

Memo



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Date: October 26, 2021

To: Matt Dulcich and Alex Tremblay, UC Davis Campus Planning and Environmental Stewardship

From: Allison Fuller, Wildlife Biologist

Subject: **UC Davis Orchard Park Connectivity Project, Valley Elderberry Longhorn Beetle Elderberry Shrub Stem Count Survey Report**

This memorandum describes the methods and results of an elderberry (*Sambucus nigra* ssp. *caerulea*) shrub stem count survey at the Orchard Park Connectivity project site conducted pursuant to the U.S. Fish and Wildlife Service (USFWS) Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) (hereinafter, "USFWS 2017 Framework") (USFWS 2017) and the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) Avoidance and Minimization Measure (AMM) 12, *Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle*. This memo also serves as the species-specific planning level survey report (Attachment 7) for the project's Yolo HCP/NCCP application.

PROJECT DESCRIPTION (YOLO HCP/NCCP ATTACHMENT 1)

The Orchard Park Connectivity Project is located along Orchard Road (also known as Blue Ridge Road), Orchard Park Drive, and Extension Center Drive (Figure 1, Figure 2, Yolo HCP/NCCP Attachment 2 and 3). The Orchard Park Connectivity Project includes transportation connectivity improvements to address safety and connectivity of bicycle and pedestrian infrastructure between the Orchard Park Redevelopment Project site and the central campus. Connectivity Improvements include a new sidewalk along the north side of Blue Ridge Road (also known as Orchard Road), improved bicycle lanes, curb ramp and striping improvements, water main line replacement, and roadway rehabilitation. On Orchard Park Drive, improvements include adding a Class III bikeway, lighting, and close pedestrian network gaps with additional sidewalks. Orchard Park Drive will be re-paved and restriped upon completion of the project.

BACKGROUND AND SURVEY METHODS

Valley Elderberry Longhorn Beetle Habitat Assessment

An Ascent Environmental biologist conducted a habitat assessment for valley elderberry longhorn beetle on the Orchard Park Connectivity project site in accordance with adopted 2018 LRDP EIR Mitigation Measure 3.5-7. The project alignment and the area surrounding the alignment were visually inspected for

blue elderberry during a site visit by an Ascent Environmental biologist on May 18, 2021. All elderberry shrubs were flagged with high-visibility construction flagging.

There are 23 blue elderberry shrubs adjacent to the project site, including 20 adjacent to Extension Center Drive and one large shrub south of Extension Center Drive within the UC Davis Student Farm (Figure 2). These shrubs are located on the vegetated shoulder on the south side of Extension Center Drive from the intersection with Orchard Park Drive to the end of the road to the west (Figure 2). Project activities would avoid these shrubs entirely.

Two large blue elderberry shrubs are present on the west side of Orchard Park Drive (Figure 2, Figure 3). These shrubs are separated by the project alignment by chain link fencing; however, the shrub crowns overhang the fencing and extend over the sidewalk and a portion of Orchard Park Drive (Figure 3). Orchard Park Connectivity project implementation will include installation of new sidewalks along Orchard Park Drive. While sidewalk installation will avoid the shrubs, it has been determined that removal of these shrubs is necessary to allow pedestrian access to the sidewalk.

The shrubs are not located within high-quality riparian habitat. However, during a spot check of the previously installed exclusionary fencing around other elderberry shrubs on July 6, 2021, exit holes were observed on both shrubs, which may be attributed to valley elderberry longhorn beetle use, at least historically (Figure 4).

Elderberry Shrub Stem Count Survey

Pursuant to Yolo HCP/NCCP AMM12, the USFWS 2017 Framework, and 2018 LRDP EIR Mitigation Measure 3.5-7, an Ascent Environmental biologist conducted a stem count survey of the two elderberry shrubs planned for removal on October 19, 2021. The required elderberry seedling and associated native plant planting ratios were determined using the guidelines provided by the Yolo Habitat Conservancy outlined in Table 1. Elderberry seedling ratios correspond to the number of stems in a given size class on the shrub that will be affected, and native plant ratios correspond to the number of associated native species to be planted per elderberry seedling or cutting planted. For the purpose of the stem count survey, the southern elderberry shrub is considered Shrub 1 and the northern elderberry shrub is considered Shrub 2.

Table 1. Valley Elderberry Longhorn Beetle Habitat Planting Ratios

Location of Affected Plants	Stems (Maximum Diameter at Ground Level)	Exit Holes Present on Shrub?	Elderberry Seedling Ratio	Associated Native Plant Ratio
Non-Riparian	Greater than or equal to one inch, less than three inches	Yes	2:1	2:1
	From three to five inches	Yes	4:1	2:1
	Greater than or equal to five inches	Yes	6:1	2:1

RESULTS

Stem counts for each size class for both elderberry shrubs are included in Table 2, below. At ground level, Shrub 1 contained one stem less than 3 inches in diameter, one between 3 and 5 inches, and three greater than 5 inches (Table 2, Figure 5). At ground level, Shrub 2 contained five stems greater than 5 inches (Table 2; Figure 5). Pursuant to Yolo HCP/NCCP AMM12, mitigation required for removal of these two elderberry shrubs includes planting of 54 new elderberry seedlings or cuttings and 108 associated native plant plantings, in addition to transplanting the two shrubs (Table 2).

Table 2. Orchard Park Connectivity Project Planting Ratios

	Stem Size			Elderberry Seedling Plantings Required	Associated Native Plant Plantings Required (2:1)
	≥ 1 inch; < 3 inch (2:1)	3–5 inches (4:1)	≥ 5 inches (6:1)		
Shrub 1	1	1	3	24	48
Shrub 2	0	0	5	30	60
TOTAL	1	1	8	54	108

ON-CAMPUS MITIGATION SITE

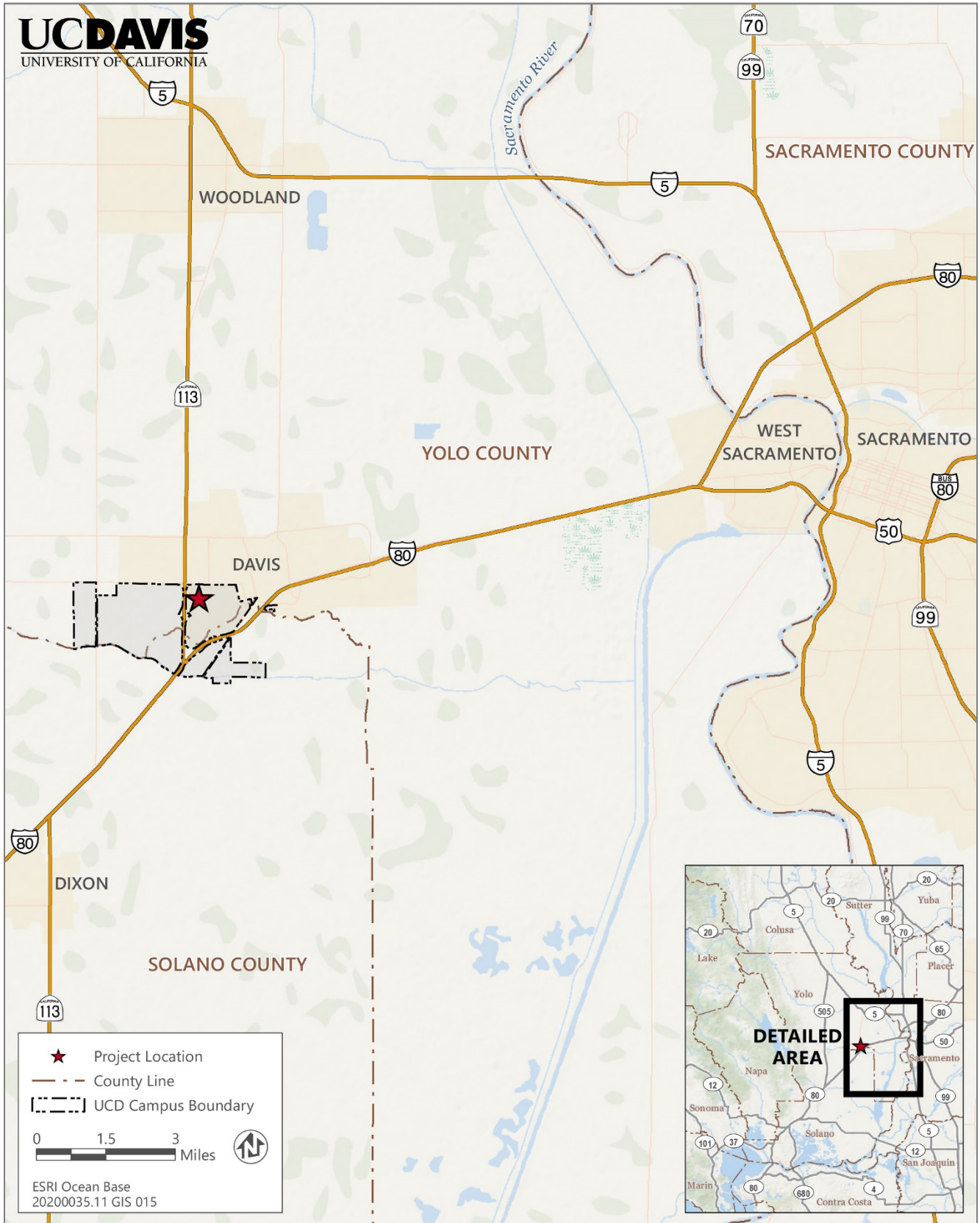
UC Davis proposes transplanting the elderberry shrubs, elderberry cuttings, and associated native plantings within on-campus mitigation sites. The proposed mitigation sites are located on University-owned land at the Russell Ranch on Kinsella Lane in West Campus. The sites are contained within Assessor Parcel Numbers 038-140-008 (77-acre parcel) and 037-170-010 (109-acre parcel). Russell Ranch is approximately 1,590 acres of agricultural lands with a narrow band of riparian vegetation along Putah Creek and an historic slough. The valley elderberry longhorn beetle mitigation sites are located along the north bank of Putah Creek at Russell Ranch, and along an historic slough immediately south of Russell Boulevard. The Putah Creek site is a riparian forest community immediately adjacent to the creek. The site consists of an approximately 3,200-foot-long section of the creek, consisting of an approximately 40-foot-wide upper terrace and a 40-foot-wide lower terrace. The Putah Creek mitigation site is approximately 256,000 square feet (5.87 acres) in size. The site previously supported a small orchard interspersed with native trees. The orchard trees were removed to make room for transplanted elderberry shrubs and seedlings as part of previous valley elderberry longhorn beetle mitigation efforts at UC Davis in coordination with USFWS in the early 2000's. The slough mitigation site is located south of Russell Boulevard and east of Road 95A. The slough site is 12 acres, approximately 2,300 feet in length and 200 to 400 feet wide. It is part of an old overflow channel of Putah Creek and contains a remnant riparian ecosystem, serving as a wildlife corridor outside of Putah Creek.

The valley elderberry longhorn beetle mitigation sites at the Russell Ranch are owned and managed by UC Davis and will be protected as habitat for the species. To ensure that the valley elderberry longhorn beetle mitigation sites are managed for the species' habitat, UC Davis has established deed restrictions acceptable to USFWS for 158-acres of Russell Ranch for use as a valley elderberry longhorn beetle

mitigation site. USFWS approved the language of these deed restrictions in mid-November 2001, and it was recorded by UC Davis in March 2002.

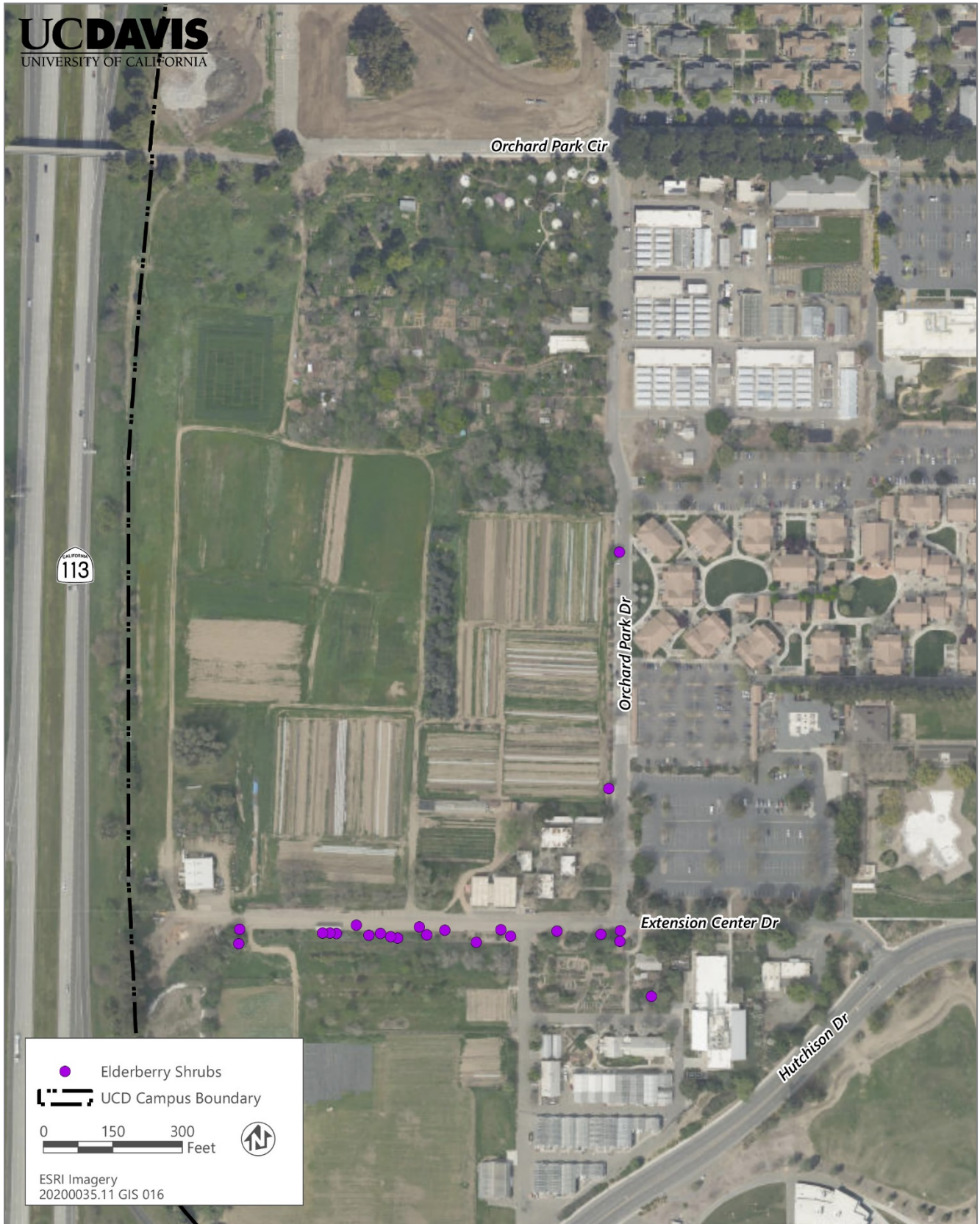
REFERENCES

USFWS. 2017. *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle*. Available: https://www.fws.gov/sacramento/documents/VELB_Framework.pdf. Accessed October 14, 2021.



Source: Adapted by Ascent Environmental in 2021

Figure 1 Orchard Park Connectivity Project Vicinity



Source: Adapted by Ascent Environmental in 2021

Figure 2 Orchard Park Connectivity Project Alignment and Elderberry Shrub Locations



Figure 3 Elderberry Shrubs Adjacent to Orchard Park Drive (Left Photo is Shrub 1, Right Photo is Shrub 2)



Figure 4 Potential Beetle Exit Holes on the Elderberry Shrubs



Figure 5 Elderberry Shrub Trunks and Stems (Left Photo is Shrub 1, Right Photo is Shrub 2)