Ranch:  
Aquatic Resource Delineation**

**Map Features**

- Study Area - 126.71 acres
- Culvert
- Waters of the U.S. (1.641 acres)<sup>1</sup>**
  - Ditch - 0.894 total acre
  - Seasonal Wetland - 0.747 total acre

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





## **LIST OF ATTACHMENTS**

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Attachment A – Database Query Results

Attachment B – Modeled SSHCP Species Habitat

Attachment C – SSHCP AMM Full Text

**ATTACHMENT A**

Database Query Results



## Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



**Query Criteria:** Quad</span> IS </span>Galt (3812133)</span> OR </span>Elk Grove (3812143)</span> OR </span>Sloughhouse (3812142)</span> OR </span>Bruceville (3812134)</span> OR </span>Clay (3812132)</span> OR </span>Florin (3812144)</span> OR </span>Thornton (3812124)</span> OR </span>Lodi North (3812123)</span> OR </span>Lockeford (3812122))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Accipiter cooperii</i></b> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<b><i>Agelaius tricolor</i></b> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<b><i>Ambystoma californiense</i></b> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<b><i>Andrena blennospermatis</i></b> Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
<b><i>Ardea alba</i></b> great egret	ABNGA04040	None	None	G5	S4	
<b><i>Ardea herodias</i></b> great blue heron	ABNGA04010	None	None	G5	S4	
<b><i>Athene cunicularia</i></b> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<b><i>Branchinecta mesovallensis</i></b> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<b><i>Brasenia schreberi</i></b> watershield	PDCAB01010	None	None	G5	S3	2B.3
<b><i>Buteo regalis</i></b> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<b><i>Buteo swainsoni</i></b> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<b><i>Carex comosa</i></b> bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
<b><i>Castilleja campestris</i> var. <i>succulenta</i></b> succulent owl's-clover	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
<b><i>Cicuta maculata</i> var. <i>bolanderi</i></b> Bolander's water-hemlock	PDAP10M051	None	None	G5T4T5	S2?	2B.1
<b><i>Coastal and Valley Freshwater Marsh</i></b> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Cuscuta obtusiflora</i> var. <i>glandulosa</i></b> Peruvian dodder	PDCUS01111	None	None	G5T4?	SH	2B.2
<b><i>Desmocerus californicus dimorphus</i></b> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Downingia pusilla</i></b> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<b><i>Elanus leucurus</i></b> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<b><i>Emys marmorata</i></b> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<b><i>Falco columbarius</i></b> merlin	ABNKD06030	None	None	G5	S3S4	WL
<b><i>Gratiola heterosepala</i></b> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
<b><i>Great Valley Mixed Riparian Forest</i></b> Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	
<b><i>Great Valley Valley Oak Riparian Forest</i></b> Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	G1	S1.1	
<b><i>Hibiscus lasiocarpus var. occidentalis</i></b> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<b><i>Hydrochara rickseckeri</i></b> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<b><i>Hypomesus transpacificus</i></b> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<b><i>Juglans hindsii</i></b> Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
<b><i>Laterallus jamaicensis coturniculus</i></b> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<b><i>Lathyrus jepsonii var. jepsonii</i></b> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<b><i>Legenere limosa</i></b> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<b><i>Lepidium latipes var. heckardii</i></b> Heckard's pepper-grass	PDBRA1M0K1	None	None	G4T1	S1	1B.2
<b><i>Lepidurus packardii</i></b> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<b><i>Lilaeopsis masonii</i></b> Mason's lilaeopsis	PDAP119030	None	Rare	G2	S2	1B.1
<b><i>Limosella australis</i></b> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
<b><i>Linderiella occidentalis</i></b> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<b><i>Melospiza melodia</i></b> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<b><i>Northern Hardpan Vernal Pool</i></b> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	



# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Nycticorax nycticorax</i></b> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<b><i>Oncorhynchus mykiss irideus pop. 11</i></b> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b><i>Orcuttia tenuis</i></b> slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
<b><i>Orcuttia viscida</i></b> Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
<b><i>Phalacrocorax auritus</i></b> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<b><i>Pogonichthys macrolepidotus</i></b> Sacramento splittail	AFCJB34020	None	None	GNR	S3	SSC
<b><i>Rana boylei</i></b> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<b><i>Riparia riparia</i></b> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<b><i>Sagittaria sanfordii</i></b> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<b><i>Scutellaria galericulata</i></b> marsh skullcap	PDLAM1U0J0	None	None	G5	S2	2B.2
<b><i>Scutellaria lateriflora</i></b> side-flowering skullcap	PDLAM1U0Q0	None	None	G5	S2	2B.2
<b><i>Setophaga petechia</i></b> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<b><i>Spea hammondi</i></b> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<b><i>Spirinchus thaleichthys</i></b> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
<b><i>Sylvilagus bachmani riparius</i></b> riparian brush rabbit	AMAEB01021	Endangered	Endangered	G5T1	S1	
<b><i>Symphyotrichum lentum</i></b> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<b><i>Taxidea taxus</i></b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b><i>Thamnophis gigas</i></b> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<b><i>Trifolium hydrophilum</i></b> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<b><i>Valley Oak Woodland</i></b> Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
<b><i>Xanthocephalus xanthocephalus</i></b> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC

Record Count: 61

## Plant List

### Inventory of Rare and Endangered Plants

25 matches found. *Click on scientific name for details*

#### Search Criteria

Found in Quads 3812144, 3812143, 3812142, 3812134, 3812133, 3812132, 3812124 3812123 and 3812122;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Brasenia schreberi</a>	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
<a href="#">Brodiaea rosea ssp. vallicola</a>	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
<a href="#">Carex comosa</a>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
<a href="#">Castilleja campestris var. succulenta</a>	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	1B.2	S2S3	G4? T2T3
<a href="#">Centromadia parryi ssp. rudis</a>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
<a href="#">Cicuta maculata var. bolanderi</a>	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
<a href="#">Cuscuta obtusiflora var. glandulosa</a>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
<a href="#">Downingia pusilla</a>	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
<a href="#">Gratiola heterosepala</a>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
<a href="#">Hesperevax caulescens</a>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
<a href="#">Hibiscus lasiocarpus var. occidentalis</a>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
<a href="#">Juglans hindsii</a>	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
<a href="#">Lasthenia ferrisiae</a>	Ferris' goldfields	Asteraceae	annual herb	Feb-May	4.2	S3	G3
<a href="#">Lathyrus jepsonii var. jepsonii</a>	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
<a href="#">Legenere limosa</a>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
<a href="#">Lepidium latipes var. heckardii</a>	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
<a href="#">Lilaeopsis masonii</a>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
<a href="#">Navarretia eriocephala</a>	hoary navarretia	Polemoniaceae	annual herb	May-Jun	4.3	S4?	G4?
<a href="#">Orcuttia tenuis</a>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	1B.1	S2	G2
<a href="#">Orcuttia viscida</a>	Sacramento Orcutt	Poaceae	annual herb	Apr-	1B.1	S1	G1

	grass			Jul(Sep)			
<a href="#"><u>Sagittaria sanfordii</u></a>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
<a href="#"><u>Scutellaria galericulata</u></a>	marsh skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G5
<a href="#"><u>Scutellaria lateriflora</u></a>	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	Jul-Sep	2B.2	S2	G5
<a href="#"><u>Symphyotrichum lentum</u></a>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
<a href="#"><u>Trifolium hydrophilum</u></a>	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 26 April 2019].

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### Contributors

[The Calflora Database](#)

[The California Lichen Society](#)

[California Natural Diversity Database](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

### Questions and Comments

[rareplants@cnps.org](mailto:rareplants@cnps.org)

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## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

April 26, 2019

Consultation Code: 08ESMF00-2019-SLI-1772

Event Code: 08ESMF00-2019-E-05684

Project Name: Annexation Area

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

#### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.



The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

---

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

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## Project Summary

Consultation Code: 08ESMF00-2019-SLI-1772

Event Code: 08ESMF00-2019-E-05684

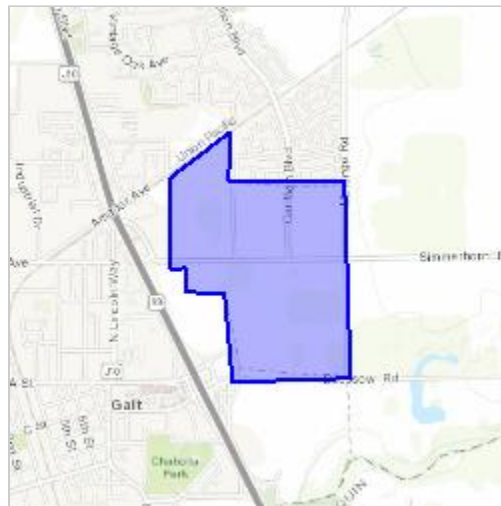
Project Name: Annexation Area

Project Type: LAND - ACQUISITION

Project Description: city annexation area

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.26234407905891N121.28921826837365W>



Counties: Sacramento, CA

---

## Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

---

## Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a> Habitat assessment guidelines: <a href="https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf">https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf</a>	Threatened

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
Fleshy Owl's-clover <i>Castilleja campestris ssp. succulenta</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8095">https://ecos.fws.gov/ecp/species/8095</a>	Threatened

## Critical habitats

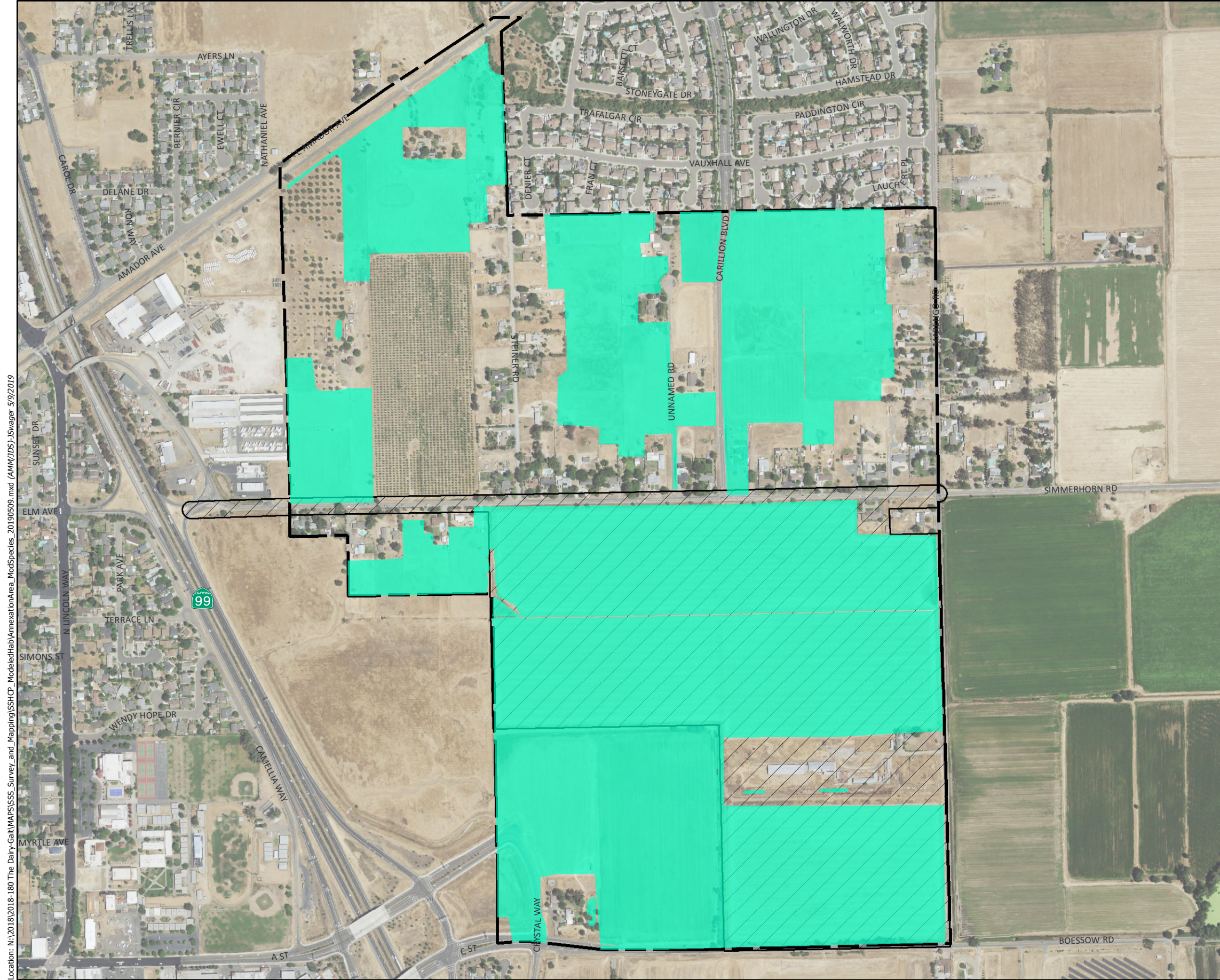
THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

---

**ATTACHMENT B**

Modeled SSHCP Species Habitat





# SSHCP Modeled Species Habitat (American Badger)

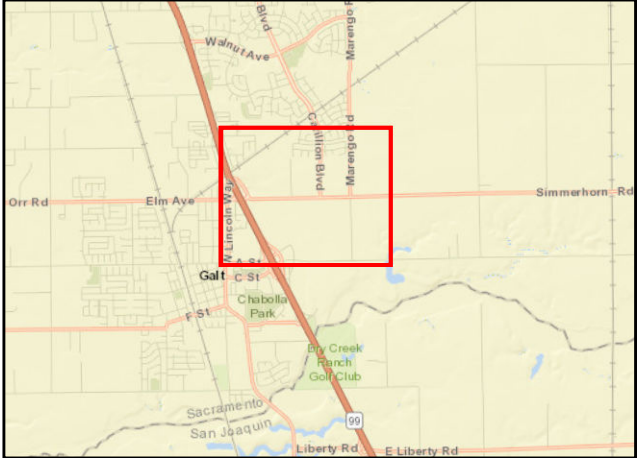
## Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

## Modeled Habitat

- Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

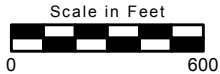
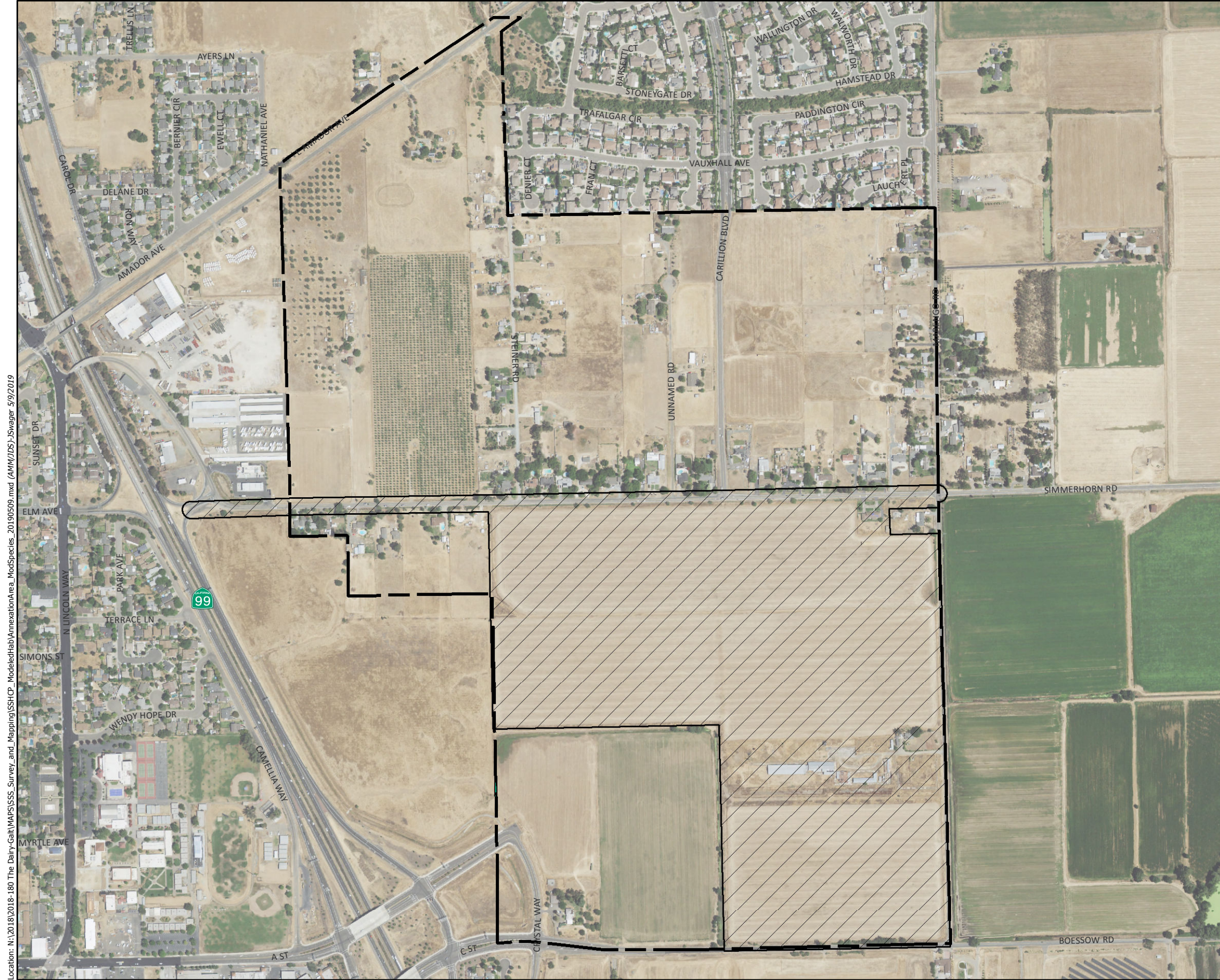


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019







## SSHCP Modeled Species Habitat (Boggs Lake Hedge-hyssop)

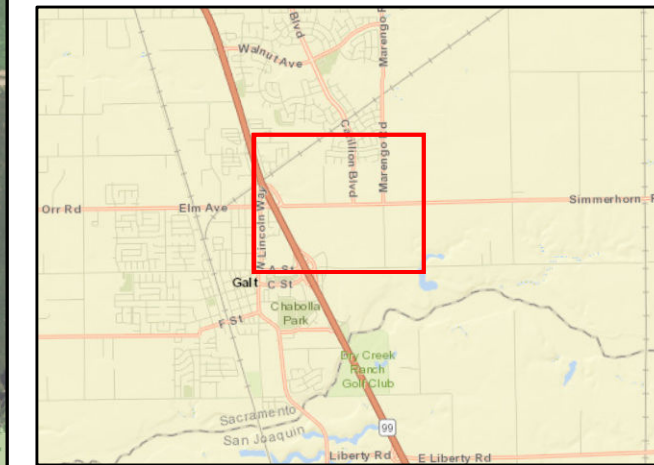
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

- Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

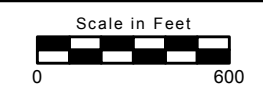


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019







## SSHCP Modeled Species Habitat (Burrowing Owl)

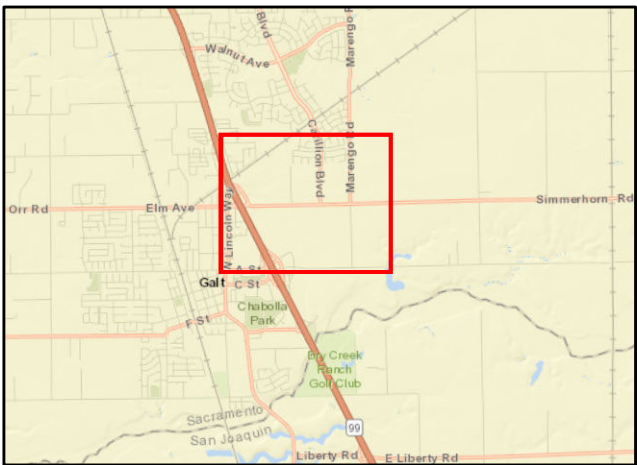
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

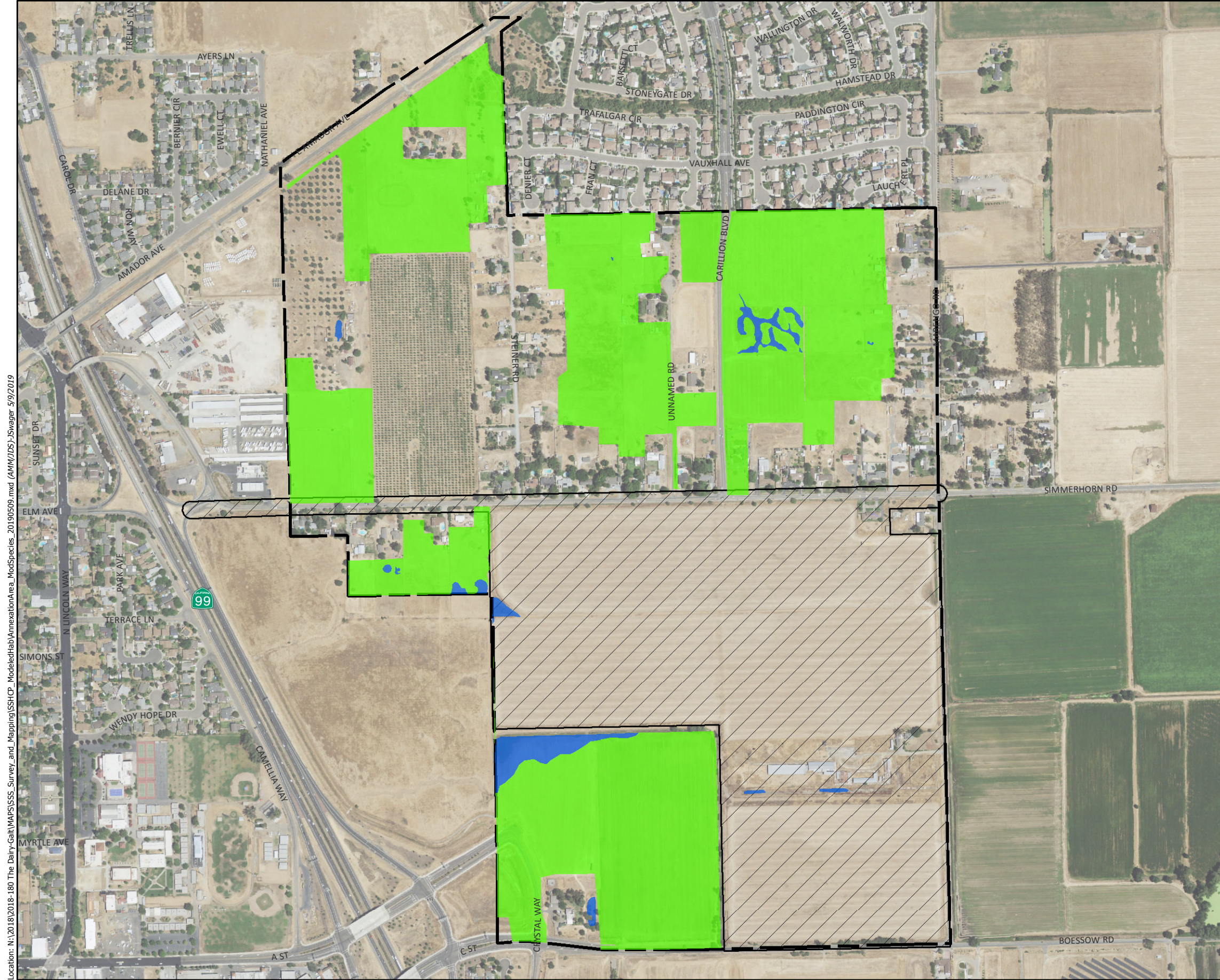
### Modeled Habitat

- Nesting
- Wintering

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







## SSHCP Modeled Species Habitat (California Tiger Salamander)

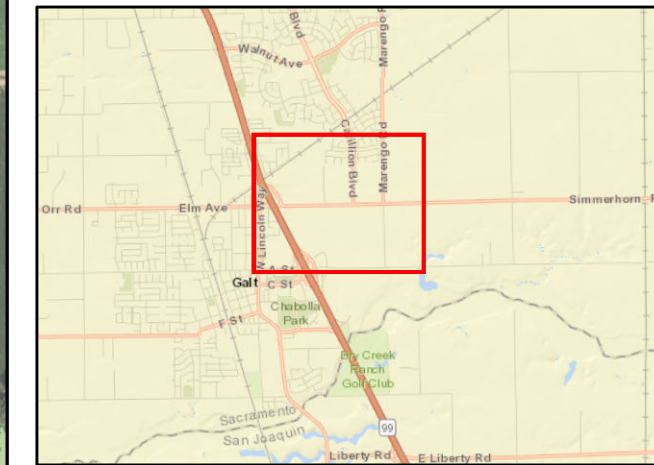
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

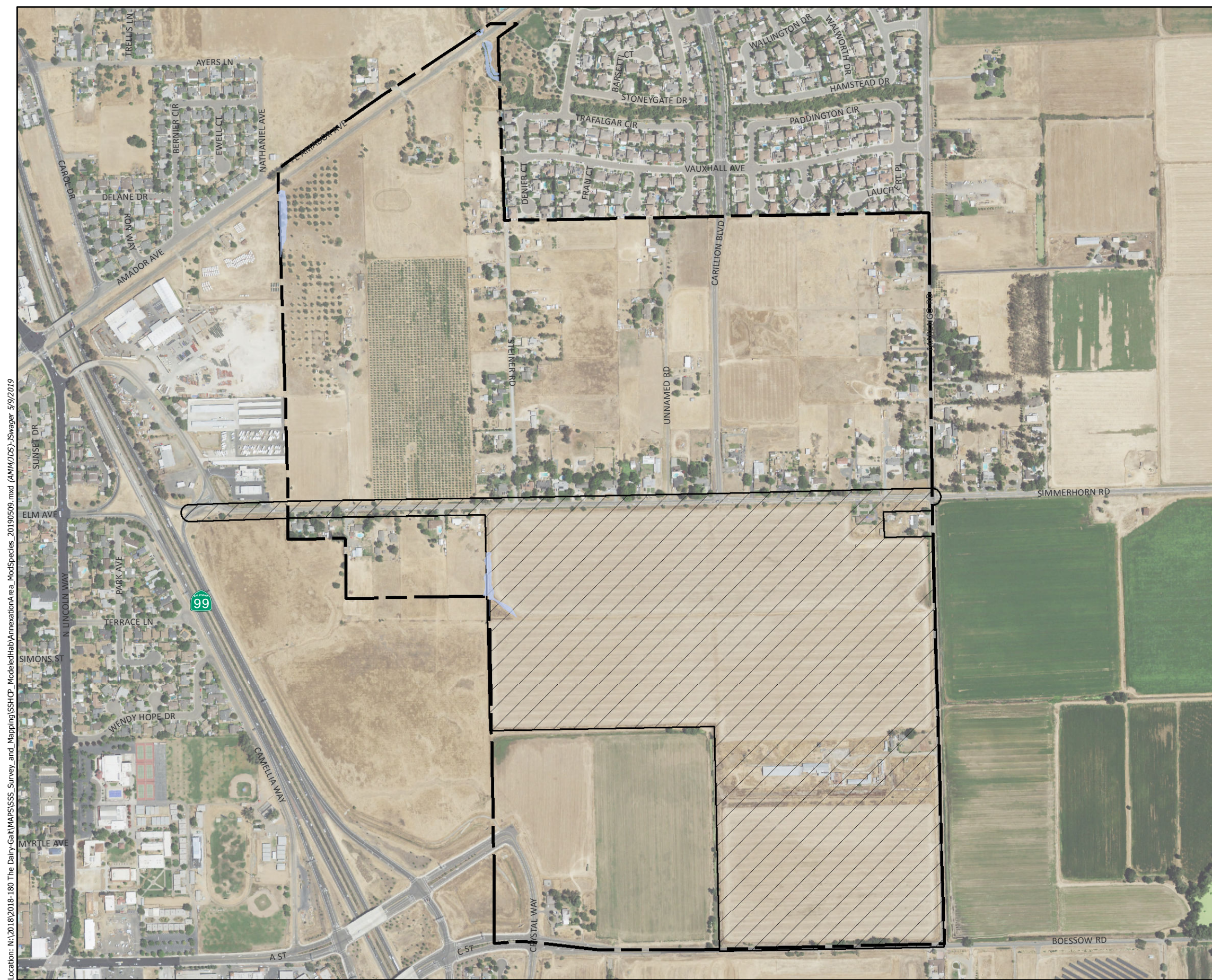
- Aquatic
- Upland

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





Location: N:\2018\2018-180 The Dairy-Galt\MAPS\SSS Survey\_and\_Mapping\SSHCP\_ModeledHabitAnnexationArea\_ModSpecies\_20190509.mxd (AMW/DS)-Jswager 5/9/2019



## SSHCP Modeled Species Habitat (Cooper's Hawk)

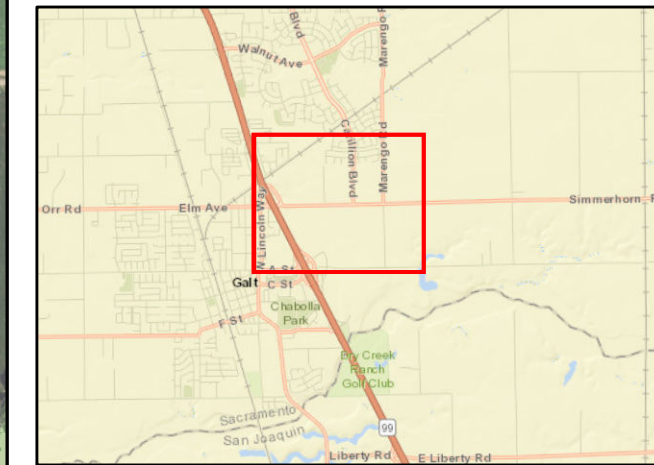
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

- Nesting-Foraging

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

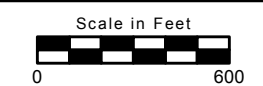
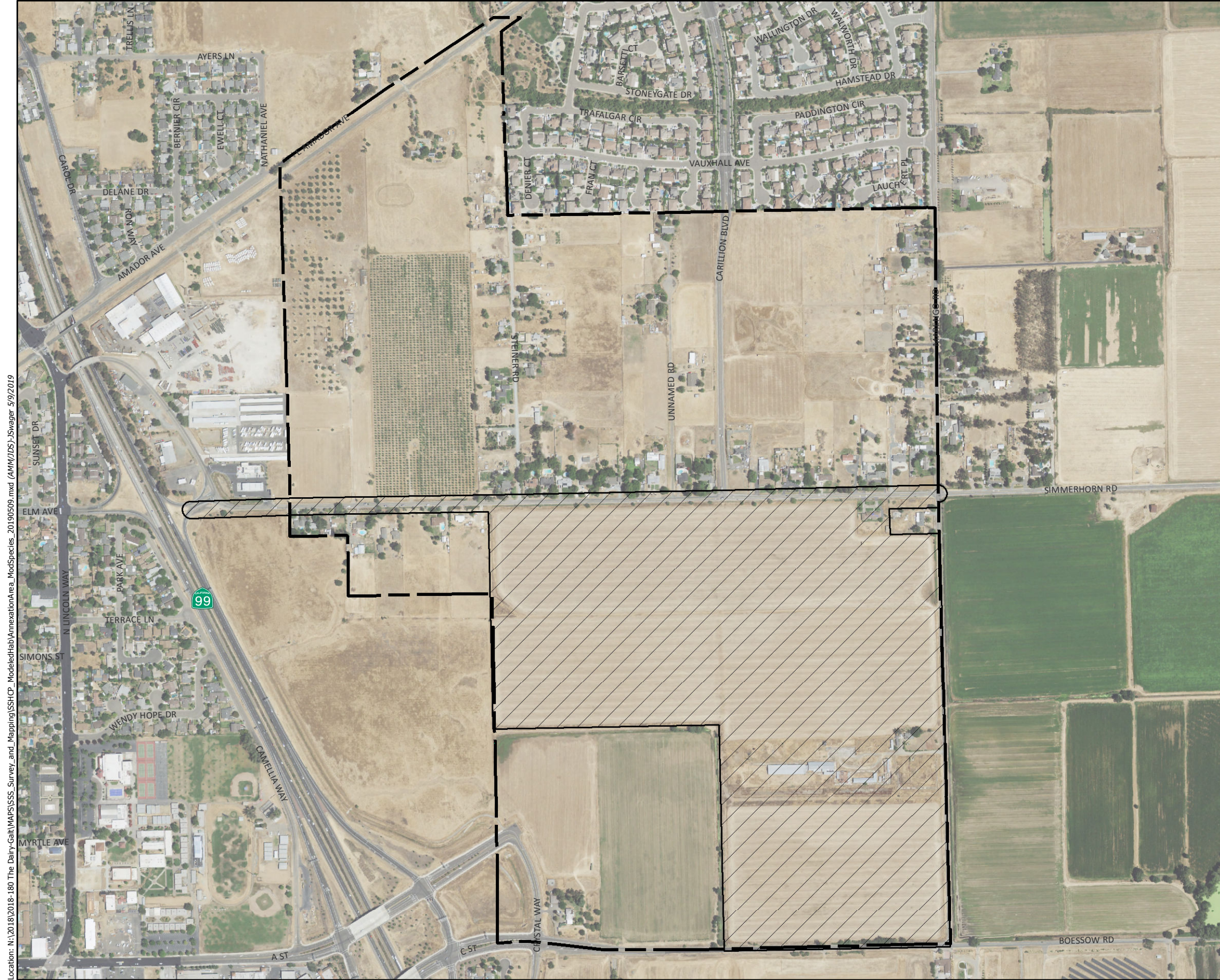


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019









## SSHCP Modeled Species Habitat (Dwarf Downingia)

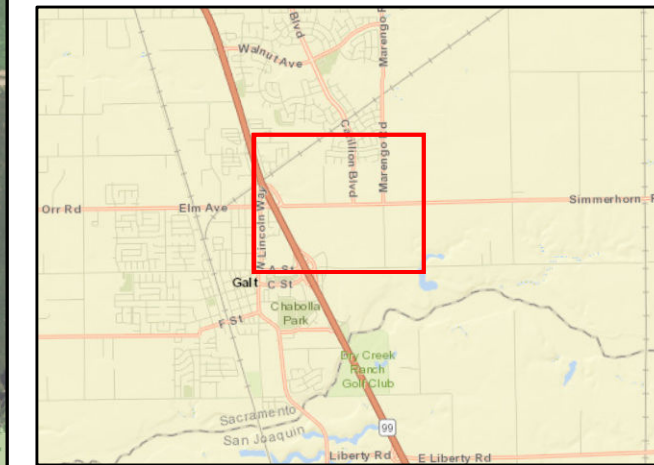
### Map Features

-  City of Galt Annexation Area - 341.04 ac.
-  Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

-  Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

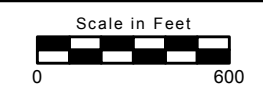
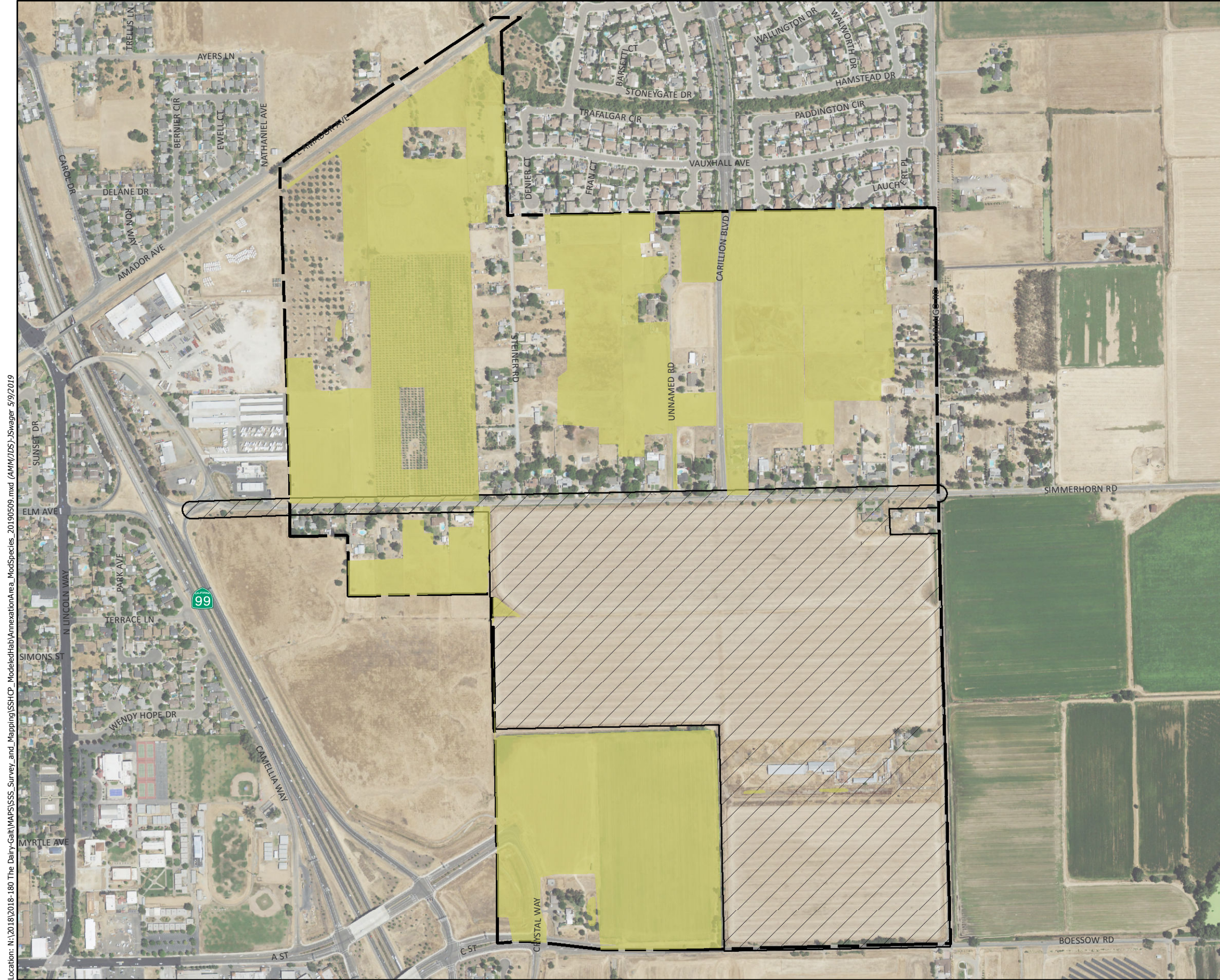


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019





## SSHCP Modeled Species Habitat (Ferruginous Hawk)

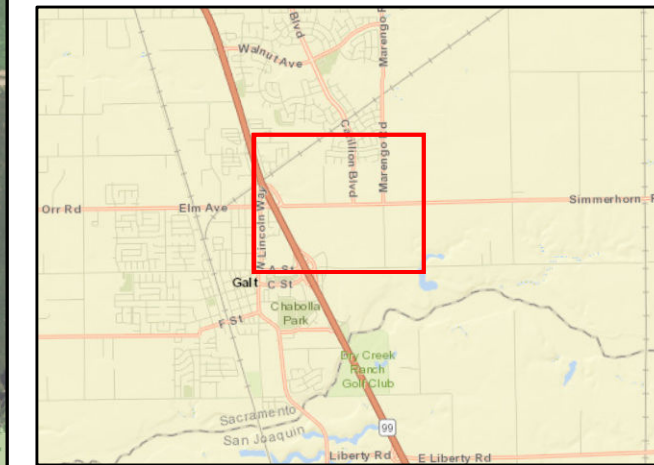
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

- Foraging

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

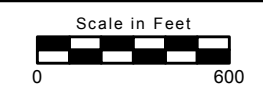
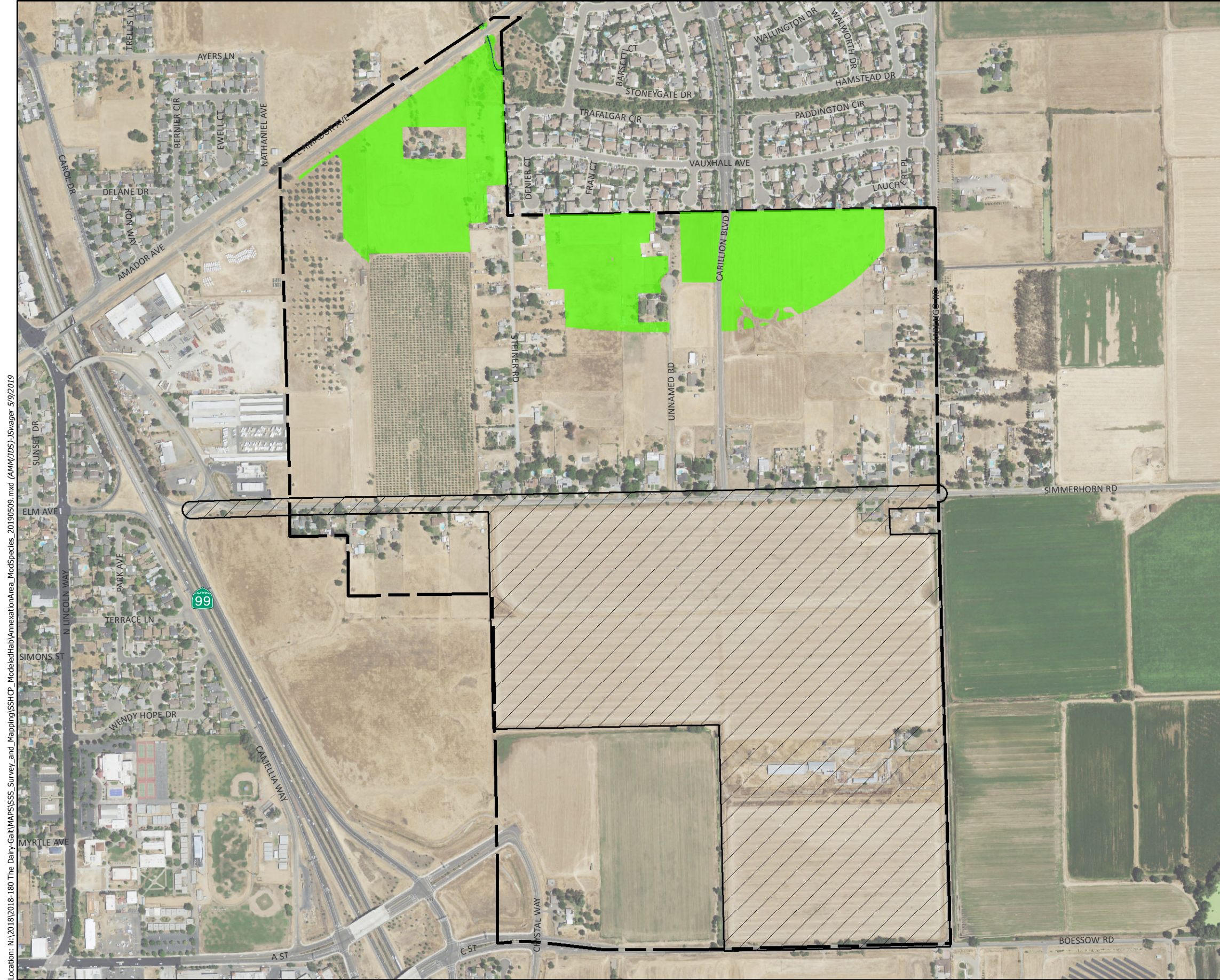


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019












## SSHCP Modeled Species Habitat (Giant Gartersnake)

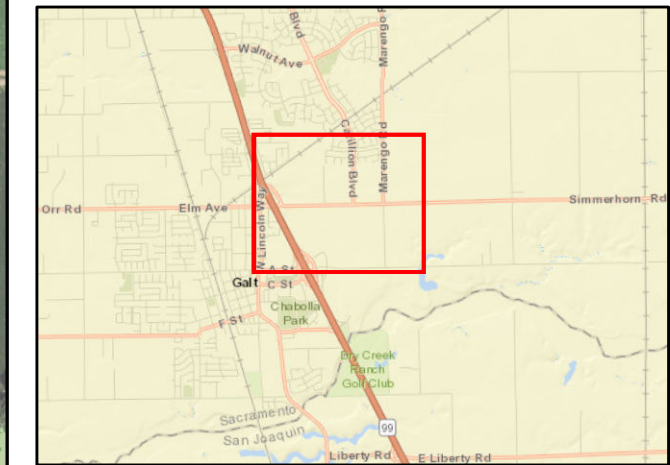
### Map Features

-  City of Galt Annexation Area - 341.04 ac.
-  Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

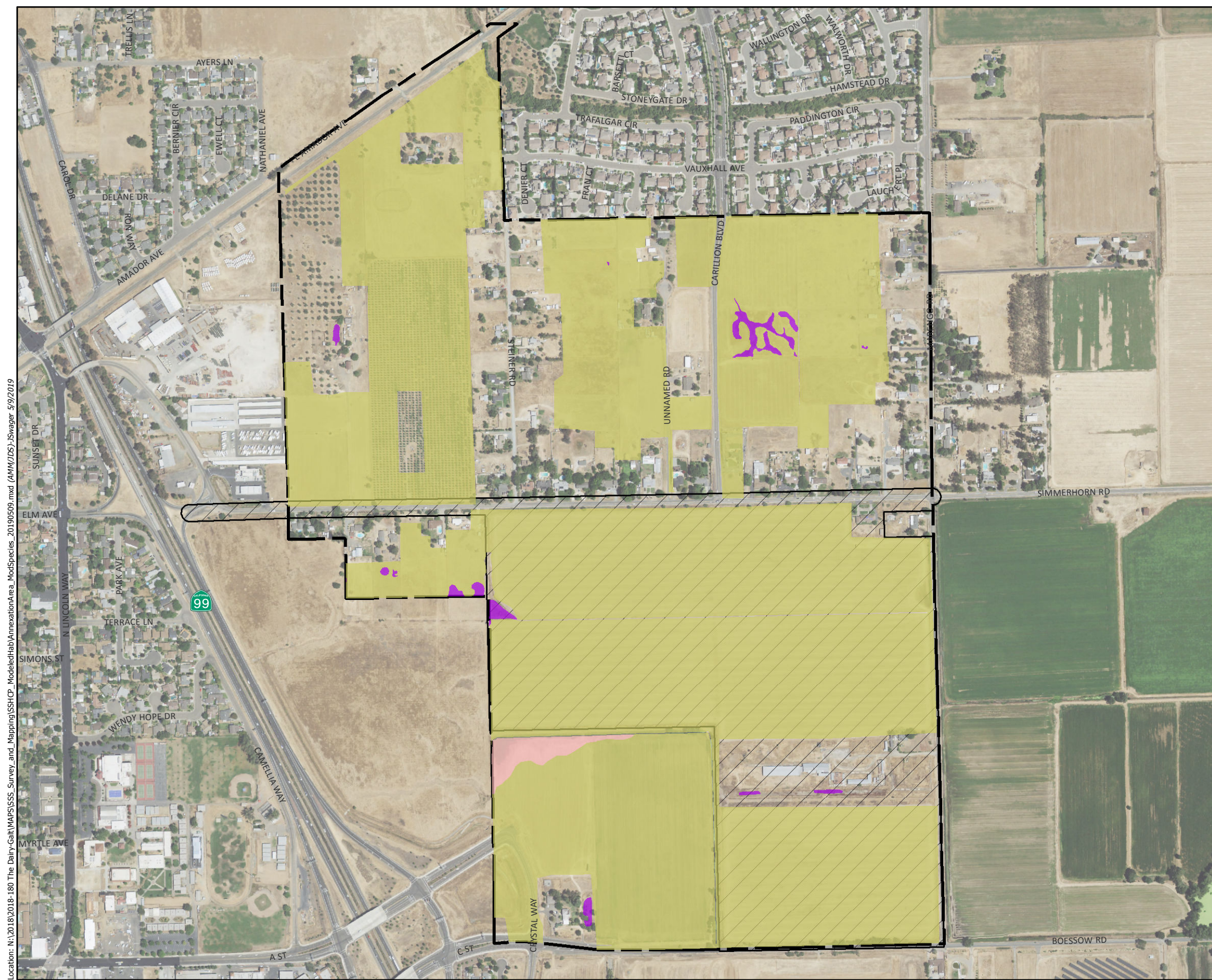
-  Core Aquatic
-  Peripheral Aquatic
-  Upland

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





Location: N:\2018\2018-180 The Dairy-Galt\MAPS\SSS Survey\_and\_Mapping\SSHCP\_ModeledHabitAnnexationArea\_ModSpecies\_20190509.mxd (AMW/DS)-Jswager 5/9/2019



## SSHCP Modeled Species Habitat (Greater Sandhill Crane)

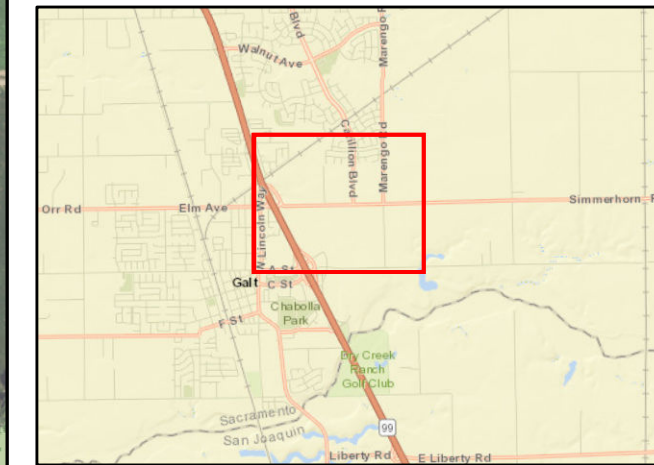
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

- Foraging
- Roosting
- Roosting-Foraging

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

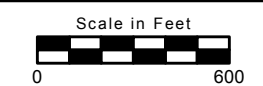
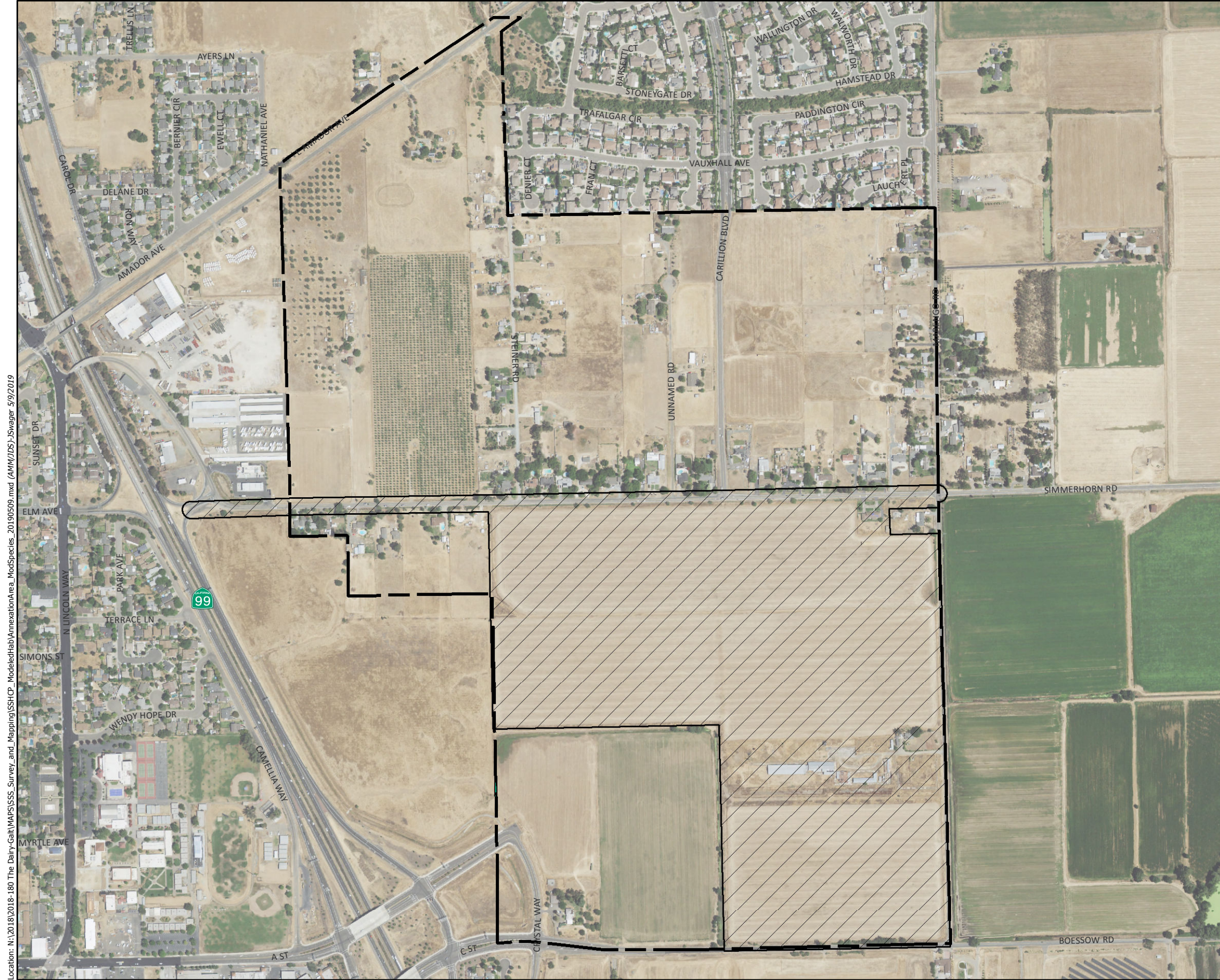


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019









## SSHCP Modeled Species Habitat (Legenere)

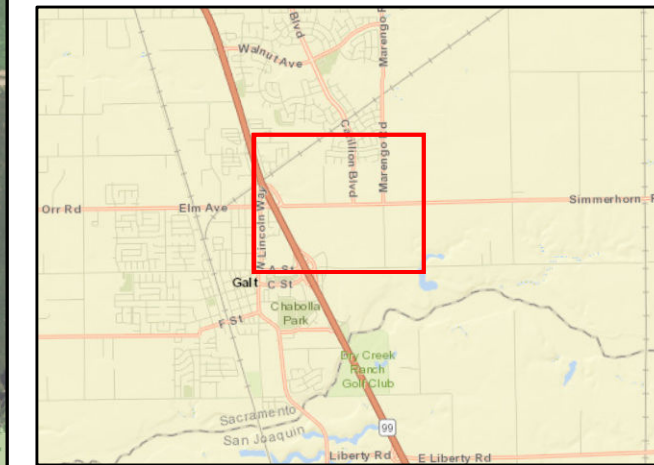
### Map Features

-  City of Galt Annexation Area - 341.04 ac.
-  Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

-  Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area

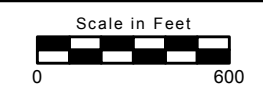
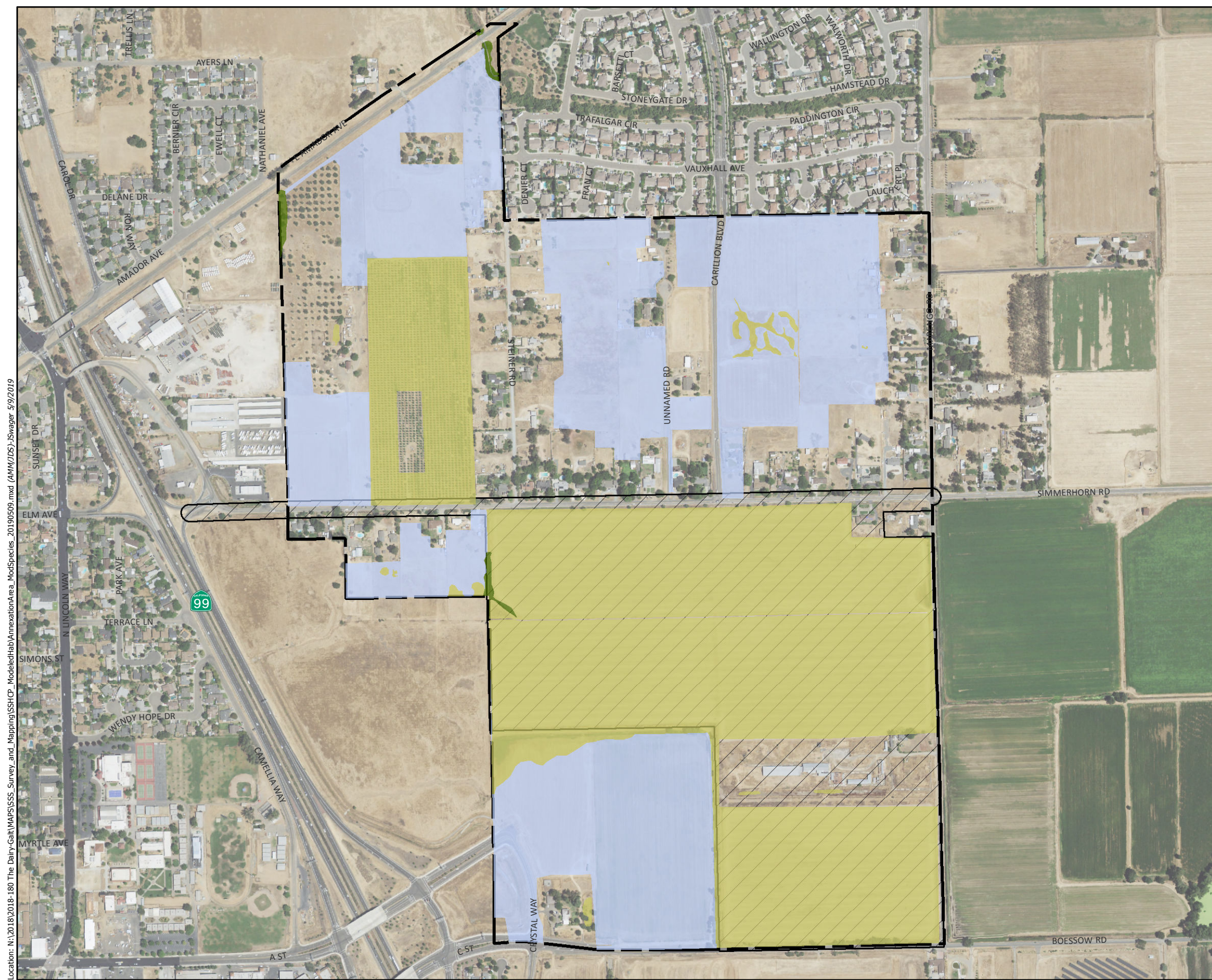


Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019







## SSHCP Modeled Species Habitat (Loggerhead Shrike)

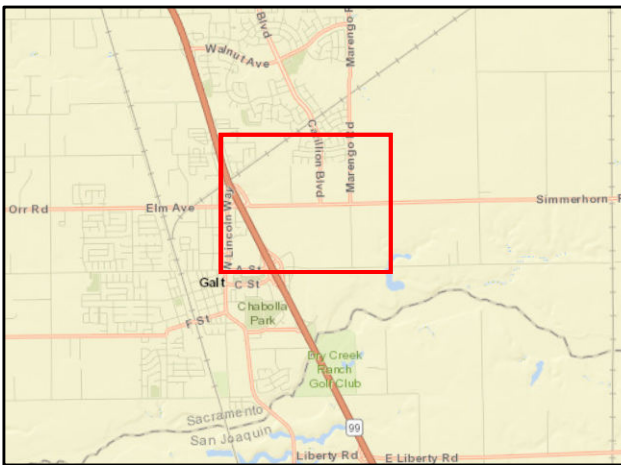
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

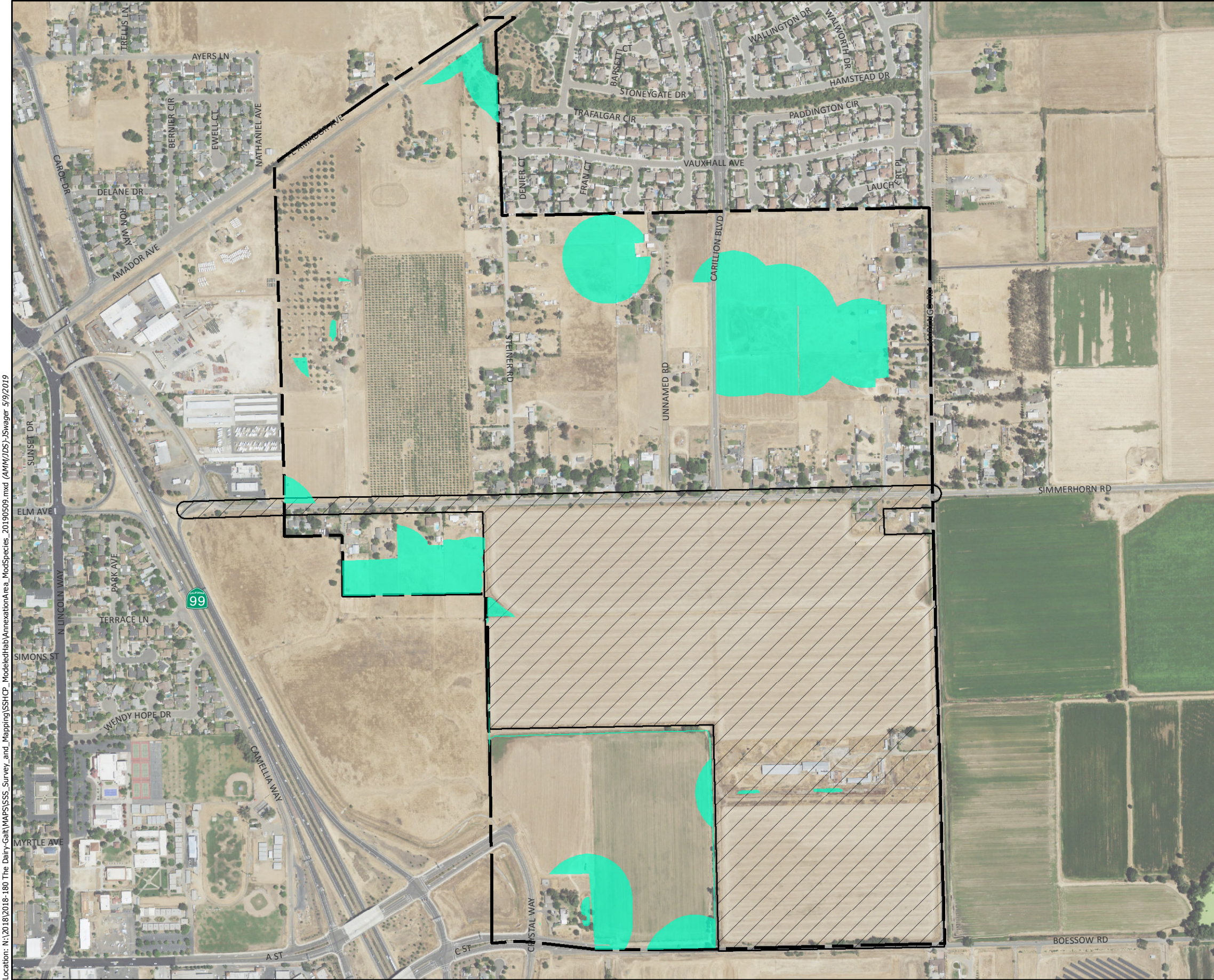
### Modeled Habitat

- Foraging
- Nesting
- Nesting-Foraging

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







## SSHCP Modeled Species Habitat (Mid-valley Fairy Shrimp)

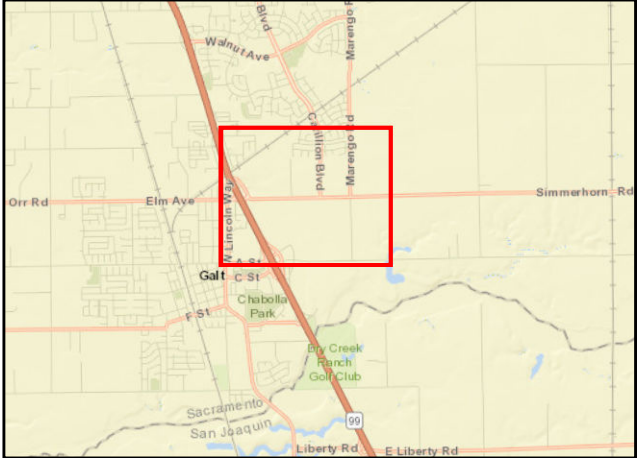
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

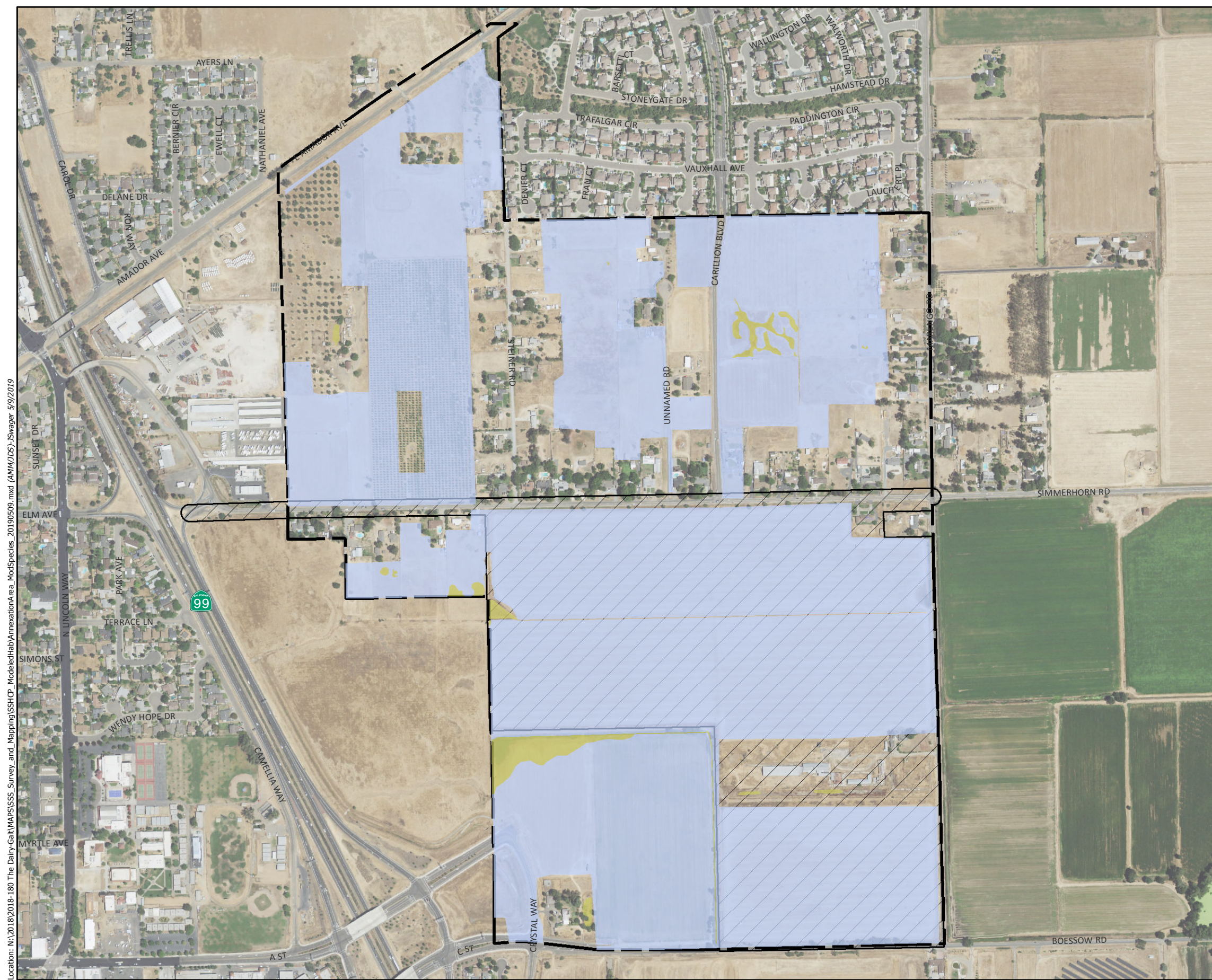
### Modeled Habitat

- Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



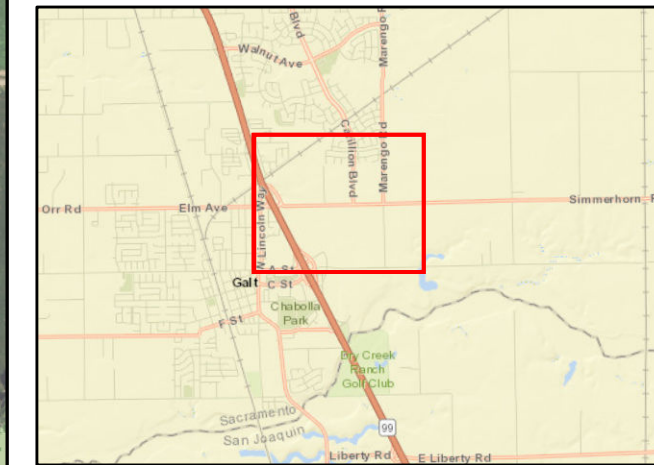




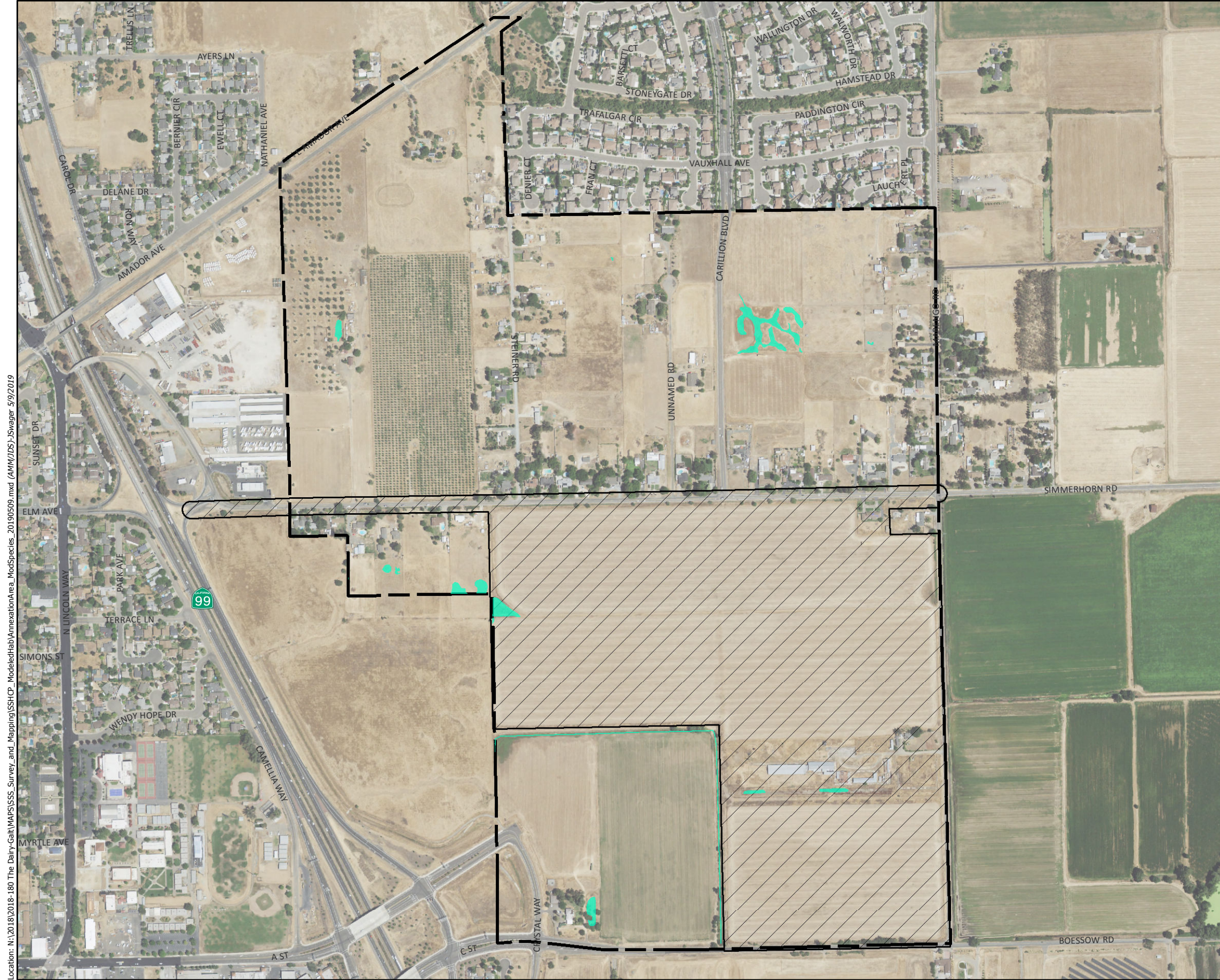
## SSHCP Modeled Species Habitat (Northern Harrier)

- Map Features**
- City of Galt Annexation Area - 341.04 ac.
  - Simmerhorn Project Area - 126.71 ac.
- Modeled Habitat**
- Foraging
  - Nesting-Foraging

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



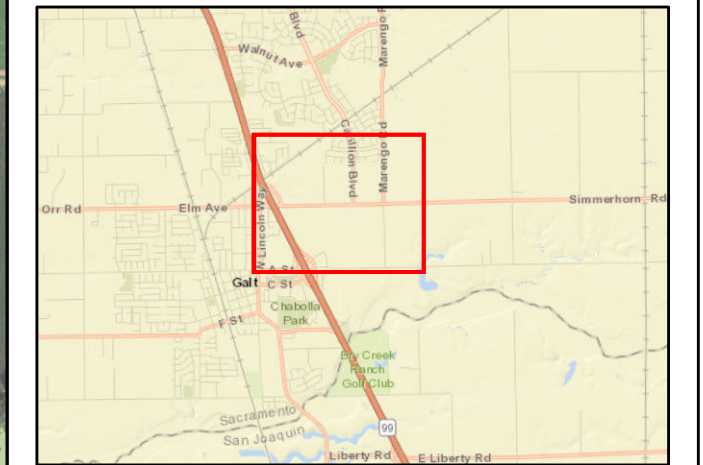




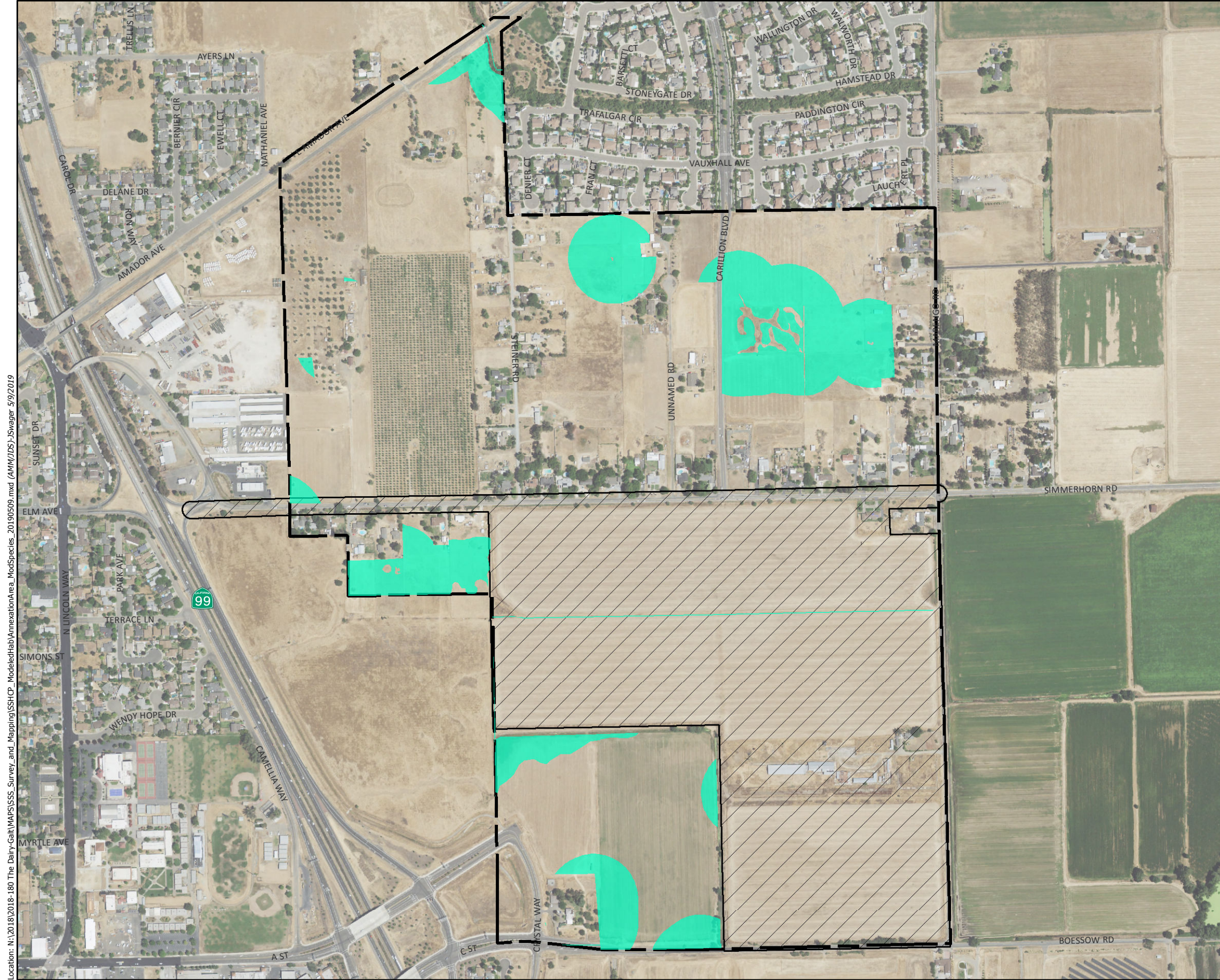
## SSHCP Modeled Species Habitat (Ricksecker's Water Scavenger Beetle)

- Map Features**
- City of Galt Annexation Area - 341.04 ac.
  - Simmerhorn Project Area - 126.71 ac.
- Modeled Habitat**
- Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







## SSHCP Modeled Species Habitat (Sanford's Arrowhead)

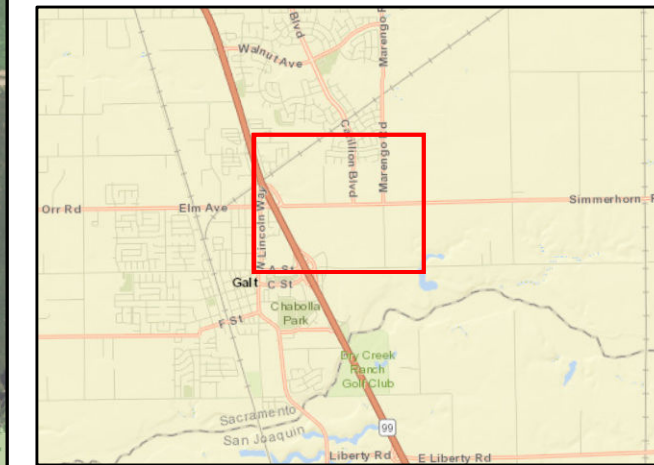
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

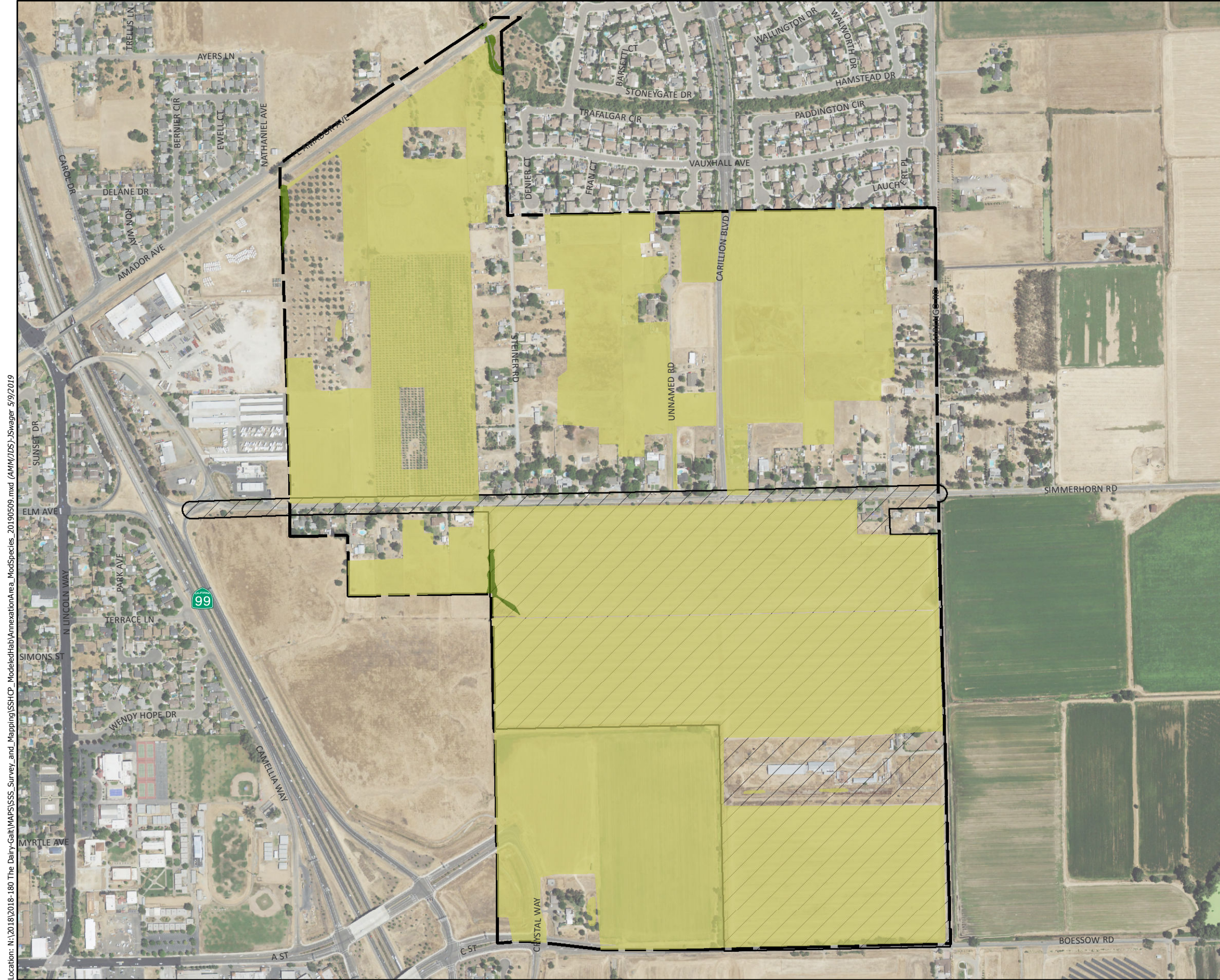
### Modeled Habitat

- Habitat

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community







## SSHCP Modeled Species Habitat (Swainson's Hawk)

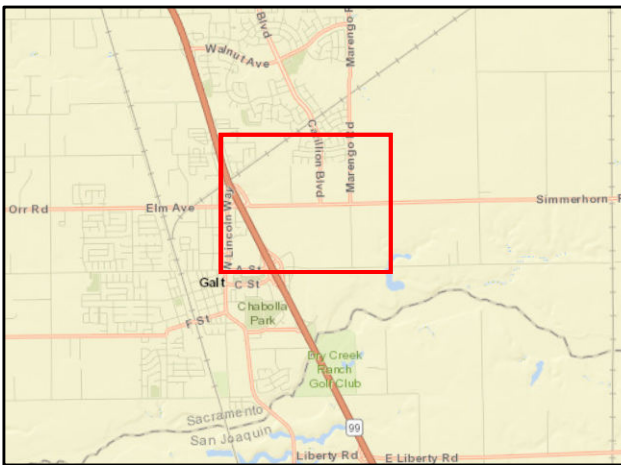
### Map Features

- City of Galt Annexation Area - 341.04 ac.
- Simmerhorn Project Area - 126.71 ac.

### Modeled Habitat

- Foraging
- Nesting

Service Layer Credits: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community



2018-180 Simmerhorn Ranch Annexation Area



Photo Source: NAIP 2018  
Boundary Source: Wood Rodgers  
Modeled Species Habitat Source: South Sacramento HCP

Map Date: 5/9/2019

