

**Survey for Threatened and Endangered Botanical
Species for Selected Areas of Annie Bidwell and
Yahi Trails of the City of Chico's
Upper Bidwell Park
Butte County, CA**

Spring & Summer 2003 Surveys

August 01, 2003

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EXECUTIVE SUMMARY

Selected areas of the Annie Bidwell and Yahi trails in City of Chico's Upper Bidwell Park were surveyed for the presence of special status plant species. Surveys began in March of 2003 and ended in July of 2003. The surveys yielded three special status plant species within the project area (Table 2) and the potential for twelve others to occur. The distributions of two of these species (*Sidalcea robusta* and *Mimulus glaucescens*) are widespread throughout Upper Bidwell Park. Whereas, *Lilium humboldtii* ssp. *humboldtii* is only found in a few locations. The presence of wetlands, ephemeral and perennial stream drainages, and host plants that harbor special status invertebrates (i.e. Valley Elderberry Longhorn Beetle) are additional environmental concerns related to this project. It is the recommendation of this report that a qualified botanical monitor be present during trail construction activities so as to avoid impacts to special status species and habitat areas.

INTRODUCTION

Location

The study area evaluated for this sensitive plant report is known as Bidwell Park and resides in the City of Chico, Butte County, California. Bidwell Park is the nation's third largest municipal park with a total acreage of 3,670 acres. Bidwell Park is divided into two sections commonly referred to as Lower Park and Upper Park. The two sections are separated by Manzanita Ave. on the east side of Chico. In this survey, only selected existing and proposed trails of the area known as Upper Bidwell Park were surveyed.

Habitat/Environment

The Upper Park survey area is approximately 3,500 acres in size and includes 12 plant communities within its borders. Elevation within the upper park ranges from 1,660 ft in the east end of the park to 260 ft in the west end of the park. The canyon walls can drop in elevation from 1,600 to approximately 800 ft within a half a mile resulting in a steep 28% average grade. The unique geomorphology or land forms found in Upper Bidwell Park has a significant role in the plant communities that reside there and also lends itself to harboring unique species of plants of which some are considered rare or endangered.

Three distinct geological features are responsible for the canyon formation that is seen in Upper Park. The underlying layer is known as the Chico formation which is formed from soft sandstone and therefore erodes readily under fluvial conditions. Above the Chico Formation is a layer known as Lovejoy Basalt that can be easily seen forming the vertical rock walls at Bear Hole and other swimming areas further up Big Chico Creek. Lastly, the Tuscan Formation overlies the previous two formations and is formed from successive ancient volcanic mud flow events that have become cemented layers of mud and rock debris known as fanglomerate. This fanglomerate layer and the relative depth of alluvial soil found above it are partially responsible for the many different types of plant communities found in Upper Park. For example, many of the vernal pool and vernal swale wetland features found at the Upper Park entrance and to the north of Wildwood Ave. are the result of an impermeable rock layer (i.e. the fanglomerate) just below the soil surface that keeps water from percolating through the soil layers. There are other areas, for example North Rim Trail, where the Tuscan Formation is exposed and very little soil exists. This habitat lends itself to that of annual species that are able to capitalize on this unique yet formidable medium. Plants have adapted over millions of years to these unique geological conditions. Again, these unique conditions have led to plants that are uniquely adapted to these conditions and hence are of limited distribution albeit sometimes abundant locally.

Eight different plant communities were delineated within the survey areas. Table 1 shows the plant community codes and their names.

Table 1. Plant Communities Encountered within the Bidwell Park Study Area

Code	Community Name
206: Wedgeanothus	Wedgeleaf Ceanothus Series
230: Blu oak	Blue Oak Series
239: Canlivoak	Canyon Live Oak Series
257: Foopine	Foothill Pine Series
277: Mixoak	Mixed Oak Series
319: Whialder	White Alder Series
61420 (Holland)	Great Valley Mixed Riparian Forest
45400 (Holland)	Freshwater Seep Wetlands

These plant communities have been delineated and labeled, in Figure 4, per the codes and plant community names found in Table 1. The codes and names were derived from the CNPS publication "A Manual of California Vegetation" (Sawyer and Keeler-Wolf 1995) except where noted (e.g. Holland).

The two dominant plant communities found onsite were the Mixed Oak and Foothill Pine Series. The mixed oak series is a combination of blue oak (*Quercus douglasii*), interior (*Q. wislizenii*) and canyon live oak (*Q. chrysolepis*) in the canopy layer with a predominance of shrubs in the understory. The dominant species in the Foothill Pine Series is the gray pine (*Pinus sabiniana*) also known as foothill pine. This species does not form dense canopies but is rather dispersed with a dense understory of common manzanita and wedgeleaf ceanothus which are both common chaparral species. The Foothill Pine and Mixed Oak Series occupies the majority of the south side of Upper Bidwell Park.

METHODS

Methodology

All field surveys were conducted on foot throughout the project area as directed and undirected searches. Two sets of surveys were conducted: a spring survey and a summer survey in an attempt to conduct a floristic level survey. Spring surveys began in March 2003 and extended to mid April. The spring time plant phenology was optimal for the identification of most annuals. Species such as California toothwort (*Cardamine californica*) and checker lily (*Fritularia affinis* var. *affinis*) were in full bloom and beginning to senesce. Many grass species were unidentifiable at this time. The Summer surveys began in mid July and ended at the end of the month (see table 2 below). Most annual species were senesced at this time and all late season annuals were identifiable. Each trail area was surveyed at least twice: once in the spring and once in the summer. During each survey a list of all plant species encountered was prepared for each survey area. These lists were later compiled into one master list (see Table 6). Notes were taken concerning existing environmental conditions and plant phenology at the time of survey. Navigation throughout the survey area was accomplished using aerial photographs and topographic maps, supplied the Park Department, that had a GIS overlay of all the proposed and existing trails and proposed bridge sites.

Table 2. Survey Dates for the Spring and Summer Surveys

Spring Survey Dates
March: 6, 7, 11, 12, 13, 14, 24, 25
April: 9, 10
Summer Survey Dates
July: 15, 19, 24, 26

On the north side of Big Chico Creek, two reaches of the Yahi trail were surveyed. The first reach extended from Parking Area H (Day Camp) to a drainage just beyond the proposed location of a bridge. An abutment of an older bridge still exists at this site. A lateral trail, at this point, extending to Upper Park Road was surveyed as well (see Figure 1). The other survey area of Yahi Trail extended from the head of Parking Area K (Bear Hole) and bisected the area between the parking area and the existing trail below (see Figure 2).

On the lower south side, opposite of the aforementioned surveys, three different Annie Bidwell Trail (ABT) routes were surveyed: the Upper, Middle and Lower Options (see Figure 1). Lastly, an upper region of the ABT was surveyed (see Figure 3). This survey area was accessed by driving down Ten Mile House Road, which originates at Highway 32 and meanders into the canyon and terminates at the northern park boundary, and then hiking to the beginning of the survey area.

Each survey route had a predetermined area of survey on either side of the trail. Table 3 below shows the area around each trail that was surveyed. In many instances, these limits were exceeded as can be seen by the acquisition of new data outside the survey area. In some instances, however, it was very difficult to attain a perfect coverage due to the density of shrubs.

Table 3. Survey Areas Per Each Trail Surveyed.

Trail Name / Description	Area Surveyed on Either Side (ft)
Upper Option ABT	25
Middle Option ABT to Jeep Trail	100
Middle ABT after Jeep Trail	50
Lower Option ABT	50
Jeep Trail	See Polygon (Figure 1)
Yahi Trail – All Routes	25
Northern ABT (i.e. Pond Trail)	50

Three polygon areas were also added to the Upper ABT. In addition, the proposed bridge locations were surveyed as well. The extent of these survey areas can be seen in Figure 1.

The California Department of Fish and Game Natural Diversity Database for the Chico, Richardson Springs and Paradise West 7.5' Quadrangles (March 03, 2003) were consulted for existing state and federally listed threatened and endangered plant species that may be present on site. The electronic inventory Rarefind 2 was used to query the quadrangle databases.

Special status plant occurrences were mapped using a handheld GPS unit (Trimble GeoExplorer III). The data points gathered with the GPS unit were later differentially corrected and then exported to a GIS platform.

For each rare plant occurrence a preconfigured data dictionary specific to the particular species was accessed on the Trimble GPS unit. Data such as the type of feature (e.g. point, line or polygon) number of plants, date, and trail segment were filled out in the field and then later exported into an Access Database to accompany the Department of Fish & Game (DFG) Special Status Species Field Forms. These forms will be sent to the DFG to be added to their Natural Diversity Database.

All plants were identified based on the taxonomy of *The Jepson Manual of Higher Plants of California* and were completed to the subspecies or variety level when possible.

Any plant species that were not identifiable at the project site were collected, later identified and then added to the original species list.

Plant communities were identified using *A Manual of California Vegetation* in the field and delineated onto an aerial photograph in the field and then transferred to a GIS.

Many species common names were acquired from The CalFlora Database which is an online electronic resource.

Invasive exotic plant species were reviewed at the California Department of Food and Agriculture's "Encycloweedia" and CalEPPC's online database for status and noxious properties.

RESULTS

Special Status Vascular Plant Species

Based on geographic subdivision, habitat present, edaphic conditions and site elevation (between 250' and 2,000') the following sensitive species in Table 2 would have the potential for being on site.

Table 4. Special Status Vascular Plants that Are Known or May Have the Potential to Occur Within the Bidwell Park Study Area.

Common Name (Scientific Name)	Status Federal/State/CNPS	Plant Communities	General Habitat	Period Identifiable
Depauperate Milkvetch (<i>Astragalus pauperculus</i>)	- / - / 4 (1-1-3)	Valley Grassland, Foothill Woodland	Exposed Tuscan Fanglomerate, Thin Soils	March - June
Ferris's milk-vetch (<i>Astragalus tener</i> var. <i>ferrisiae</i>)	SC / - / 1B (3-3-3)	Valley & Foothill Grassland, Vernal Pools, Meadows & Seeps	Vernally Wet Areas	April - May
Butte County Calycadenia (<i>Calycadenia oppositifolia</i>)	- / - / 1B (2-2-3)	Chaparral, Foothill Woodland, Meadows, Seeps	Occurs in Volcanic or Serpentine Substrate	April - July
Butte County Morning Glory * (<i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i>)	- / - / 1B (2-1-3)	Foothill Woodland, Yellow Pine Forest (elev. 1,950' - 4,000')	Occurs in Volcanic Substrate	May - July
White-stemmed Clarkia * (<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>)	SC / - / 1B (3-2-3)	Chaparral, Foothill Woodland	Occasional in Serpentine	May - July
Pink Creamsacs * (<i>Castilleja rubicundula</i> ssp. <i>rubicundula</i>)	SC / - / 1B (2-2-3)	Chaparral , Cismontane Woodlands, meadows & Seeps	Grassland, Moist Areas and Openings	April - June
Butte County Fritillary * (<i>Fritillaria eastwoodiae</i>)	- / - / 3 (?-2-3)	Chaparral, Foothill Woodland, Lower Montane Forest	Forest Openings, Occasional in Serpentine	March - May
Adobe Lily * (<i>Fritillaria pluriflora</i>)	SC / - / 1B (2-2-3)	Chaparral, Foothill Woodland, Valley Grassland	Often found in Adobe Substrate	February - April
Rose Mallow * (<i>Hibiscus lasiocarpus</i>)	- / - / 2 (2-2-1)	Hillside Seeps, Marshes, Swamps	Wetlands	July - September
Red Bluff Dwarf Rush * (<i>Juncus leiospermus</i> var. <i>leiospermus</i>)	SC / - / 1B (2-3-3)	Chaparral, Foothill Woodland, Meadows, Seeps, Annual Grassland	Often Associated with Vernal Pool Habitats.	March - May
Humboldt Lily ‡ (<i>Lilium humboldtii</i> ssp. <i>humboldtii</i>)	- / - / 4 (1-2-3)	Chaparral, Foothill Woodland, Lower Montane Forest	Forest Openings	May - July
Shield-bracted Monkeyflower ‡ (<i>Mimulus glaucescens</i>)	- / - / 4 (1-1-3)	Chaparral, Foothill Woodland, Valley Grassland, Meadows, Seeps	Seeps, Ephemeral Stream Beds, Stream Margins, Highly Variable	February - August

Common Name (<i>Scientific Name</i>)	Status Federal/State/CNPS	Plant Communities	General Habitat	Period Identifiable
Bidwell's Knotweed (<i>Polygonum bidwelliae</i>)	- / - / 4 (1-1-3)	Foothill Woodland	Thin Soils Associated with Tuscan Fanglomerate	April - August
California Beaked-Rush * (<i>Rhynchospora californica</i>)	SC / - / 1B (3-3-3)	Hillside Seeps, Fresh Water Marshes	Closely Associated with Deer Grass in Seep Habitats	May - August
Butte County Checkerbloom * ‡ (<i>Sidalcea robusta</i>)	SC / - / 1B (2-2-3)	Chaparral, Foothill Woodland	Hillside Slopes, Drainage Slopes, Cover of Oaks & Native Shrubs, Occasional in Grassy Openings	April - June

* Indicates species that are listed as known occurrences on the Chico, Richardson Springs, and / or the Paradise West Quadrangles per the CNDDDB list (See Appendix A).

‡ Indicates special status species that were identified within the project area during this survey.

() CNPS RED Code

Table 2. Continued

Status Definitions

FEDERAL

E – listed as endangered under the Endangered Species Act (50 CFR 17.11)

T – listed as threatened under the Endangered Species Act (50 CFR 17.11)

SC – species of special concern

-- no listing

STATE

E – listed as endangered under the California Endangered Species Act (California Fish and Game Code, Section 2062)

T - listed as threatened under the California Endangered Species Act (California Fish and Game Code, Section 2067)

R – listed as rare under the California Endangered Species Act (California Fish and Game Code, Section 1901)

SC – species of special concern

-- no listing

Table 2. Continued

CNPS – CALIFORNIA NATIVE PLANT SOCIETY

- 1a – plants considered extinct in California and elsewhere
- 1b – plants rare, threatened, or endangered in California and elsewhere. Species on this list presumably met the criteria for listing as threatened or endangered under the state Endangered Species Act.
- 2 – rare, threatened or endangered in California but more common elsewhere.
- 3 – plants for which we need more information – review list
- 4 – plants of limited distribution – watch list

R E D Code

R – Rarity

- 1 – Rare in California but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 – Distributed in a limited number of occurrences, occasionally more if each occurrence is small.
- 3 – Distributed in California in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported

E - Endangerment

- 1 – Not very endangered in California
- 2 – Fairly endangered in California
- 3 – Seriously endangered in California

D – Distribution

- 1 – More or less wide spread outside California
- 2 – Rare outside California
- 3 – Endemic to California

If plants with the CNPS rankings of 1a, 1b or 2 occur within the project boundaries or will somehow be impacted by project activities it is **mandatory** that they be fully considered during the preparation of environmental documents relating to CEQA. It is also strongly **recommended** by Ca DFG that plants with rankings of 3 or 4 be considered during the preparation of environmental documents relating to CEQA.

Depauperate Milkvetch (*Astragalus pauperculus*)

Depauperate milkvetch is an annual herb species belonging to the Fabaceae (Pea) family of plants. This species is known to inhabit thin volcanic soils in annual grassland and blue oak woodland habitats (Hickman 1993). In California, this species has been recorded in Shasta, Tehama and Butte Counties.

This species was selected as being potentially present within the project site based on its geographic range and habitat preference. Many of the thin soil areas associated with the Tuscan fanglomerate terraces, found throughout Upper Park, would be suitable habitat for this species.

Ferris's milk-vetch (*Astragalus tener* var. *ferrii*)

Ferris's milkvetch is an annual herb species belonging to the Fabaceae (Pea) family of plants. This species is known to inhabit vernal wet areas in valley and foothill grassland in low elevations ranging from 0 to 250 ft. In California, this species has been recorded in Butte, Colusa, Glenn, Solano, Sutter and Yolo Counties.

This species was selected as being potentially present within the project site based on its geographic range and habitat preference. It is unlikely that this species is present within the survey areas of this report. The lowest elevation recorded in this survey was 300 ft. At this elevation within the survey area the existing habitat would be considered marginal for this species.

Butte County Calycadenia (*Calycadenia oppositifolia*)

Butte County calycadenia is an annual herb species belonging to the Asteraceae (Sunflower) family of plants. It has been found in valley grassland, chaparral and foothill woodland habitats. This species also inhabits serpentine soils.

The habitats this species occupies typifies most of the habitats encountered in Upper Bidwell Park. This species was found in Upper Park by Dittes (2000) however; this location is outside of the surveyed areas of this report.

Butte County Morning Glory (*Calystegia atriplicifolia* ssp. *buttensis*)

Butte County morning glory is a perennial rhizomatous herb species belonging to the Convolvulaceae (Morning Glory) family of plants. This species inhabits dry rocky soil in open forest and chaparral habitats. The minimum elevation for this species (according to Hickman 1993) is 600 m which is outside the elevation range of Upper Park yet close enough to be a potential candidate. A specimen was located just north of the park boundaries adjacent to Hwy 32.

It is unlikely that this species would be found within the park boundaries but has been included on this list due to the close proximity of a known occurrence.

White-Stemmed Clarkia (*Clarkia gracilis* ssp. *albicaulis*)

White-stemmed clarkia is an annual herb species belonging to the Onagraceae (Evening Primrose) family of plants. This species inhabits chaparral and foothill woodland habitats at an approximate elevation of 500 m.

Based on habitat preference and elevation this species is a likely candidate for being within upper northeast reaches of Upper Park. However, there are no known observations of this species within Upper Park and this survey did not yield any observations of this species within any of the study areas.

Pink Creamsacs (*Castilleja rubicundula* ssp. *rubicundula*)

Pink Creamsacs is an annual herb species belonging to the Scrophulariaceae (Figwort) family of plants. This species can be found occupying seeps and meadows within valley and foothill grassland, and openings within chaparral and foothill woodland habitats. Elevation for this species ranges between 0 and 3000 ft.

Ample habitat exists for this species within the survey areas. However, this report nor the Stuart 2002 report located this species within the areas surveyed in Upper Bidwell Park.

Butte County Fritillary (*Fritillaria eastwoodiae*)

Butte County fritillary is a bulbiferous, perennial herb species belonging to the Liliaceae (Lily) family of plants. This species like many bulb bearing plants has visible flowers only during the spring months. The Butte County fritillary occupies chaparral, foothill woodland and yellow pine habitats. This species is also known to inhabit serpentine (mafic) soils.

Potential habitat for this species can be found throughout most of Upper Park in elevations above 500 ft. The surveys conducted for this report were within the time period necessary to identify this species. No occurrences of this species were found during this report.

Adobe Lily (*Fritillaria pluriflora*)

Adobe lily is a perennial bulbiferous herb species belonging to the Liliaceae (Lily) family of plants. This species occupies valley grassland, chaparral and foothill woodland

habitats. The elevation range for this species is 0 to 1,500 feet which includes most of the habitat and elevation range of Upper Park. As the common name suggests this species is commonly found in adobe soils.

This species would most likely be found in Upper Park within alluvial fans that had adobe deposits. The survey of these types of areas did not reveal the presence of this species. Hence it is unlikely that it occurs in Upper Park.

Rose Mallow (*Hibiscus lasiocarpus*)

Rose mallow is a perennial shrub species that belongs to the Malvaceae (Mallow) family of plants. This species occupies freshwater marsh and hillside seep habitats in elevations lower than 500 ft.

Rose mallow is known to occur in Upper Park in the hillside seep wetlands just north of the Bear Hole Parking area. During the Stuart 2002 survey, repeated searches were made to relocate this occurrence. Finally, it was found in mid August 2002 when the flowers were present. This report did not yield any new findings of this species.

Red Bluff Dwarf Rush (*Juncus leiospermus* var. *leiospermus*)

Red Bluff dwarf rush is an annual herb species belonging to the Juncaceae (Rush) family of plants. This species inhabits vernal moist habitats (including vernal pools) within valley grassland, chaparral and foothill woodland habitats.

This species has the potential to occupy any of the described habitats above in Upper Park. However, during this survey no representatives of this species were found in the surveyed areas in Bidwell Park.

Humboldt Lily (*Lilium humboldtii* ssp. *humboldtii*)

Humboldt lily is a bulbiferous, perennial herb species belonging to the Liliaceae (Lily) family of plants. This species is rather robust in stature measuring above seven feet tall. Humboldt lily is typically found in chaparral and yellow pine forest habitats but at an occurrence in Upper Park was located during the Stuart 2002 surveys.

New populations of this species were identified in this report. Two new populations towards the northern end of the Lower Option of Annie Bidwell Trail were identified (see Figure 1). One group was represented by approximately 60 individuals. The other group, further north, was represented by two individuals. The habitat about these two observances consisted of dense canopy of live oak and foothill pine on relatively level ground. Both of these occurrences are offset from the proposed trail route and can be easily avoided.

Shield-bracted Monkeyflower (*Mimulus glaucescens*)

Shield-bracted monkeyflower is an annual herb species belonging to the Scrophulariaceae (Figwort) family of plants (Plate 3, Appendix C). This species can be found occupying seeps and ephemeral drainages within valley grassland, chaparral and foothill woodland habitats.

Shield-bracted monkeyflower was found to be ubiquitous in seep and ephemeral drainages in Upper Park (Stuart 2002 and current report). This species appears to be a generalist in that it can occupy several different microhabitats providing the soil remains saturated long enough to support this species.

Bidwell's knotweed (*Polygonum bidwelliae*)

Bidwell's knotweed is an annual herb species belonging to the Polygonaceae (Buckwheat) family of plants (Plate 4 Appendix B). This species occupies thin soil habitats usually associated with the Tuscan Formation in annual grassland and foothill woodland habitats. This species is particularly diminutive in size and thus can be very difficult to find.

Bidwell's knotweed was located in several locations in Upper Park occupying the habitats stated above however; this report did not locate any new occurrences of this species.

California Beaked-Rush (*Rhynchospora californica*)

California beaked rush is a perennial herb species belonging to the Cyperaceae (Sedge) family of plants (Plate 5 Appendix B). This species is known to occupy freshwater marshes, bogs and seeps in elevations less than 1000 m and is commonly associated with deer grass (*Muhlenbergia rigens*) on the outer edges of seep areas.

During this survey, no additional findings of this species were made.

Butte County Checkerbloom (*Sidalcea robusta*)

Butte County checkerbloom is a perennial herb species belonging to the Malvaceae (Mallow) family of plants. When growing under heavy shade areas it reaches heights up to seven feet but is typically found averaging three feet in height. This species is endemic to Butte County and occupies blue oak savannah, chaparral and foothill woodland habitats. Butte County checkerbloom is readily found growing within the brambles of perennial woody shrub species, under the shade of blue oaks, at the base of basalt or Tuscan exposed outcrops, within the banks of ephemeral drainages and

occasionally in open grassy areas. This species occupies elevations ranging from 300 to 1,200 ft.

This species was found 334 times representing 2,603 individuals during this 2003 survey. Few of these observances were repeat observances from the Stuart 2002 survey. All of the figures provided contrast the 2002 observances from this survey's results, hence the overlap in observations should be apparent.

Much about the biology of this species has been learned from conducting sequential annual surveys in Upper Bidwell Park. For instance, there were several observations of this species that did not bolt floral structures (i.e. stems and flowers) that aid in the identification of this species from a distance, especially in areas of tall grass. Because this species could now be positively identified from the leaves only, many new observances were made at a time when the surrounding grasses had not exceeded the height of this forb. However, in addition to that assertion, the seasonal variables such as temperature and timing and quantity of precipitation also, apparently, made a significant difference in the fitness of this species for this year.

Butte County checkerbloom alone constitutes the greatest constraint to the implementation of this project's goal. Some of the trail alignments will have to be rerouted to avoid this species.

Special Status Avascular Plant Species

Bryophytes (mosses, liverworts & hornworts) are avascular plants that are becoming increasingly more important in botanical surveys as new taxonomical information about them becomes more available. The only special status bryophyte known to occur in Butte County is *Meesia triquetra*. This species is a CNPS list 2 moss belonging to the Meesiaceae family of nonvascular plants and is known to occur in elevations ranging from 1300-2500 meters in bog, fen, meadow and seep habitats within upper montane coniferous forests. Because the lowest known elevation (1300 meters) for this species is 2,600 feet higher than the highest elevation in the study area (506 meters or 1,660 feet) it was ruled out as having the potential to occur within the study area. This information was gathered using the California Native Plant Society's Inventory of Rare and Endangered Plants of California (Special Publication 1, Sixth Edition, published August 2001).

Invasive Exotic Plant Species (Weeds)

Invasive exotic plant species differ from the classification of non-native or introduced species by their ability to displace, on a grand scale, native species and thereby altering the visual aesthetics, the usability and the overall agricultural value of the occupied land. Invasive exotic species, second to urban development, are the leading cause for the rarity of many native species which is true of plant and animal species. Many, such as yellow

star-thistle, have become a fixture in our wild lands such to the point that they are readily overlooked. As with star thistle some of these invasive exotic species are referred to as being noxious or harmful. This designation has been broadly applied to weeds in general but should be used sparingly to designate only those species that may be harmful to humans, live stock and agricultural plant species.

Several invasive exotic vascular plant species were identified during the botanical survey. The California Department of Fish & Game increasingly has made the mitigation of the proliferation of weed species an imperative in project planning. Typical mitigation measures would include minimizing ground disturbance and cleaning tools and vehicles that may have come in contact with certain weed species. Table 3 below lists the invasive exotic plants encountered during this survey that are of special concern by the California Department of Food and Agriculture and / or the California Exotic Pest Plant Council (CalEPPC).

Some weed species of concern would include olive and Spanish broom. Olive trees are proliferating in Upper Bidwell Park presumably from birds that deposit their seeds away from historical orchard areas into the natural setting of Upper Bidwell Park. Specifically, the area below the Upper Option of Annie Bidwell trail has many of these olive trees of various ages; meaning that this population is growing in this setting. Olive trees can be easily managed while the population is still small. The other weed species of concern is Spanish broom. Spanish broom is common on the banks of Big Chico Creek throughout Upper Bidwell Park. Seeds from this plant are deposited in the stream and easily establish themselves on the banks downstream. Again, while the numbers of this species are relatively low, management of this invasive species is attainable by manual extraction.

Table 5. Invasive Exotic Plant Species Found Within the Bidwell Park Study Area

Common Name (Scientific Name)	Status CalEPPC / State	Noxious Rating	Habitat	Control Methods
Black Mustard (<i>Brassica nigra</i>)	B / --	--	Grassland, Foothill Woodland	Manual Extraction, Herbicide, Biological
Bull Thistle (<i>Cirsium vulgare</i>)	B / --	--	Riparian areas, marshes, seeps	Manual Extraction, Herbicide, Biological
Russian thistle (<i>Salsola tragus</i>)	-- / C	--	Semiarid habitats	Mowing prior to seed Production, biological
Soapwort (<i>Saponaria officinalis</i>)	A-2 / --	--	Riparian, Moist Meadows	Grazing
Field Bindweed (<i>Convolvulus arvensis</i>)	-- / C	Equine toxicity, agricultural crops	Grassland	Manual Extraction, Herbicide
Johnson Grass (<i>Sorghum halepense</i>)	-- / C	Ingestion Fatal to Humans & Livestock	Wetlands, Riparian Areas	Manual Extraction, Close Mowing
Klamath Weed (<i>Hypericum perforatum</i>)	B / C	Toxicity to Livestock	Grassland, Foothill Woodland	Manual Extraction, Biological
Medusa Head (<i>Taeniatherum caput- medusae</i>)	A-1 / C	Unpalatable to Livestock due to Silica Content	Grassland, Foothill Woodland, Chaparral	Fire, Grazing, Native Grass Restoration
Olive (<i>Olea europea</i>)	B / --	--	Foothill Woodlands, Riparian Areas	Manual Extraction
Spanish Broom (<i>Spartium junceum</i>)	B / --	Toxicity to Humans & Livestock	Grassland, Wetlands, Oak Woodland, Riparian Areas	Manual Extraction, Grazing by Goats, Shading by Trees
Tall Fescue (<i>Festuc arundinacea</i>)	B / --	--	Grassland, Foothill Woodland	Fire, Grazing
Yellow Star-thistle (<i>Centaurea solstitialis</i>)	A-1 / C	Equine toxicity	Grassland, Foothill Woodland	Fire, Mowing, Manual Extraction, Herbicide

Table 3. Continued

Status Definitions

CalEPPC

- A - Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats. Includes two sub-lists:
 - A-1 - Widespread pests that are invasive in more than 3 Jepson regions (see bottom of List A page)
 - A-2 - Regional pests invasive in 3 or fewer Jepson regions.
- B - Wildland Pest Plants of Lesser Invasiveness; invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption; may be wide- spread or regional.

Table 3. Continued

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

- F - Federal Noxious Weed, as designated by the USDA; targeted for federally-funded prevention, eradication or containment efforts.
- A - CA Dept. of Food & Agriculture, on "A" list of Noxious Weeds; agency policies call for eradication, containment
- B - CA Dept. of Food & Agriculture, on "B" list of Noxious Weeds; includes species that are more widespread, and therefore more difficult to contain; agency allows county Agricultural Commissioners to decide if local eradication or containment is warranted.
- C - CA Dept. of Food & Agriculture, on "C" list of Noxious Weeds; includes weeds that are so widespread that the agency does not endorse state or county-funded eradication or containment efforts except in nurseries or seed lots.
- Q - CA Dept. of Food & Agriculture's designation for temporary "A" rating pending determination of a permanent rating.

Limitations

This report represents several surveys beginning in March and April of 2003 and ending in July of 2003. Within these time frames most of the species that would occur in Bidwell Park could be identified to the species level.

This report delineates wetland features for the sole purpose of identifying habitat areas. This report is not intended to be nor should it be used as a wetland delineation report.

Mitigations

Mitigation measures or avoidance measures will be necessary to avoid disturbance to wetland habitat. It is strongly recommended that a wetland delineation per the Corps Wetland Delineation Manual (Environmental Laboratory 1987) be performed if any wetland areas will be impacted (i.e. addition of fill material) by project activities. Also, a Stream Bed Alteration Agreement issued by the California Department of Fish and Game (CaDFG) may be necessary if any project activities will be within the ordinary high water mark (OHWM) of any drainages with evident bed and bank characteristics. Another consideration is the addition of fill material to Big Chico Creek as an indirect impact of ground disturbance activities within jurisdictional drainages. These activities may prove to be a nexus for the United State Army Corps of Engineers (USACOE), the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) involvement due to the threatened spring-run Chinook salmon which utilize clean gravels in Big Chico Creek for spawning.

Mitigation measures for special status plant occurrences are limited to avoidance. The distance that ground disturbance may be acceptable in relation to an existing special status plant will be relative to the existing environmental conditions. For example, the acceptable distance for ground disturbance on a steep slope above a known rare plant

occurrence will be greater than that of ground disturbing activities on level ground. The effect of impacts and hence acceptable distance will also depend on the species in question.

While not a special status plant species itself the blue elderberry (*Sambucus mexicana*) is the host plant for the federally endangered Valley Elderberry Longhorn Beetle (*Desmocerus californicus ssp. dimorphus*). Consultation with the USFWS will be necessary to determine appropriate distances for ground disturbing activities that are proximal to the blue elderberry plant itself. This report has included only the locations of the blue elderberry shrub where trail improvements or implementation were proposed.

Lastly, it is the recommendation of this report that a qualified botanical monitor be present during the layout and implementation of the proposed trails as part of the project mitigation.

Findings

This report has identified three special status vascular plant species within the areas surveyed in Upper Park (see Table 2). One species in particular, the Butte County checkerbloom, may prove to be a project constraint due to its broad distribution and abundance throughout Upper Bidwell Park. Careful consideration of trail placement will be necessary to avoid impacts to this species. Other special status species found in Upper Bidwell Park are of a much more localized distribution which should make avoidance of these areas easier.

Table 6. Comprehensive List of Plant Species Encountered During the Upper Bidwell Park 2003 Botanical Survey, Chico, CA.

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Perennial	Anacardiaceae	Rhus trilobata	skunkbrush	Native		
Perennial	Anacardiaceae	Toxicodendron diversilobum	poison oak	Native		
Annual	Apiaceae	Anthriscus caucalis	bur-chervil	Introduced		
Perennial	Apiaceae	Eryngium castrense	Great Valley button-celery	Native		
Perennial	Apiaceae	Lomatium caruifolium	alkali parsnip	Native		
Perennial	Apiaceae	Sanicula bipinnata	poison sanicle	Native		
Annual	Apiaceae	Scandix pecten-veneris	shepherd's needle	Introduced		
Perennial	Apiaceae	Tauschia hartwegii	Hartweg's tauschia	Native		
Annual	Apiaceae	Torilis arvensis ssp. arvensis	field hedge-parsley	Introduced		
Perennial	Aristolochiaceae	Aristolochia californica	California pipevine	Native		
Perennial	Asclepiadaceae	Asclepias cordifolia	purple milkweed	Native		
Perennial	Asclepiadaceae	Asclepias fascicularis	narrow-leaved milkweed	Native		
Perennial	Asclepiadaceae	Asclepias speciosa	showy milkweed	Native		
Perennial	Asteraceae	Agoseris grandiflora	large-flowered agoseris	Native		
Perennial	Asteraceae	Achillea millefolium	common yarrow	Native		
Perennial	Asteraceae	Artemisia douglasiana	mugwort	Native		
Perennial	Asteraceae	Baccharis pilularis	coyote brush	Native		
Perennial	Asteraceae	Brickellia californica	California brickellbush	Native		
Annual	Asteraceae	Centaurea solstitialis	yellow star-thistle	Introduced		A-1 / C
Annual	Asteraceae	Cirsium vulgare	bull thistle	Introduced		B / --
Annual	Asteraceae	Conyza bonariensis	horseweed	Introduced		
Annual	Asteraceae	Conyza canadensis	horseweed	Native		
Perennial	Asteraceae	Eriophyllum lanatum var. grandiflorum	common woolly sunflower	Native		
Annual	Asteraceae	Filago californica	filago	Native		
Annual	Asteraceae	Filago gallica	narrow-leaved filago	Introduced		
Annual	Asteraceae	Gnaphalium luteo-album	weedy cudweed	Introduced		
Perennial	Asteraceae	Grindelia camporum var. camporum	Great Valley gumweed	Native		
Perennial	Asteraceae	Grindelia hirsutula var. davyi	Davey's gumweed	Native		
Annual	Asteraceae	Hemizonia fitchii	Fitch's spikeweed	Native		
Annual	Asteraceae	Lactuca serriola	prickly lettuce	Introduced		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Annual	Asteraceae	Lasthenia californica	common goldfields	Native		
Annual	Asteraceae	Layia fremontii	Fremont's tidy-tips	Native		
Perennial	Asteraceae	Leontodon taraxacoides	lesser hawkbit	Introduced		
Annual	Asteraceae	Lessingia nana	dwarf lessingia	Native		
Annual	Asteraceae	Lessingia nemacorda	slender-stem lessingia	Native		
Annual	Asteraceae	Madia elegans ssp. densiflora	gunweed	Native		
Annual	Asteraceae	Madia subspicata	slender tarweed	Native		
Annual	Asteraceae	Micropus californicus var. californicus	Q-tips	Native		
Annual	Asteraceae	Senecio vulgaris	old man of spring	Introduced		
Annual	Asteraceae	Sonchus asper ssp. asper	prickly sow thistle	Introduced		
Perennial	Asteraceae	Taraxacum officinale	dandelion	Introduced		
Perennial	Asteraceae	Wyethia angustifolia	narrow-leaved mule's ear	Native		
Annual	Asteraceae	Xanthium strumarium	cocklebur	Native		
Perennial	Betulaceae	Alnus rhombifolia	white alder	Native		
Annual	Boraginaceae	Amsinckia menziesii var. intermedia	common fiddleneck	Native		
Annual	Boraginaceae	Amsinckia menziesii var. menziesii	fiddle-neck	Native		
Perennial	Boraginaceae	Cynoglossum grande	Western houndstongue	Native		
Annual	Boraginaceae	Plagiobothrys fulvus	fulvous popcorn flower	Native		
Annual	Boraginaceae	Plagiobothrys nothofulvus	rusty-haired popcorn flower	Native		
Perennial	Brassicaceae	Arabis breweri var. austini	Brewer's rockcress	Native		
Annual	Brassicaceae	Athysanus pusillus	dwarf athysanus	Native		
Annual	Brassicaceae	Brassica nigra	black mustard	Introduced		B / --
Annual	Brassicaceae	Cardamine californica var. californica	milk maids	Native		
Annual	Brassicaceae	Cardamine oligosperma	bitter-cress	Native		
Annual	Brassicaceae	Draba verna	Whitlow grass	Native		
Annual	Brassicaceae	Lepidium nitidum var. nitidum	shining peppergrass	Native		
Annual	Brassicaceae	Thysanocarpus curvipes	fringe pod	Native		
Perennial	Calycanthaceae	Calycanthus occidentalis	spicebush	Native		
Perennial	Caprifoliaceae	Lonicera interrupta	chaparral honeysuckle	Native		
Perennial	Caprifoliaceae	Sambucus mexicana	blue elderberry	Native		
Perennial	Caprifoliaceae	Symphoricarpos albus var. laevigatus	common snowberry	Native		
Annual	Caryophyllaceae	Cerastium glomeratum	mouse-eared chickweed	Introduced		
Annual	Caryophyllaceae	Minuartia californica	California sandwort	Native		
Annual	Caryophyllaceae	Petrorhagia dubia	windmill pink	Native		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC./State
Perennial	Caryophyllaceae	Saponaria officinalis	soapwort	Introduced		A-2 / -
Perennial	Caryophyllaceae	Saponaria officinalis	soapwort	Introduced		A-2 / -
Annual	Caryophyllaceae	Silene gallica	common catchfly	Introduced		
Annual	Caryophyllaceae	Stellaria media	common chickweed	Introduced		
Perennial	Castanaceae	Aesculus californica	California buckeye	Native		
Annual	Chenopodiaceae	Salsola tragus	Russian thistle	Introduced		- / C
Perennial	Convolvulaceae	Calystegia occidentalis ssp. occidentalis	western morning glory	Native		
Perennial	Convolvulaceae	Convolvulus arvensis	field bindweed	Introduced		- / C
Perennial	Cornaceae	Cornus glabrata	brown dogwood	Native		
Annual	Crassulaceae	Crassula solieri	little pygmyweed	Native		
Perennial	Crassulaceae	Dudleya cymosa ssp. cymosa	canyon dudleya	Native		
Annual	Crassulaceae	Parvisedum pumilum	Sierra stonecrop	Native		
Perennial	Crassulaceae	Sedum spathulifolium	yellow stone-crop	Native		
Perennial	Cucurbitaceae	Marah fabaceus	California manroot	Native		
Perennial	Cyperaceae	Carex feta	feta sedge	Native		
Perennial	Cyperaceae	Cyperus eragrostis	tail flatsedge	Native		
Perennial	Dryopteridaceae	Dryopteris arguta	California wood fern	Native		
Perennial	Equisetaceae	Equisetum hyemale ssp. affine	common scouring rush	Native		
Perennial	Ericaceae	Arctostaphylos manzanita ssp. manzanita	big manzanita	Native		
Annual	Euphorbiaceae	Eremocarpus setigerus	turkey mullein	Native		
Perennial	Fabaceae	Cercis occidentalis	western redbud	Native		
Perennial	Fabaceae	Lathyrus jepsonii var. californicus	California tulle pea	Native		
Perennial	Fabaceae	Lathyrus nevadensis var. nevadensis	Sierra Nevada pea	Native		
Perennial	Fabaceae	Lathyrus sulphureus	sulphur pea	Native		
Perennial	Fabaceae	Lotus corniculatus	bird's-foot trefoil	Introduced		
Annual	Fabaceae	Lotus humistratus	bird's foot lotus	Native		
Perennial	Fabaceae	Lupinus albilfrons	silver bush lupine	Native		
Annual	Fabaceae	Lupinus bicolor	bicolored lupine	Native		
Annual	Fabaceae	Lupinus nanus	sky lupine	Native		
Annual	Fabaceae	Medicago polymorpha	bur clover	Introduced		
Biennial	Fabaceae	Mellilotus alba	sweet clover	Introduced		
Perennial	Fabaceae	Quercus berberidifolia	scrub oak	Native		
Perennial	Fabaceae	Spartium junceum	Spanish broom	Introduced		B / -
Annual	Fabaceae	Trifolium depauperatum var. depauperatum	cowbag clover	Native		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Annual	Fabaceae	Trifolium hirtum	rose clover	Introduced		
Annual	Fabaceae	Trifolium microcephalum	small-headed clover	Native		
Annual	Fabaceae	Trifolium wilsonovii	tomcat clover	Native		
Annual	Fabaceae	Vicia benghalensis	purple vetch	Introduced		
Perennial	Fagaceae	Quercus berberidifolia	scrub oak	Native		
Perennial	Fagaceae	Quercus chrysolepis var. chrysolepis	canyon live oak	Native		
Perennial	Fagaceae	Quercus douglasii	blue oak	Native		
Perennial	Fagaceae	Quercus dumosa	scrub oak	Native		
Perennial	Fagaceae	Quercus durata	leather oak	Native		
Perennial	Fagaceae	Quercus kelloggii	black oak	Native		
Perennial	Fagaceae	Quercus lobata	valley oak	Native		
Perennial	Fagaceae	Quercus wislizenii	interior live oak	Native		
Perennial	Garryaceae	Garrya fremontii	Fremont's silk tassel	Native		
Annual	Gentianaceae	Centaurium muhlenbergii	Monterey centaur	Native		
Annual	Geraniaceae	Erodium botrys	broad-leaf filaree	Introduced		
Annual	Geraniaceae	Erodium cicutarium	red-stemmed filaree	Introduced		
Annual	Geraniaceae	Geranium dissectum	cut-leaved geranium	Introduced		
Perennial	Grossulariaceae	Ribes roezlii	Sierra gooseberry	Native		
Perennial	Hydrophyllaceae	Eriodictyon californicum	yerba santa	Native		
Annual	Hydrophyllaceae	Nemophila heterophylla	small baby blue eyes	Native		
Annual	Hydrophyllaceae	Nemophila menziesii	baby blue eyes	Native		
Annual	Hydrophyllaceae	Phacelia egea	rock phacelia	Native		
Perennial	Hypericaceae	Hypericum perforatum	Klamath weed	Introduced		B / C
Perennial	Iridaceae	Iris macrosiphon	long-tubed iris	Native		
Perennial	Iridaceae	Iris tenuissima ssp. purdyiformis	Purdy's iris	Native		
Perennial	Juncaceae	Juncus balticus var. balticus	Baltic rush	Native		
Annual	Juncaceae	Juncus bufonius var. bufonius	toad rush	Native		
Perennial	Juncaceae	Juncus effusus var. pacificus	Common rush	Native		
Perennial	Lamiaceae	Lamium amplexicaule	henbit	Introduced		
Perennial	Lamiaceae	Lepechinia calycina	pitcher sage	Native		
Perennial	Lamiaceae	Mentha arvensis	Field mint	Native		
Annual	Lamiaceae	Mentha spicata var. spicata	spearmint	Introduced		
Annual	Lamiaceae	Monardella lanceolata	mustang mint	Native		
Perennial	Lamiaceae	Monardella villosa	coyote mint	Native		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Perennial	Lamiaceae	Prunella vulgaris var. lanceolata	self-heal	Native		
Perennial	Lamiaceae	Stachys ajugoides	hedga nettle	Native		
Annual	Lamiaceae	Trichostemma lanceolatum	vinegarweed	Native		
Perennial	Lauraceae	Umbellularia californica	California bay	Native		
Perennial	Liliaceae	Allium amplexans	narrow-leaved onion	Native		
Perennial	Liliaceae	Allium peninsulare var. peninsulare	Mexicali onion	Native		
Perennial	Liliaceae	Brodiaea californica	California brodiaea	Native		
Perennial	Liliaceae	Brodiaea minor	dwarf brodiaea	Native		
Perennial	Liliaceae	Calochortus luteus	yellow mariposa lily	Native		
Perennial	Liliaceae	Calochortus tolmiei	hairy star tulip	Native		
Perennial	Liliaceae	Chlorogalum angustifolium	narrow-leaved soaproot	Native		
Perennial	Liliaceae	Chlorogalum pomeridianum var. pomeridianum	wavyleaf soap plant	Native		
Perennial	Liliaceae	Dichelostemma capitatum ssp. capitatum	blue dicks	Native		
Perennial	Liliaceae	Dichelostemma multiflorum	many-flowered brodiaea	Native		
Perennial	Liliaceae	Dichelostemma volubile	twining brodiaea	Native		
Perennial	Liliaceae	Erythronium multiscapoideum	Sierra fawn lily	Native		
Perennial	Liliaceae	Fritularia affinis var. affinis	checker lily	Native		
Perennial	Liliaceae	Fritularia recurva	scarlet fritillary	Native		
Perennial	Liliaceae	Lilium humboldtii ssp. humboldtii	Humboldt's lily	Native	-- / -- / 4 RED 123	
Perennial	Liliaceae	Triteleia bridgesii	Bridge's brodiaea	Native		
Perennial	Liliaceae	Triteleia hyacinthina	white brodiaea	Native		
Perennial	Liliaceae	Triteleia laxa	Ikhuirel's spear	Native		
Perennial	Liliaceae	Triteleia lilacina	foothill triteleia	Native		
Annual	Lythraceae	Lythrum hyssopifolium	hyssop loosestrife	Introduced		
Annual	Malvaceae	Sidalcea hartwegii	Harweg's sidalcea	Native		
Perennial	Malvaceae	Sidalcea robusta	Butte County checkerbloom	Native	-- / -- / 1B RED 223	
Perennial	Moraceae	Morus alba	Mulberry	Introduced		
Perennial	Oleaceae	Fraxinus latifolia	Oregon ash	Native		
Perennial	Oleaceae	Olea europaea	olive	Introduced		B / --
Annual	Onagraceae	Clarkia purpurea ssp. quadrivulnera	purple clarkia	Native		
Perennial	Orchidaceae	Piperia elongata	dense-flowered rein orchid	Native		
Perennial	Orobanchaceae	Orobanche uniflora	Orobanchaceae	Native		
Perennial	Philadelphaceae	Philadelphus lewisii	Lewis' mock orange	Native		
Perennial	Pinaceae	Pinus sabiniana	foothill pine	Native		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Annual	Plantaginaceae	Plantago erecta	California plantain	Native		
Perennial	Plantaginaceae	Plantago lanceolata	English plantain	Native		
Perennial	Plantaginaceae	Platanus racemosa	California sycamore	Native		
Perennial	Poaceae	Achnatherum lemmonii	Lemmon's needlegrass	Native		
Annual	Poaceae	Aira caryophyllea	silver hairgrass	Introduced		
Annual	Poaceae	Avena barbata	slender oats	Introduced		
Annual	Poaceae	Avena fatua	wild oat	Introduced		
Annual	Poaceae	Brachypodium distachyon	false brome	Introduced		
Annual	Poaceae	Briza minor	little quaking grass	Introduced		
Annual	Poaceae	Bromus diandrus	Brome grass	Introduced		
Annual	Poaceae	Bromus hordeaceus	soft chess	Introduced		
Annual	Poaceae	Bromus japonicus	Japanese brome	Introduced		
Annual	Poaceae	Bromus madritensis ssp. madritensis	foxtail chess	Introduced		
Annual	Poaceae	Bromus sterilis	poverty brome	Introduced		
Annual	Poaceae	Cynodon dactylon	bermuda grass	Introduced		
Annual	Poaceae	Cynosurus echinatus	annual dogtail	Introduced		
Perennial	Poaceae	Dactylis glomerata	orchard grass	Introduced		
Perennial	Poaceae	Dactylis glomerata	orchard grass	Introduced		
Annual	Poaceae	Deschampsia danthonioides	annual hairgrass	Native		
Perennial	Poaceae	Elymus elymoides ssp. elymoides	squirreltail	Native		
Perennial	Poaceae	Elymus glaucus ssp. glaucus	blue wild rye	Native		
Perennial	Poaceae	Festuca arundinacea	tall fescue	Introduced		B / --
Annual	Poaceae	Gastridium ventricosum	nit grass	Introduced		
Annual	Poaceae	Hordeum murinum ssp. glaucum	smooth barley	Introduced		
Annual	Poaceae	Lolium multiflorum	Italian rye-grass	Introduced		
Perennial	Poaceae	Melica californica	California melicgrass	Native		
Perennial	Poaceae	Melica torreyana	Torrey's melica	Native		
Perennial	Poaceae	Muhlenbergia rigens	deergrass	Native		
Annual	Poaceae	Nassella pulchra	purple needlegrass	Native		
Annual	Poaceae	Panicum capillare	witchgrass	Native		
Perennial	Poaceae	Paspalum dilatum	dallis grass	Introduced		
Annual	Poaceae	Poa annua	annual blue grass	Introduced		
Perennial	Poaceae	Poa secunda	blue grass	Native		
Annual	Poaceae	Polypogon monspeliensis	rabbitsfoot grass	Introduced		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Perennial	Poaceae	Sorghum halepense	Johnsons grass	Introduced		- / C
Annual	Poaceae	Taeniatherum caput-medusae	Medusa-head	Introduced		A-1 / C
Annual	Poaceae	Vulpia bromoides	six-weeks fescue	Introduced		
Annual	Poaceae	Vulpia microstachys var. ciliata	Eastwood fescue	Native		
Annual	Poaceae	Vulpia myuros var. hirsuta	foxtail fescue	Introduced		
Annual	Polemoniaceae	Navaretia leucocephala ssp. leucocephala	whitehead navaretia	Native		
Annual	Polemoniaceae	Linanthus bicolor	bicolor linanthus	Native		
Annual	Polemoniaceae	Linanthus ciliatus	whisker brush	Native		
Annual	Polemoniaceae	Navaretia intertexta ssp. intertexta	needleleaf navaretia	Native		
Perennial	Polygonaceae	Eriogonum nudum var. pubiflorum	hairy-flowered buckwheat	Native		
Annual	Polygonaceae	Polygonum lapathifolium	common knotweed	Native		
Perennial	Polygonaceae	Rumex crispus	curly dock	Introduced		
Perennial	Polypodiaceae	Polypodium glycyrrhiza	licorice fern	Native		
Annual	Portulacaceae	Claytonia exigua ssp. exigua	little spring beauty	Native		
Annual	Portulacaceae	Claytonia parviflora ssp. parviflora	narrow-leaved miner's lettuce	Native		
Annual	Portulacaceae	Claytonia perfoliata	miner's lettuce	Native		
Annual	Primulaceae	Centunculus minimus	chaffweed	Native		
Perennial	Pteridaceae	Adiantum capillus-veneris	Maidenhair fern	Native		
Perennial	Pteridaceae	Adiantum jordanii	California maiden-hair	Native		
Perennial	Pteridaceae	Pellaea mucronata var. mucronata	bird's-foot fern	Native		
Perennial	Pteridaceae	Pentagramma triangularis ssp. semipallida	pale gold-black fern	Native		
Perennial	Ranunculaceae	Clematis lasiantha	chaparral clematis	Native		
Perennial	Ranunculaceae	Delphinium patens	spreading larkspur	Native		
Perennial	Ranunculaceae	Delphinium variegatum ssp. variegatum	royal larkspur	Native		
Perennial	Ranunculaceae	Ranunculus occidentalis	western buttercup	Native		
Perennial	Rhamnaceae	Ceanothus cuneatus	wedgeleaf ceanothus	Native		
Perennial	Rhamnaceae	Ceanothus integrifolius	buck brush	Native		
Perennial	Rhamnaceae	Rhamnus crocea	redberry	Native		
Perennial	Rhamnaceae	Rhamnus ilicifolia	hollyleaf redberry	Native		
Perennial	Rhamnaceae	Rhamnus rubra	Sierra coffeeberry	Native		
Perennial	Rhamnaceae	Rhamnus tomentella ssp. tomentella	hoary coffeeberry	Native		
Annual	Rosaceae	Aphanes occidentalis	western lady's mantle	Native		
Perennial	Rosaceae	Cercocarpus betuloides var. betuloides	birch-leaf mountain-mahogany	Native		
Perennial	Rosaceae	Crataegus laevigata	smooth hawthorn	Introduced		

Habit	Family	Scientific Name	Common Name	Origin	Status	
					State/Fed/CNPS	CalEPPC / State
Perennial	Rosaceae	Heteromeles arbutifolia	Toyon	Native		
Perennial	Rosaceae	Potentilla glandulosa ssp. reflexa	sticky cinquefoil	Native		
Perennial	Rosaceae	Prunus subcordata	Sierra plum	Native		
Perennial	Rosaceae	Prunus virginiana var. demissa	western choke-cherry	Native		
Perennial	Rosaceae	Rosa californica	California wild rose	Native		
Perennial	Rosaceae	Rubus bicolor	Himalayan blackberry	Native		
Perennial	Rosaceae	Rubus ursinus	California blackberry	Native		
Perennial	Rubiaceae	Cephalanthus occidentalis var. californicus	buttonbush	Native		
Annual	Rubiaceae	Galium aparine	goose grass	Native		
Annual	Rubiaceae	Galium parisiense	wall bed straw	Introduced		
Annual	Rubiaceae	Galium porrigens var. tenue	climbing bedstraw	Native		
Perennial	Salicaceae	Populus fremontii ssp. fremontii	cottonwood	Native		
Perennial	Salicaceae	Salix gooddingii	Gooding's willow	Native		
Perennial	Salicaceae	Salix lasiolepis	arroyo willow	Native		
Perennial	Saxifragaceae	Lithophragma bolanderi	Bolander's woodland star	Native		
Annual	Saxifragaceae	Saxifraga californica	California saxifrage	Native		
Annual	Scrophulariaceae	Antirrhinum cornutum	spurred snapdragon	Native		
Annual	Scrophulariaceae	Castilleja affinis ssp. affinis	Indian paintbrush	Native		
Annual	Scrophulariaceae	Castilleja attenuata	valley tassels	Native		
Annual	Scrophulariaceae	Collinsia heterophylla	chinese houses	Native		
Annual	Scrophulariaceae	Collinsia sparsiflora var. sparsiflora	few flowered collinsia	Native		
Perennial	Scrophulariaceae	Keckiella breviflora var. glabripetala	hairless gaping keckiella	Native		
Perennial	Scrophulariaceae	Mimulus cardinalis	Cardinal monkey flower	Native		
Annual	Scrophulariaceae	Mimulus glaucescens	shield-bracted monkey flower	Native	- / - / 4 RED 113	
Annual	Scrophulariaceae	Mimulus guttatus	sheep monkeyflower	Native		
Annual	Scrophulariaceae	Triphysaria eriantha	johnny-tuck	Native		
Perennial	Scrophulariaceae	Verbascum blattaria	moth mullein	Introduced		
Perennial	Selaginellaceae	Selaginella hansenii	Hansen's spike-moss	Native		
Perennial	Solanaceae	Solanum parishii	Parish's nightshade	Native		
Annual	Valerianaceae	Plectritis ciliata ssp. ciliata	long-spurred plectritis	Native		
Perennial	Violaceae	Viola pedunculata	California golden violet	Native		
Perennial	Visaceae	Phoradendron villosum	oak mistletoe	Native		
Perennial	Vitaceae	Vitis californica	California grape	Native		

Species listed in Table 4 are sorted by Family and Scientific Name.

Citations

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- Nakamura, Gary and Julie Kierstead Nelson (eds.). 2001. Illustrated Field Guide to Selected Rare Plants of Northern California. University of California Agricultural & Natural Resources Publication 3395. Oakland, CA.
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Appendix A

RICHARDSON SPRINGS QUADRANGLE

PARADISE WEST QUADRANGLE

Appendix B

California Native Species Field Survey Form

Mail to:
Natural Diversity Database
California Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814

For Office Use Only

Date of Field Work: _____ - _____ - 2003
month (mm) date (dd) year (yyyy)

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Scientific Name: *Sidalcea robusta* E.M. Roush (Malvaceae)

Common Name: Butte County checkerbloom

Species Found? ☒ yes ☐ no If not, why? _____
Total No. Individuals 2,603 Subsequent Visit? ☒ yes ☐ no
Is this an existing NDDDB occurrence? ☒ no ☐ unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Kristiaan Stuart
Address: 595 Kings Canyon Way
Chico, CA 95973
Email Address: kstuart@stuart-consulting.com
Phone: (530) 892-1696

Plant Information

Phenology: 50.00 50.00
% vegetative % flowering % fruiting

Animal Information

Age Structure: # adults # juveniles # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nestling ☐ other

Location (please also attach or draw map on back)

County: Butte County Landowner / Mgr.: City of Chico
Quad Name: Richardson Springs Elevation: _____ m
T 22N R 2E NA 1/4 of NA 1/4 of Section _____ T _____ R _____ 1/4 of _____ 1/4 of Section _____
UTM: Zone: 10 (10, 11) Datum: NAD 27 (Conus) (NAD 83, NAD 27, WG 584, other)
Source: GPS (GPS, map & type, etc.) Point Accuracy: ~1 Meters
UTM Coordinates See Table

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope)

Blue oak, Live Oak & Foothill Pine woodland: *Quercus douglasii*, *Quercus wislizenii*, *Pinus sabiniana*, *Rhamnus rubra*, *Toxicodendron diversilobum*, *Avena fatua*, *Achnatherum lemmonii*, *Melica californica*, *Brodiaea californica*, *Centaurea solstitialis*. Tuscan soils (thin). Northern Aspect. Slope Varies 5 to 19%

Other rare species? *Mimulus glaucescens* within stream channel.

Site Information Overall site quality: ☒ Excellent ☐ Good ☐ Fair ☐ Poor

Current / surrounding land use: Plants are in a municipal park.

Visible disturbances / possible threats: None

Comments: Plants often found growing within shrubs (i.e. *Ceanothus*, *Rhamnus*, *Toxicodendron*) or shade of oaks.
Photo's may be obtained at <http://clib.cs.berkeley.edu/photos/>
This form generalizes approximately 300 observations spanning four months of surveys. Every observation can be seen in attached table and map.

Determination: (check one or more, and fill in blanks)

- ☒ Keyed (cite reference): Jepson Manual, Selected Rare Plants of Northern California
☒ Compared with specimen housed at: Biological Sciences Herbarium at CSU, Chico
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: (check one or more)

Slide Print
Plant / animal ☐ ☐
Habitat ☐ ☐
Diagnostic feature ☐ ☐

May we obtain duplicates at our expense? ☐ yes ☐ no

Species	Number of Individuals	Trail	UTM Coordinates				Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
			Date	GPS File	Easting	Northing			
Sidalcea robusta	3	ABT UPPER	3/11/2003	R031119A.cor	605711.154	4402600.784	127.46	NA	NA
Sidalcea robusta	10	ABT UPPER	3/11/2003	R031119B.cor	605711.077	4402595.356	130.30	NA	NA
Sidalcea robusta	2	ABT UPPER	3/11/2003	R031120A.cor	605789.517	4402676.903	166.47213299 084	NA	NA
Sidalcea robusta	1	ABT UPPER	3/11/2003	R031121B.cor	605975.353	4402643.435	140.69681787 999	NA	NA
Sidalcea robusta	1	ABT UPPER	3/11/2003	R031121C.cor	605980.935	4402626.508	152.37577969 8006	NA	NA
Sidalcea robusta	4	ABT UPPER	3/11/2003	R031121C.cor	605976.303	4402629.363	142.83130609 6945	NA	NA
Sidalcea robusta	40	ABT UPPER	3/11/2003	R031121D.cor	605982.399	4402621.936	148.91452183 7844	NA	NA
Sidalcea robusta	15	ABT UPPER	3/11/2003	R031121E.cor	605986.594	4402617.343	152.45734230 2149	NA	NA
Sidalcea robusta	15	ABT UPPER	3/11/2003	R031121F.cor	605990.371	4402617.264	162.28222056 8404	NA	NA
Sidalcea robusta	6	ABT UPPER	3/11/2003	R031121G.cor	605988.757	4402631.848	149.75851728 9963	NA	NA
Sidalcea robusta	4	ABT UPPER	3/11/2003	R031121H.cor	606011.256	4402670.473	148.79997822 5908	NA	NA
Sidalcea robusta	10	ABT UPPER	3/11/2003	R031121I.cor	605997.234	4402686.114	140.65553582 9109	NA	NA
Sidalcea robusta	5	ABT UPPER	3/11/2003	R031122B.cor	606115.849	4402763.851	151.60184379 4936	NA	NA
Sidalcea robusta	5	ABT UPPER	3/11/2003	R031122C.cor	606181.244	4402771.692	159.02306934 0934	NA	NA
Sidalcea robusta	60	ABT UPPER	3/11/2003	R031122D.cor	606179.827	4402778.514	152.48058275 8136	NA	NA
Sidalcea robusta	5	ABT UPPER	3/11/2003	R031122E.cor	606212.621	4402797.753	153.52821371 181	NA	NA
Sidalcea robusta	3	ABT UPPER	3/11/2003	R031122F.cor	606209.339	4402793.303	151.47180393 8852	NA	NA
Sidalcea robusta	10	ABT UPPER	3/11/2003	R031122G.cor	606273.184	4402817.827	156.38095418 8368	NA	NA
Sidalcea robusta	50	ABT UPPER	3/11/2003	R031123A.cor	606281.521	4402817.832	159.11810090 958	NA	NA
Sidalcea robusta	18	ABT UPPER	3/11/2003	R031123B.cor	606288.758	4402815.152	159.39043787 2695	NA	NA
Sidalcea robusta	10	ABT UPPER	3/11/2003	R031123C.cor	606314.001	4402820.466	160.96173787 0491	NA	NA
Sidalcea robusta	60	ABT UPPER	3/11/2003	R031123D.cor	606323.397	4402820.766	162.89521426 7323	NA	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			GPS File	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				Easting	Northing	Altitude (m)		Easting	Northing	Altitude (m)			
Sidalcea robusta	1	ABT UPPER	3/11/2003	606330.414	4402812.456	157.56327613 0125	R031123E.cor	606330.414	4402812.456	1.00172053325446	NA	NA	
Sidalcea robusta	3	ABT UPPER	3/11/2003	606339.686	4402823.726	174.93057522 5013	R031123F.cor	606339.686	4402823.726	1.12626901774259	NA	NA	
Sidalcea robusta	3	ABT UPPER	3/11/2003	606354.226	4402836.129	165.78660550 4961	R031123G.cor	606354.226	4402836.129	0.97906916700218 5	NA	NA	
Sidalcea robusta	6	ABT UPPER	3/11/2003	606360.227	4402842.132	167.33731221 7153	R031123H.cor	606360.227	4402842.132	1.03422410141754	NA	NA	
Sidalcea robusta	4	ABT UPPER	3/11/2003	606373.879	4402846.261	163.71060280 0737	R031123I.cor	606373.879	4402846.261	1.15563203993259	NA	NA	
Sidalcea robusta	7	ABT UPPER	3/11/2003	606379.012	4402843.326	169.00995447 764	R031123J.cor	606379.012	4402843.326	1.11374091244615	NA	NA	
Sidalcea robusta	5	ABT UPPER	3/11/2003	606396.527	4402860.115	178.59114275 8074	R031123K.cor	606396.527	4402860.115	1.02874280133067	NA	NA	
Sidalcea robusta	10	ABT UPPER	3/12/2003	606407.205	4402866.326	175.66691261 1526	R031217A.cor	606407.205	4402866.326	1.27435806263672	NA	NA	
Sidalcea robusta	8	ABT UPPER	3/12/2003	606443.302	4402880.061	177.13961646 4998	R031217B.cor	606443.302	4402880.061	1.50112283815645	NA	NA	
Sidalcea robusta	2	ABT UPPER	3/12/2003	606449.443	4402871.847	176.72671239 3066	R031218A.cor	606449.443	4402871.847	1.2372156913389	NA	NA	
Sidalcea robusta	8	ABT UPPER	3/12/2003	606452.393	4402870.204	184.91816474 3099	R031218B.cor	606452.393	4402870.204	1.14657225104668	NA	NA	
Sidalcea robusta	5	ABT UPPER	3/12/2003	606460.607	4402878.209	174.68323893 6281	R031218C.cor	606460.607	4402878.209	1.37291209396346	NA	NA	
Sidalcea robusta	4	ABT UPPER	3/12/2003	606473.429	4402870.972	173.35118385 0668	R031218D.cor	606473.429	4402870.972	1.38352130956919	NA	NA	
Sidalcea robusta	4	ABT UPPER	3/12/2003	606468.183	4402887.487	179.56188145 6669	R031218E.cor	606468.183	4402887.487	1.18798863255305	NA	NA	
Sidalcea robusta	3	ABT UPPER	3/12/2003	606473.37	4402893.561	172.77635243 1095	R031218F.cor	606473.37	4402893.561	1.08051023630904	NA	NA	
Sidalcea robusta	11	ABT UPPER	3/12/2003	606473.927	4402899.591	175.88049417 6267	R031218G.cor	606473.927	4402899.591	1.36957087185786	NA	NA	
Sidalcea robusta	5	ABT UPPER	3/12/2003	606472.076	4402874.583	184.06403471 8798	R031218H.cor	606472.076	4402874.583	1.50254655823334	NA	NA	
Sidalcea robusta	5	ABT UPPER	3/12/2003	606484.451	4402903.363	176.22343904 4822	R031218I.cor	606484.451	4402903.363	1.2182044368949	NA	NA	
Sidalcea robusta	15	ABT UP POLY1	3/12/2003	606544.606	4402911.841	183.97429945 9712	R031218J.cor	606544.606	4402911.841	1.09687565212505	NA	NA	
Sidalcea robusta	6	ABT UP POLY1	3/12/2003	606548.819	4402917.127	186.81738428 0832	R031218K.cor	606548.819	4402917.127	1.20038969139254	NA	NA	
Sidalcea robusta	41	ABT UP POLY1	3/12/2003	606584.993	4402924.424	181.73579631 1653	R031218L.cor	606584.993	4402924.424	1.17210160374296	NA	NA	

Species	Number of Individuals	Trail	Date	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				Easting	Northing	Altitude (m)			
Sidalcea robusta	3	ABT UP POLY1	3/12/2003	R031218M.cor	606572.171	4402930.154	186.73538341 2337	1.16245478788063	NA
Sidalcea robusta	11	ABT UP POLY1	3/12/2003	R031218N.cor	606567.03	4402931.277	186.19024384 7464	1.15839575275081	NA
Sidalcea robusta	8	ABT UP POLY1	3/12/2003	R031218O.cor	606555.634	4402928.75	183.78309957 3413	1.14693738663436	NA
Sidalcea robusta	3	ABT UP POLY1	3/12/2003	R031218Q.cor	606545.426	4402914.231	181.99761601 4717	1.20634759869546	NA
Sidalcea robusta	12	ABT UP POLY1	3/12/2003	R031218R.cor	606529.974	4402919.267	181.31974433 7504	1.2433937091618	NA
Sidalcea robusta	19	ABT UP POLY1	3/12/2003	R031219A.cor	606511.305	4402926.784	189.66656567 3492	1.07074505808861	NA
Sidalcea robusta	15	ABT UP POLY1	3/12/2003	R031219B.cor	606520.376	4402929.79	174.23365266 508	1.15763727266338	NA
Sidalcea robusta	11	ABT UP POLY1	3/12/2003	R031219C.cor	606511.205	4402925.259	170.48945617 9271	1.28550937397273	NA
Sidalcea robusta	12	ABT UP POLY1	3/12/2003	R031219D.cor	606493.247	4402920.823	168.48867075 76	1.27278646602158	NA
Sidalcea robusta	4	ABT UP POLY1	3/12/2003	R031219N.cor	606455.939	4402939.76	159.25162750 4586	1.95842484474241	NA
Sidalcea robusta	6	ABT UP POLY1	3/12/2003	R031219O.cor	606460.762	4402939.292	150.03482528 7971	1.88839659221524	NA
Sidalcea robusta	11	ABT UP POLY1	3/12/2003	R031219Q.cor	606467.857	4402950.367	161.37074729 8326	1.80677677623496	NA
Sidalcea robusta	11	ABT UP POLY1	3/12/2003	R031219R.cor	606484.339	4402943.807	157.47927494 9172	1.73637183255991	NA
Sidalcea robusta	2	ABT UP POLY1	3/12/2003	R031219S.cor	606499.682	4402958.331	166.18402166 6023	1.23976820607112	NA
Sidalcea robusta	20	ABT UP POLY1	3/12/2003	R031220A.cor	606503.911	4402960.2	168.39897847 1407	1.26729103847658	NA
Sidalcea robusta	6	ABT UP POLY1	3/12/2003	R031220B.cor	606509.222	4402957.23	164.23750270 44	1.30594954577378	NA
Sidalcea robusta	4	ABT UP POLY1	3/12/2003	R031220C.cor	606519.094	4402956.993	178.93845474 3816	1.37565076856225	NA
Sidalcea robusta	50	ABT UP POLY1	3/12/2003	R031220F.cor	606597.732	4402936.101	166.75509531 5572	1.30636387874478	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			GPS File	Easting	Northing	Altitude (m)	Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
Sidalcea robusta	17	ABT UP POLY1	3/12/2003	R031220G.cor	606613.953	4402934.969				165.67933846 8367	1.31228303052604	NA	NA
Sidalcea robusta	10	ABT UP POLY1	3/12/2003	R031220H.cor	606610.055	4402947.151				166.46404132 143	1.32919971929625	NA	NA
Sidalcea robusta	40	ABT UP POLY1	3/12/2003	R031220I.cor	606602.14	4402953.464				165.94665766 5061	1.17469656217426	NA	NA
Sidalcea robusta	10	ABT UP POLY1	3/12/2003	R031220J.cor	606592.887	4402949.293				176.66074671 8628	1.35579185440349	NA	NA
Sidalcea robusta	8	ABT UP POLY1	3/12/2003	R031221A.cor	606561.892	4402953.623				159.80592269 7253	1.47305755730012	NA	NA
Sidalcea robusta	1	ABT UP POLY1	3/12/2003	R031221B.cor	606595.161	4402961.261				162.75541101 5658	1.54621078786531	NA	NA
Sidalcea robusta	4	ABT UP POLY1	3/12/2003	R031221C.cor	606599.09	4402965.65				152.31280095 8784	1.57082689572614	NA	NA
Sidalcea robusta	1	ABT UP POLY1	3/12/2003	R031221D.cor	606595.809	4402981.922				163.19656369 1585	2.33670486289269	NA	NA
Sidalcea robusta	2	ABT UP POLY1	3/12/2003	R031221E.cor	606586.252	4402979.94				161.76066488 6921	1.6063121913349	NA	NA
Sidalcea robusta	10	ABT UP POLY1	3/12/2003	R031221F.cor	606566.99	4402982.139				149.02237263 6635	1.61470343417084	NA	NA
Sidalcea robusta	5	ABT UP POLY1	3/12/2003	R031221G.cor	606562.562	4402990.094				145.99144535 0147	1.69919666557133	NA	NA
Sidalcea robusta	1	ABT UP POLY1	3/12/2003	R031221H.cor	606640.758	4402991.174				167.59196754 978	1.67273852806124	NA	NA
Sidalcea robusta	2	ABT POLY2	3/12/2003	R031221J.cor	606674.378	4402990.927				153.72611762 6608	1.21876866126372	NA	NA
Sidalcea robusta	4	ABPOLY2 ABT	3/12/2003	R031222A.cor	606681.092	4402991.816				156.69838271 329	1.58487624301018	NA	NA
Sidalcea robusta	11	POLY2 ABT	3/12/2003	R031222B.cor	606687.338	4402998.13				162.48383940 0718	1.17315448755224	NA	NA
Sidalcea robusta	12	POLY2 ABT	3/12/2003	R031222F.cor	606670.456	4403002.462				154.49273757 023	1.07611338814292	NA	NA
Sidalcea robusta	30	POLY2 ABT	3/13/2003	R031318A.cor	606680.397	4402915.265				187.21952969 2384	1.08435022936257	NA	NA
Sidalcea robusta	3	POLY2 ABT	3/13/2003	R031318B.cor	606675.567	4402915.522				187.17190506 7117	1.19864882954689	NA	NA
Sidalcea robusta	20	POLY2 ABT	3/13/2003	R031318D.cor	606666.489	4402930.425				179.70141652 9063	2.1871527406812	NA	NA

Species	Number of Individuals	UTM Coordinates					Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
		Trail	Date	GPS File	Easting	Northing			
Sidalcea robusta	2	ABT	3/13/2003	R031319A.cor	606653.066	4402926.505	175.70560376	NA	NA
Sidalcea robusta	1	POLY2	3/13/2003	R031319B.cor	606657.552	4402992.191	151.72351615	NA	NA
Sidalcea robusta	4	ABT	3/13/2003	R031319C.cor	606641.608	4403039.509	135.31314197	NA	NA
Sidalcea robusta	1	POLY2	3/13/2003	R031319D.cor	606652.878	4403055.599	131.69795472	NA	NA
Sidalcea robusta	9	ABT	3/13/2003	R031319E.cor	606655.521	4403059.405	7859	NA	NA
Sidalcea robusta	2	POLY2	3/13/2003	R031319G.cor	606672.601	4403069.007	125.52003165	NA	NA
Sidalcea robusta	11	ABT	3/13/2003	R031319H.cor	606674.108	4403059.627	7484	NA	NA
Sidalcea robusta	10	POLY2	3/13/2003	R031319I.cor	606679.881	4403065.417	121.07836631	NA	NA
Sidalcea robusta	4	ABT	3/13/2003	R031319J.cor	606687.12	4403056.237	4726	NA	NA
Sidalcea robusta	4	POLY2	3/13/2003	R031319K.cor	606682.061	4403042.688	127.50512016	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031319L.cor	606709.667	4403104.132	7768	NA	NA
Sidalcea robusta	8	ABT	3/13/2003	R031319M.cor	606712.655	4403094.98	131.41157385	NA	NA
Sidalcea robusta	15	ABT	3/13/2003	R031319N.cor	606712.463	4403109.326	3591	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031320B.cor	606721.469	4403107.115	128.51209791	NA	NA
Sidalcea robusta	9	ABT	3/13/2003	R031320C.cor	606716.174	4403112.423	131.28318401	NA	NA
Sidalcea robusta	15	ABT	3/13/2003	R031320D.cor	606717.905	4403111.747	2529	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031320E.cor	606855.713	4403200.94	122.89311783	NA	NA
Sidalcea robusta	5	ABT	3/13/2003	R031322A.cor	606925.603	4403240.543	0838	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031322C.cor	606929.673	4403267.469	125.96966524	NA	NA
Sidalcea robusta	3	ABT	3/13/2003	R031322D.cor	606946.878	4403279.973	1948	NA	NA
Sidalcea robusta	4	ABT	3/13/2003	R031322E.cor	606945.376	4403278.408	126.87915271	NA	NA
							1866	NA	NA
							127.89776534	NA	NA
							9265	NA	NA
							113.80205730	NA	NA
							3767	NA	NA
							122.10891549	NA	NA
							2944	NA	NA
							135.99928998	NA	NA
							8792	NA	NA
							122.46355771	NA	NA
							0498	NA	NA
							119.99366803	NA	NA
							0685	NA	NA
							135.47153457	NA	NA
							7847	NA	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			Altitude (m)	Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				GPS File	Easting	Northing				
Sidalcea robusta	2	ABT	3/13/2003	R031322F.cor	606951.777	4403281.282	115.99645943417	1.20361078638703	NA	NA
Sidalcea robusta	3	ABT	3/13/2003	R031322H.cor	606960.548	4403298.964	124.192675615125	1.331817056863	NA	NA
Sidalcea robusta	10	ABT	3/13/2003	R031322I.cor	606958.879	4403304.601	115.89173548339	1.31625041017228	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031322J.cor	606953.912	4403298.724	123.925911216209	1.46626116675543	NA	NA
Sidalcea robusta	3		3/13/2003	R031322K.cor	606963.104	4403288.918	122.401838312901	1.75235663777691	NA	NA
Sidalcea robusta	7	ABT	3/13/2003	R031322L.cor	606977.192	4403286.241	125.938378963523	1.04636659220098	NA	NA
Sidalcea robusta	9	ABT	3/13/2003	R031322M.cor	606984.769	4403290.432	140.515786260082	1.27219745144362	NA	NA
Sidalcea robusta	2	ABT	3/13/2003	R031322N.cor	606998.074	4403262.992	123.753587361101	0.911892002301399	NA	NA
Sidalcea robusta	11	AB	3/13/2003	R031322O.cor	607001.932	4403258.202	122.383502119965	0.873337815092417	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031322P.cor	607011.991	4403256.134	133.584263674233	0.997794245345023	NA	NA
Sidalcea robusta	4	ABT	3/13/2003	R031322Q.cor	607027.132	4403263.586	136.531650828593	1.48095974094483	NA	NA
Sidalcea robusta	3	ABT	3/13/2003	R031322R.cor	607024.208	4403269.293	138.210791204977	1.04268278580842	NA	NA
Sidalcea robusta	3	ABT	3/13/2003	R031322S.cor	607031.518	4403280.756	138.599975708629	0.995792596696066	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031322T.cor	607030.63	4403286.185	139.103132247697	1.06533381724631	NA	NA
Sidalcea robusta	6	ABT	3/13/2003	R031322U.cor	607041.047	4403305.809	130.815778138435	1.36015472567716	NA	NA
Sidalcea robusta	1	ABT	3/13/2003	R031323A.cor	607017.776	4403322.614	129.280118522164	1.10179850609635	NA	NA
Sidalcea robusta	9	ABT	3/13/2003	R031323B.cor	607032.64	4403341.706	124.270049670134	0.9687438230733	NA	NA
Sidalcea robusta	1		3/13/2003	R031323B.cor	607031.995	4403342.303	121.536091846591	0.9970004897634	NA	NA
Sidalcea robusta	3	ABT	3/13/2003	R031323C.cor	607030.071	4403345.87	125.873053195694	1.12027358063792	NA	NA
Sidalcea robusta	5	ABT	3/13/2003	R031323D.cor	607011.348	4403369.725	126.330288497529	1.06516525719995	NA	NA
Sidalcea robusta	2	ABT	3/13/2003	R031323E.cor	606985.042	4403341.556	113.66330911378	1.0340010453003	NA	NA
Sidalcea robusta	10	ABT	3/13/2003	R031323G.cor	606980.449	4403320.267	113.812007753963	1.07130490385696	NA	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				Eastings	Northings	Altitude (m)			
Sidalcea robusta	11	ABT	3/13/2003	606980.126	4403322.823	125.74530433 7446	1.04416022966898	NA	NA
Sidalcea robusta	1	ABT	3/14/2003	606663.474	4403070.456	121.38597588 5748	3.50806434721942	NA	NA
Sidalcea robusta	1	POLY2	3/14/2003	606657.478	4403081.43	139.492445070 0514	1.60459648447363	NA	NA
Sidalcea robusta	5	OUT	3/14/2003	606651.577	4402886.435	194.58253369 0107	3.22321244295751	NA	NA
Sidalcea robusta	10	OUT	3/14/2003	606650.499	4402871.715	193.01981436 7067	3.04301981523138	NA	NA
Sidalcea robusta	1	ABT MID	3/24/2003	606022.041	4402746.183	134.44591057 4573	0.96720151374147 5	NA	NA
Sidalcea robusta	3	AB MID	3/24/2003	606029.576	4402760.24	126.20302831 6062	1.04510847602613	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606006.164	4402757.964	124.76567855 1471	1.00179684708471	NA	NA
Sidalcea robusta	10	ABT MID	3/24/2003	606007.598	4402762.303	126.74064935 5353	1.00550025763651	NA	NA
Sidalcea robusta	4	ABT MID	3/24/2003	606083.438	4402770.458	133.11445718 5605	1.69081172230911	NA	NA
Sidalcea robusta	1		3/24/2003	606083.537	4402770.433	133.31817697 748	1.69031950162771	NA	NA
Sidalcea robusta	3	ABT MID	3/24/2003	606096.158	4402804.338	128.60431426 623	1.22731812294615	NA	NA
Sidalcea robusta	11	ABT MID	3/24/2003	606087.477	4402806.437	126.88154247 4201	1.21504424385399	NA	NA
Sidalcea robusta	6	ABT MID	3/24/2003	606087.438	4402801.852	127.29317018 371	1.19233118805748	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606094.08	4402819.442	125.15488811 372	1.05811872243166	NA	NA
Sidalcea robusta	2	ABT MID	3/24/2003	606108.361	4402809.807	127.95998592 8903	0.99267007656434 8	NA	NA
Sidalcea robusta	12	ABT MID	3/24/2003	606170.107	4402796.933	142.99071983 3834	0.94550489800242 3	NA	NA
Sidalcea robusta	15	ABT MID	3/24/2003	606176.447	4402790.415	145.65791542 2183	1.23362211660388	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606186.706	4402788.13	150.23258394 5541	1.24569370669873	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606218.484	4402827.793	142.88209403 4233	0.87523900293934 8	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606247.742	4402833.854	147.64542732 1104	0.84109735448349 7	NA	NA
Sidalcea robusta	2	ABT MID	3/24/2003	606249.388	4402832.272	146.51286872 5563	1.04991240238492	NA	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			GPS File	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				East	North	Altitude (m)		East	North	Altitude (m)			
Sidalcea robusta	15	ABT MID	3/24/2003	606264.397	4402834.447	146.10818567	R032422C.cor	606264.397	4402834.447	862	1.1961538763448	NA	NA
Sidalcea robusta	3	ABT MID	3/24/2003	606271.787	4402837.115	148.80829199	R032422D.cor	606271.787	4402837.115	5579	1.16636945465901	NA	NA
Sidalcea robusta	10	ABT MID	3/24/2003	606225.543	4402842.304	146.23956054	R032422E.cor	606225.543	4402842.304	4416	0.96774308937229	NA	NA
Sidalcea robusta	25	ABT MID	3/24/2003	606158.847	4402820.718	132.82619488	R032422F.cor	606158.847	4402820.718	9287	0.96353499663518	NA	NA
Sidalcea robusta	3	ABT MID	3/24/2003	606160.143	4402810.617	136.63597621	R032422G.cor	606160.143	4402810.617	4998	0.99224845493231	NA	NA
Sidalcea robusta	15	ABT MID	3/24/2003	606150.067	4402818.217	127.53755008	R032422H.cor	606150.067	4402818.217	9423	1.10624524828486	NA	NA
Sidalcea robusta	6	ABT MID	3/24/2003	606209.708	4402857.647	129.53543602	R032422I.cor	606209.708	4402857.647	0325	1.1720621817702	NA	NA
Sidalcea robusta	2	ABT MID	3/24/2003	606239.959	4402875.033	141.35551301	R032422J.cor	606239.959	4402875.033	2192	0.95557512572548	NA	NA
Sidalcea robusta	8	ABT MID	3/24/2003	606235.526	4402862.83	138.69572574	R032422K.cor	606235.526	4402862.83	1464	1.22492031450364	NA	NA
Sidalcea robusta	7	ABT MID	3/24/2003	606249.46	4402861.631	138.19747486	R032422L.cor	606249.46	4402861.631	1944	0.96640041044999	NA	NA
Sidalcea robusta	3	ABT MID	3/24/2003	606295.228	4402832.557	148.60276807	R032422M.cor	606295.228	4402832.557	1512	1.12333482254544	NA	NA
Sidalcea robusta	1	ABT MID	3/24/2003	606306.921	4402831.597	152.05474517	R032423A.cor	606306.921	4402831.597	7435	1.38787233777536	NA	NA
Sidalcea robusta	1	ABT MID	3/24/2003	606308.405	4402832.892	155.17245618	R032423D.cor	606308.405	4402832.892	9427	1.73888169038327	NA	NA
Sidalcea robusta	1	ABT MID	3/24/2003	606300.123	4402841.375	148.81349598	R032423E.cor	606300.123	4402841.375	0169	1.43866497456682	NA	NA
Sidalcea robusta	5	ABT MID	3/24/2003	606322.225	4402837.243	144.35028475	R032423F.cor	606322.225	4402837.243	4213	1.67754357227265	NA	NA
Sidalcea robusta	9	ABT MID	3/24/2003	606328.324	4402840.468	152.12771196	R032423G.cor	606328.324	4402840.468	8894	1.73154573864447	NA	NA
Sidalcea robusta	40	ABT MID	3/24/2003	606334.073	4402833.801	152.08979403	R032423H.cor	606334.073	4402833.801	7132	1.36825325409984	NA	NA
Sidalcea robusta	3	ABT UPPER	3/24/2003	606338.705	4402821.026	173.41076497	R032423I.cor	606338.705	4402821.026	8929	0.99742840524448	NA	NA
Sidalcea robusta	12	ABT MID	3/25/2003	606340.413	4402845.526	155.06562805	R032518A.cor	606340.413	4402845.526	8739	0.98758973266087	NA	NA
Sidalcea robusta	4	ABT MID	3/25/2003	606338.602	4402845.996	153.17341308	R032518B.cor	606338.602	4402845.996	9161	1.4091590172499	NA	NA
Sidalcea robusta	8	ABT MID	3/25/2003	606323.017	4402852.711	150.99271003	R032518C.cor	606323.017	4402852.711	152	1.52054476093873	NA	NA
Sidalcea robusta	5	ABT MID	3/25/2003	606317.612	4402860.102	151.15691474	R032519A.cor	606317.612	4402860.102	0046	1.23306769573613	NA	NA

Species	Number of Individuals	Trail	UTM Coordinates				GPS File	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
			Date	Easting	Northing	Altitude (m)		Easting	Northing	Altitude (m)			
Sidalcea robusta	13	ABT MID	3/25/2003	606352.383	4402862.975	157.60868428 9611	R032519B.cor	606352.383	4402862.975	157.60868428 9611	1.2321859072971	NA	NA
Sidalcea robusta	4	ABT MID	3/25/2003	606376.625	4402863.489	171.27493063 7474	R032519C.cor	606376.625	4402863.489	171.27493063 7474	1.2505658530767	NA	NA
Sidalcea robusta	1	ABT MID	3/25/2003	606377.84	4402872.794	154.81227212 1488	R032519D.cor	606377.84	4402872.794	154.81227212 1488	1.266267804006	NA	NA
Sidalcea robusta	1	ABT MID	3/25/2003	606385.358	4402892.494	158.16869722 5867	R032519E.cor	606385.358	4402892.494	158.16869722 5867	1.38098259721448	NA	NA
Sidalcea robusta	4	ABT MID	3/25/2003	606368.393	4402887.694	157.20165083 2743	R032519F.cor	606368.393	4402887.694	157.20165083 2743	0.99233898693786 3	NA	NA
Sidalcea robusta	2	ABT MID	3/25/2003	606365.933	4402885.945	153.06033468 3329	R032519G.cor	606365.933	4402885.945	153.06033468 3329	0.97996856446356	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606367.133	4402895.481	155.23856569 2149	R032519H.cor	606367.133	4402895.481	155.23856569 2149	0.96646592465232	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606367.384	4402896.591	152.85815296 1373	R032519I.cor	606367.384	4402896.591	152.85815296 1373	1.04090100317716	NA	NA
Sidalcea robusta	11	ABT MID	3/25/2003	606412.676	4402907.353	155.53670584 6007	R032520A.cor	606412.676	4402907.353	155.53670584 6007	0.99752375003522 1	NA	NA
Sidalcea robusta	9	ABT MID	3/25/2003	606408.169	4402899.425	153.19124282 0093	R032520B.cor	606408.169	4402899.425	153.19124282 0093	1.38251172735525	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606411.625	4402911.649	153.80550516 9121	R032520C.cor	606411.625	4402911.649	153.80550516 9121	1.29837635760334	NA	NA
Sidalcea robusta	5	ABT MID	3/25/2003	606371.834	4402911.253	148.49090509 3994	R032520D.cor	606371.834	4402911.253	148.49090509 3994	1.0956608981839	NA	NA
Sidalcea robusta	1	ABT MID	3/25/2003	606369.199	4402913.603	147.11476196 0066	R032520E.cor	606369.199	4402913.603	147.11476196 0066	1.01515660606579	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606346.006	4402915.835	140.80273140 6652	R032520F.cor	606346.006	4402915.835	140.80273140 6652	1.02112198685725	NA	NA
Sidalcea robusta	2	ABT MID	3/25/2003	606329.473	4402900.795	139.18871947 3901	R032520G.cor	606329.473	4402900.795	139.18871947 3901	1.09436443734602	NA	NA
Sidalcea robusta	8	ABT MID	3/25/2003	606331.374	4402896.587	136.20893324 7179	R032520H.cor	606331.374	4402896.587	136.20893324 7179	1.30147522131309	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606398.321	4402871.479	163.38737591 5104	R032520I.cor	606398.321	4402871.479	163.38737591 5104	1.79794641460381	NA	NA
Sidalcea robusta	10	ABT MID	3/25/2003	606415.966	4402894.1	160.81595220 0124	R032520J.cor	606415.966	4402894.1	160.81595220 0124	1.58318745929801	NA	NA
Sidalcea robusta	20	ABT MID	3/25/2003	606423.121	4402890.081	159.56356268 0066	R032520K.cor	606423.121	4402890.081	159.56356268 0066	1.58859794456716	NA	NA
Sidalcea robusta	20	ABT MID	3/25/2003	606431.12	4402892.485	157.05273157 6913	R032520L.cor	606431.12	4402892.485	157.05273157 6913	1.5921025854365	NA	NA
Sidalcea robusta	6	ABT MID	3/25/2003	606441.218	4402901.143	162.20088811 557	R032520M.cor	606441.218	4402901.143	162.20088811 557	1.59568637886124	NA	NA
Sidalcea robusta	3	ABT MID	3/25/2003	606453.073	4402904.679	161.60681504 233	R032520N.cor	606453.073	4402904.679	161.60681504 233	1.69818406847298	NA	NA

Species		Number of Individuals	UTM Coordinates					GPS File	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)	
			Trail	Date	UTM Coordinates				Altitude (m)						
Sidalcea robusta	8	ABT MID	3/25/2003	R032520O.cor	606453.255	4402928.204	159.65222959	606453.255	4402928.204	6884	1.68846863617183	NA	NA		
Sidalcea robusta	18	ABT MID	3/25/2003	R032520P.cor	606456.95	4402937.059	145.19456270	606456.95	4402937.059	3961	1.68564834763762	NA	NA		
Sidalcea robusta	6	ABT MID	3/25/2003	R032520Q.cor	606432.646	4402926.66	147.25433430	606432.646	4402926.66	7895	1.68019096224888	NA	NA		
Sidalcea robusta	1	ABT MID	3/25/2003	R032521A.cor	606430.834	4402917.801	152.21169470	606430.834	4402917.801	1507	1.67639112930204	NA	NA		
Sidalcea robusta	15	ABT MID	3/25/2003	R032521B.cor	606423.164	4402911.097	152.19375750	606423.164	4402911.097	7964	1.67035629975578	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521C.cor	606410.884	4402909.268	149.57452600	606410.884	4402909.268	4691	1.30063436401016	NA	NA		
Sidalcea robusta	5	ABT MID	3/25/2003	R032521D.cor	606370.033	4402909.505	146.28137389	606370.033	4402909.505	2148	1.27208838167833	NA	NA		
Sidalcea robusta	1	ABT MID	3/25/2003	R032521E.cor	606363.796	4402913.692	147.35302384	606363.796	4402913.692	9919	1.26360591286878	NA	NA		
Sidalcea robusta	11	ABT MID	3/25/2003	R032521F.cor	606359.59	4402906.498	140.46858303	606359.59	4402906.498	6335	1.25202254001738	NA	NA		
Sidalcea robusta	1	ABT MID	3/25/2003	R032521G.cor	606349.658	4402912.838	152.76671867	606349.658	4402912.838	8793	1.04598843017577	NA	NA		
Sidalcea robusta	6	ABT MID	3/25/2003	R032521H.cor	606357.825	4402920.272	139.07016260	606357.825	4402920.272	0752	1.22767487664382	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521I.cor	606373.759	4402920.253	142.30330369	606373.759	4402920.253	7295	1.18830962775091	NA	NA		
Sidalcea robusta	4	ABT MID	3/25/2003	R032521J.cor	606377.138	4402925.349	134.69399418	606377.138	4402925.349	2725	1.29830276863364	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521K.cor	606387.083	4402920.674	146.89940248	606387.083	4402920.674	1614	1.16299705167836	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521L.cor	606398.617	4402921.812	137.84460077	606398.617	4402921.812	1035	1.09793102188416	NA	NA		
Sidalcea robusta	12	ABT MID	3/25/2003	R032521M.cor	606422.31	4402931.291	136.62025051	606422.31	4402931.291	022	1.17020173875553	NA	NA		
Sidalcea robusta	20	ABT MID	3/25/2003	R032521N.cor	606439.448	4402973.629	141.80912807	606439.448	4402973.629	8294	1.10876194234091	NA	NA		
Sidalcea robusta	2	ABT MID	3/25/2003	R032521O.cor	606433.067	4402954.434	135.58826462	606433.067	4402954.434	5214	1.04114968939531	NA	NA		
Sidalcea robusta	2	ABT MID	3/25/2003	R032521P.cor	606478.644	4402959.526	149.85716577	606478.644	4402959.526	7487	1.10575805607452	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521Q.cor	606510.834	4402973.483	149.43909939	606510.834	4402973.483	1685	1.12807256947137	NA	NA		
Sidalcea robusta	3	ABT MID	3/25/2003	R032521R.cor	606480.944	4402958.832	151.02812452	606480.944	4402958.832	6919	1.41563245306096	NA	NA		
Sidalcea robusta	2	ABT MID	3/25/2003	R032521S.cor	606475.135	4402954.16	156.66504491	606475.135	4402954.16	4058	1.89547753881739	NA	NA		

Species	Number of Individuals	Trail	UTM Coordinates				Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
			Date	GPS File	Easting	Northing			
Sidalcea robusta	45	ABT MID	3/25/2003	R032521T.cor	606472.455	4402945.13	149.50237500 539	0.89611307438940 4	NA
Sidalcea robusta	15	ABT MID	3/25/2003	R032521U.cor	606464.227	4402935.531	159.26944680 3386	0.86651334338707 6	NA
Sidalcea robusta	1	ABT MID	3/25/2003	R032522A.cor	606510.602	4402943.067	163.42331807 5521	0.89795258346533 9	NA
Sidalcea robusta	3	ABT MID	3/25/2003	R032522B.cor	606515.412	4402949.713	162.37883665 4476	0.97875263184249 5	NA
Sidalcea robusta	5	ABT MID	3/25/2003	R032522C.cor	606525.569	4402972.406	150.59341523 2504	1.17710713999862 6	NA
Sidalcea robusta	41	ABT MID	3/25/2003	R032522D.cor	606532.068	4402968.793	149.42163920 6528	0.96355194742242 6	NA
Sidalcea robusta	5	ABT MID	3/25/2003	R032522E.cor	606515.814	4402984.057	141.92700625 9318	0.95071388527208 6	NA
Sidalcea robusta	31	ABT MID	3/25/2003	R032522F.cor	606512.611	4402987.355	147.93410421 8914	1.11982288597329 6	NA
Sidalcea robusta	8	ABT MID	3/25/2003	R032522G.cor	606506.365	4402987.619	145.97120192 6194	0.91117145493903 6	NA
Sidalcea robusta	15	ABT MID	3/25/2003	R032522H.cor	606497.553	4402985.138	139.56564320 1045	1.11239692011002 6	NA
Sidalcea robusta	7	ABT MID	3/25/2003	R032522I.cor	606484.543	4402980.259	141.56045309 3922	0.97349810131717 1	NA
Sidalcea robusta	2	ABT MID	3/25/2003	R032522J.cor	606521.728	4403003.669	138.58652488 3224	0.95466427568818 1	NA
Sidalcea robusta	7	ABT MID	3/25/2003	R032522K.cor	606473.625	4402983.411	134.79521166 6714	1.0558244114244 8	NA
Sidalcea robusta	8	ABT MID	3/25/2003	R032522L.cor	606472.916	4402986.83	145.62352697 7227	0.96865767690518 3	NA
Sidalcea robusta	11	ABT MID	3/25/2003	R032522M.cor	606564.306	4403004.519	134.65224278 7766	1.4739409225631 3	NA
Sidalcea robusta	4	ABT MID	3/25/2003	R032522N.cor	606572.722	4403011.372	133.90169349 3111	1.02618313861121 4	NA
Sidalcea robusta	41	ABT MID	3/25/2003	R032522O.cor	606583.764	4403008.37	135.15353875 8678	0.95048017763385 3	NA
Sidalcea robusta	1	ABT MID	3/25/2003	R032522P.cor	606594.415	4403003.708	141.76437694 9557	0.95719406485232 3	NA
Sidalcea robusta	11	ABT MID	3/25/2003	R032522Q.cor	606597.39	4403005.066	140.66327050 0116	1.07343231371077 3	NA
Sidalcea robusta	8	ABT MID	3/25/2003	R032522R.cor	606605.16	4403008.251	134.17035679 6423	0.93535069205404 3	NA
Sidalcea robusta	3	ABT MID	3/25/2003	R032522S.cor	606610.126	4403014.076	131.06398009 8838	1.07525316373963 3	NA
Sidalcea robusta	4	ABT MID	3/25/2003	R032522T.cor	606599.989	4403027.848	129.25670136 6189	1.04296415220151 3	NA

Number of Individuals		UTM Coordinates							GPS	
Species		Trail	Date	GPS File	Eastings	Northings	Altitude (m)	Horiz. Precision (m)	GPS Area (m)	Length (m)
Sidalcea robusta	1	ABT MID	3/25/2003	R032522U.cor	606597.785	4403037.515	125.26061947	0.91965860465266	1	NA
Sidalcea robusta	5	ABT MID	3/25/2003	R032522V.cor	606585.46	4403037.911	6951	0.99635860363949	2	NA
Sidalcea robusta	4	ABT MID	3/25/2003	R032522W.cor	606579.726	4403038.136	7396	0.94621790299902	5	NA
Sidalcea robusta	15	ABT MID	3/25/2003	R032522X.cor	606546.637	4403017.35	125.44534464	0.95090150976103	4	NA
Sidalcea robusta	25	ABT MID	3/25/2003	R032523A.cor	606545.481	4403022.123	5021	0.88993976639397	137.01634945	NA
Sidalcea robusta	5	ABT MID	3/25/2003	R032523B.cor	606551.269	4403028.932	1375	1.11290708491846	127.40174215	NA
Sidalcea robusta	5	ABT MID	3/25/2003	R032523C.cor	606532.877	4403032.34	3523	0.98692196684137	126.88705505	NA
Sidalcea robusta	2	POLY2	4/9/2003	R040917A.cor	606655.99	4402996.084	2231	0.95215044714675	3	NA
Sidalcea robusta	1	POLY2	4/9/2003	R040917B.cor	606648.997	4402988.738	152.91626975	0.95867598261350	5	NA
Sidalcea robusta	1	POLY2	4/9/2003	R040917C.cor	606639.039	4402991.765	153.81135745	2.30761025778795	4	NA
Sidalcea robusta	4	POLY2	4/9/2003	R040917D.cor	606629.3	4402985.843	0571	1.23995664505592	162.20155450	NA
Sidalcea robusta	1	POLY2	4/9/2003	R040917E.cor	606625.728	4402990.92	4617	1.09702172102528	152.22482111	NA
Sidalcea robusta	5	POLY2	4/9/2003	R040918A.cor	606643.081	4402999.991	379	1.23078130178409	144.43132717	NA
Sidalcea robusta	10	POLY2	4/9/2003	R040918B.cor	606642.545	4403011.75	143.10135207	1.2272512753738	2857	NA
Sidalcea robusta	11	POLY2	4/9/2003	R040918C.cor	606637.665	4403010.113	147.69009207	1.22597795073569	4792	NA
Sidalcea robusta	5	POLY2	4/9/2003	R040918D.cor	606637.087	4403013.894	146.16623706	1.22778284034039	2894	NA
Sidalcea robusta	2	POLY2	4/9/2003	R040918E.cor	606635.914	4403014.914	139.11234596	1.23154145447399	5761	NA
Sidalcea robusta	3	POLY2	4/9/2003	R040918F.cor	606627.914	4403009.94	136.56428811	1.23964153701819	036	NA
Sidalcea robusta	2	POLY2	4/9/2003	R040918G.cor	606622.582	4403013.959	131.17948157	1.24726668039027	3797	NA
Sidalcea robusta	25	POLY2	4/9/2003	R040918H.cor	606627.947	4403025.932	129.45469665	1.26646856752673	2867	NA
Sidalcea robusta	7	POLY2	4/9/2003	R040918I.cor	606616.423	4403034.815	135.72684312	1.30006635882577	0085	NA
Sidalcea robusta	5	MIDDLE	4/9/2003	R040918J.cor	606615.186	4403042.575	125.15990860	1.34905643413224	0312	NA

Species	Number of Individuals	Trail	UTM Coordinates				Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
			Date	GPS File	Easting	Northing	Altitude (m)		
Sidalcea robusta	5	MID DR	4/9/2003	R040918K.cor	606610.518	4403041.756	125.08882044 2086	1.43825098092816	NA
Sidalcea robusta	20	MID	4/9/2003	R040918L.cor	606600.209	4403034.625	124.18307935 8112	1.5365767245616	NA
Sidalcea robusta	3	MID	4/9/2003	R040918M.cor	606599.188	4403029.045	132.68230445 5507	1.63393672619558	NA
Sidalcea robusta	2	MID	4/9/2003	R040918N.cor	606582.177	4403026.357	134.40497165 1784	1.02742861191183	NA
Sidalcea robusta	2	MID	4/9/2003	R040918O.cor	606580.562	4403025.37	137.31746428 3327	0.96667813160499 4	NA
Sidalcea robusta	1	MID	4/9/2003	R040918P.cor	606575.758	4403014.944	137.72431743 2506	1.25931402578202	NA
Sidalcea robusta	1	MID	4/9/2003	R040918Q.cor	606562.349	4403029.355	136.89071212 1043	1.01543823764518	NA
Sidalcea robusta	3	MID	4/9/2003	R040918R.cor	606566.173	4403037.348	131.79835758 9043	0.97062407768750 2	NA
Sidalcea robusta	8	MID	4/9/2003	R040918S.cor	606560.181	4403045.339	127.64840912 3097	0.98958913100493 9	NA
Sidalcea robusta	1	MID	4/9/2003	R040918T.cor	606557.204	4403047.481	129.00529876 2919	0.97493864426615	NA
Sidalcea robusta	3	MID	4/9/2003	R040918U.cor	606569.854	4403049.417	120.91775441 9076	0.97715847096984 8	NA
Sidalcea robusta	3	MID	4/9/2003	R040918V.cor	606574.621	4403054.087	119.74888470 1748	0.97866157592610 9	NA
Sidalcea robusta	13	MID	4/9/2003	R040918W.cor	606585.828	4403058.04	124.60669069 4299	1.26361691270166	NA
Sidalcea robusta	13	MID	4/9/2003	R040918X.cor	606591.972	4403058.108	124.96008943 2605	1.31804471351702	NA
Sidalcea robusta	2	MID	4/9/2003	R040918Y.cor	606604.881	4403051.827	121.76892661 382	1.11545185684472	NA
Sidalcea robusta	2	MID	4/9/2003	R040918Z.cor	606611.005	4403046.161	124.84116831 5434	1.34066074909116	NA
Sidalcea robusta	1	MID	4/9/2003	R040919A.cor	606614.487	4403048.65	126.30403465 9865	1.17480663940168	NA
Sidalcea robusta	1	MID	4/9/2003	R040919B.cor	606622.681	4403052.492	132.61250123 2141	1.30809353052373	NA
Sidalcea robusta	1	MID	4/9/2003	R040919C.cor	606609.642	4403053.881	135.59837817 905	1.04113228203621	NA
Sidalcea robusta	2	POLY2	4/9/2003	R040919D.cor	606608.814	4403062.282	129.07046025 0259	1.35021110890541	NA
Sidalcea robusta	2	POLY2	4/9/2003	R040919E.cor	606609.219	4403061.828	118.54223730 9192	1.35537132703708	NA
Sidalcea robusta	4	POLY2	4/9/2003	R040919F.cor	606598.805	4403070.53	125.13286915 5981	1.35942857362458	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			GPS File	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				East	North	Altitude (m)		East	North	Altitude (m)			
Sidalcea robusta	11	POLY2	4/9/2003	606606.39	4403071.159	126.79234874 4942	R040919G.cor	606606.39	4403071.159	126.79234874 4942	1.36435001401501	NA	NA
Sidalcea robusta	6	POLY2	4/9/2003	606614.917	4403085.945	135.63183118 4897	R040919H.cor	606614.917	4403085.945	135.63183118 4897	1.68807124517295	NA	NA
Sidalcea robusta	7	POLY2	4/9/2003	606614.386	4403079.709	115.07319924 1371	R040919I.cor	606614.386	4403079.709	115.07319924 1371	1.34896590997107	NA	NA
Sidalcea robusta	6	POLY2	4/9/2003	606618.494	4403073.187	124.80411437 9702	R040919J.cor	606618.494	4403073.187	124.80411437 9702	1.2719640161448	NA	NA
Sidalcea robusta	3	POLY2	4/9/2003	606619.135	4403077.808	115.26178562 5954	R040919K.cor	606619.135	4403077.808	115.26178562 5954	1.54970321607776	NA	NA
Sidalcea robusta	4	POLY2	4/9/2003	606609.473	4403084.609	118.36513015 4367	R040919L.cor	606609.473	4403084.609	118.36513015 4367	1.28622197325116	NA	NA
Sidalcea robusta	3	POLY2	4/9/2003	606615.604	4403080.622	121.85869811 1301	R040919M.cor	606615.604	4403080.622	121.85869811 1301	1.57589866050385	NA	NA
Sidalcea robusta	5	MID	4/9/2003	606622.893	4403079.047	123.76599972 842	R040919N.cor	606622.893	4403079.047	123.76599972 842	1.6251735916752	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606574.884	4403083.318	95.680259439 9042	R040921A.cor	606574.884	4403083.318	95.680259439 9042	1.93330251953665	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606568.275	4403084.422	114.29992328 7415	R040921B.cor	606568.275	4403084.422	114.29992328 7415	0.92137500427628 2	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606570.845	4403082.266	105.96927617 7992	R040921C.cor	606570.845	4403082.266	105.96927617 7992	1.02715495272549	NA	NA
Sidalcea robusta	6	LWR	4/9/2003	606567.779	4403078.871	115.41252751 8199	R040921D.cor	606567.779	4403078.871	115.41252751 8199	0.92027643887893 9	NA	NA
Sidalcea robusta	5	LWR	4/9/2003	606574.505	4403078.733	112.90196165 3389	R040921E.cor	606574.505	4403078.733	112.90196165 3389	1.02696073140053	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606577.863	4403076.955	109.96844840 8711	R040921F.cor	606577.863	4403076.955	109.96844840 8711	1.00485475524674	NA	NA
Sidalcea robusta	1	LWR	4/9/2003	606569.608	4403073.048	96.858390567 1379	R040921G.cor	606569.608	4403073.048	96.858390567 1379	0.92225497658028 8	NA	NA
Sidalcea robusta	2	LWR	4/9/2003	606572.953	4403075.492	114.96910257 6721	R040921H.cor	606572.953	4403075.492	114.96910257 6721	0.91371131906323 5	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606564.407	4403077.915	109.50739207 9612	R040921I.cor	606564.407	4403077.915	109.50739207 9612	0.96050059082226 6	NA	NA
Sidalcea robusta	20	LWR	4/9/2003	606559.785	4403080.572	108.08202299 2743	R040921J.cor	606559.785	4403080.572	108.08202299 2743	0.94973733824333 9	NA	NA
Sidalcea robusta	1	LWR	4/9/2003	606555.743	4403051.543	126.67943686 557	R040921K.cor	606555.743	4403051.543	126.67943686 557	0.98557820886528 2	NA	NA
Sidalcea robusta	1	LWR	4/9/2003	606529.542	4403034.375	120.69574561 2782	R040921L.cor	606529.542	4403034.375	120.69574561 2782	1.21550868862919	NA	NA
Sidalcea robusta	3	LWR	4/9/2003	606532.329	4403049.138	122.87562237 6037	R040921M.cor	606532.329	4403049.138	122.87562237 6037	1.1803773101525	NA	NA
Sidalcea robusta	4	LWR	4/9/2003	606536.709	4403052.298	122.49988127 3627	R040922A.cor	606536.709	4403052.298	122.49988127 3627	1.37225662405113	NA	NA

Species	Number of Individuals	Trail	Date	UTM Coordinates			Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
				Eastings	Northings	Altitude (m)			
Sidalcea robusta	11	LWR	4/9/2003	R040922B.cor	606544.043	4403043.65	112.77819564 4454	1.44805460810953	NA
Sidalcea robusta	1	LWR	4/9/2003	R040922C.cor	606536.58	4403043.174	114.87409605 5734	0.97456320117147 6	NA
Sidalcea robusta	5	LWR D	4/9/2003	R040922E.cor	606520.939	4403040.708	122.01742794 3748	1.57303967038375	NA
Sidalcea robusta	1	LWR	4/9/2003	R040922F.cor	606519.183	4403040.794	114.20521336 7889	1.55095252243768	NA
Sidalcea robusta	20	LWR	4/9/2003	R040922G.cor	606509.673	4403032.121	123.24154157 0959	1.63308930928826	NA
Sidalcea robusta	3	LWR	4/9/2003	R040922I.cor					NA
Sidalcea robusta	1	LWR	4/9/2003	R040923B.cor	605974.1	4402859.84	105.85125329 874	1.06602983044569	NA
Sidalcea robusta	5	LWR	4/10/2003	R041000A.cor	605862.85	4402710.815	132.75541910 5274	1.15729767760062	NA
Sidalcea robusta	5	LWR	4/10/2003	R041000B.cor	605839.701	4402701.502	133.83293386 6361	1.28543327394109	NA
Sidalcea robusta	2	LWR	4/10/2003	R041000C.cor	605816.308	4402689.178	135.20188071 7761	1.36895533237743	NA
Sidalcea robusta	8	LWR	4/10/2003	R041000D.cor	605792.398	4402669.411	121.03480384 6109	1.49777419408726	NA
Sidalcea robusta	2	LWR	4/10/2003	R041000E.cor	605786.139	4402667.554	124.64092770 1461	1.55063119528912	NA
Sidalcea robusta	3	LWR	4/10/2003	R041000F.cor	605775.732	4402665.244	134.64716062 0796	1.57635104742525	NA
Sidalcea robusta	4	LWR	4/10/2003	R041000G.cor	605775.064	4402669.142	130.23476489 5434	1.71331345427821	NA
Sidalcea robusta	3	LWR	4/10/2003	R041000H.cor	605775.425	4402664.345	124.74401935 1046	1.61476565389256	NA
Sidalcea robusta	4	LWR	4/10/2003	R041000I.cor	605767.316	4402661.091	119.49927908 7102	1.65105772140719	NA
Sidalcea robusta	10	POND	7/19/2003	R071917A.cor	608915.655	4406124.707	244.62758876 6788	1.29638458819968	NA
Sidalcea robusta	1	POND	7/19/2003	R071917B.cor	608912.54	4406124.257	245.82247430 4191	1.29003345718994	NA
Sidalcea robusta	4	POND	7/19/2003	R071917C.cor	608915.474	4406109.279	241.80265305 5758	1.2180018559938	NA
Sidalcea robusta	8	POND	7/19/2003	R071917D.cor	608890.633	4406003.99	231.71967296 9374	1.37768028981119	NA
Sidalcea robusta	15	POND	7/19/2003	R071917F.cor	608876.557	4405983.107	236.79697866 364	1.32122248826924	NA
Sidalcea robusta	8	PP OND	7/19/2003	R071917G.cor	608852.646	4405961.188	242.62637517 2158	1.27758052303377	NA
Sidalcea robusta	10	POND	7/19/2003	R071917H.cor	608855.475	4405920.137	250.46244693	1.31842996765895	NA

Stuart Consulting, Aug. 2003

Upper Bidwell Park, Selected Trails

Projection: UTM NAD27 Conus Meters

Species	Number of Individuals	Trail	Date	UTM Coordinates			GPS File	Easting	Northing	Altitude (m)	Horiz. Precision (m)	GPS Area (m)	GPS Length (m)
Sidalcea robusta	4	POND	7/19/2003				R071917H.cor	608854.934	4405913.068	241.52027465 4186	1.38347493355553	NA	NA
Sidalcea robusta	1	POND	7/19/2003				R071918A.cor	608870.246	4405839.114	257.99817191 2383	1.3651374155107	NA	NA
Sidalcea robusta	2	POND	7/19/2003				R071918B.cor	608869.603	4405841.562	261.24749325 6545	1.32662038389984	NA	NA
Sidalcea robusta	100	POND 60' RADIUS	7/19/2003				R071918C.cor	608850.959	4405741.921	275.38998600 0842	1.477598935519	NA	NA
Sidalcea robusta	12	POND	7/19/2003				R071918D.cor	608845.311	4405714.091	278.84104957 8769	1.23834283393834	NA	NA
Sidalcea robusta	4	POND	7/19/2003				R071918E.cor	608838.254	4405706.934	278.21678996 6622	1.18747733159688	NA	NA
Sidalcea robusta	1	POND	7/19/2003				R071918F.cor	608847.17	4405703.185	281.15579809 5376	1.22524949157341	NA	NA
Sidalcea robusta	15	POND	7/19/2003				R071918G.cor	608848.144	4405705.058	282.55250990 8888	1.37407483244159	NA	NA
Sidalcea robusta	15	POND	7/19/2003				R071918H.cor	608850.919	4405709.771	282.19336175 9626	1.31795034719551	NA	NA
Sidalcea robusta	18	POND	7/19/2003				R071918I.cor	608828.665	4405684.582	273.00562001 4247	1.43428991808474	NA	NA
Sidalcea robusta	4	POND	7/19/2003				R071918J.cor	608866.476	4405778.284	278.80858249 8361	1.18264774940002	NA	NA
Sidalcea robusta	3	MIDDLE	7/24/2003				R072416A.cor	606785.229	4403153.494	132.45140727 5084	1.59095239842134	NA	NA

California Native Species Field Survey Form

Mail to:

Natural Diversity Database
California Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95814

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work: 7 - 26 - 2003
month (mm) date (dd) year (yyyy)

Scientific Name: Mimulus glaucescens E. Greene (Scrophulariaceae)

Common Name: shield-bracted monkeyflower

Species Found? ☒ yes ☐ no If not, why? _____
Total No. Individuals 1,100 Subsequent Visit? ☒ yes ☐ no
Is this an existing NDDDB occurrence? ☐ yes ☒ no ☐ unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Kristiaan Stuart
Address: 595 Kings Canyon Way
Chico, CA 95973
Email Address: kstuart2@pacbell.net
Phone: (530) 892-1696

Plant Information

Phenology: 80.00 80.00
% vegetative % flowering % fruiting

Animal Information

Age Structure: # adults # juveniles # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location (please also attach or draw map on back)

County: Butte County Landowner / Mgr.: City of Chico
Quad Name: Paradise West Elevation: 120 m
T 22N R 2E 1/4 of _____ 1/4 of Section _____ T _____ R _____ 1/4 of _____ 1/4 of Section _____
UTM: Zone: 10 (10, 11) Datum: NAD 27 (Conus) (NAD 83, NAD 27, WG 584, other)
Source: GPS (GPS, map & type, etc.) Point Accuracy: ~1 See Table Meters
UTM Coordinates See Table

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope)

Blue oak woodland: *Quercus douglasii*, *Toxicodendron diversilobum*, *Iris macrosiphon*, *Avena barbata*, *Bromus tectorum*
Tuscan soils, Slope ~ 6%, Northern Aspect

Other rare species?

Site Information Overall site quality: ☐ Excellent ☒ Good ☐ Fair ☐ Poor

Current / surrounding land use: Plants are in municipal park,

Visible disturbances / possible threats: No visible disturbances.

Comments: Population seems stable and in no immediate threat from surrounding land use.
Photo's may be obtained at <http://elib.cs.berkeley.edu/photos/>

Determination: (check one or more, and fill in blanks)

- ☒ Keyed (cite reference): Jepson Manual, Butte County Flora
☒ Compared with specimen housed at: Biological Sciences Herbarium at CSU, Chico
☐ Compared with photo / drawing in: _____
☐ By another person (name): _____
☐ Other: _____

Photographs: (check one or more)

	Slide	Print
Plant / animal	☐	☐
Habitat	☐	☐
Diagnostic feature	☐	☐

May we obtain duplicates at our expense? ☐ yes ☐ no

Species	Number of	Trail	Date	GPS File	UTM Coordinates		Altitude (m)	Horiz. Precision	GPS Area (m)	GPS Length
					Easting	Northing				
Mimulus glaucescens	500	ABT Lower	4/10/2003	R041000J.cor	605764.806	4402657.991	116.57619	1.6819515	NA	NA
Mimulus glaucescens	400	ABT Lower	7/26/2003	R072617B.cor	605761.41	4402658.882	121.70841	1.5151439	NA	NA
Mimulus glaucescens	200	UPPER ABT	26-Jul-03	R072617A.cor	605789.404	4402629.76	---	---	NA	68.71

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Sacramento, CA 95814

For Office Use Only

Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Date of Field Work: 4 - 9 - 2003
month (mm) date (dd) year (yyyy)

Scientific Name: Lilium humboldtii Roetzl & Leichtlin ssp. humboldtii (Liliaceae)

Common Name: Humboldt's lily

Species Found? ☒ ☐
yes no If not, why?
Total No. Individuals 62 Subsequent Visit? ☐ yes ☒ no
Is this an existing NDDDB occurrence? ☐ ☒ no ☐ unk.
Yes, Occ. #
Collection? If yes: _____
Number Museum / Herbarium

Reporter: Kristiaan Stuart
Address: 595 Kings Canyon Way
Chico, CA 95973
Email Address: kstuart@stuart-consulting.com
Phone: (530) 892-1696

Plant Information

Phenology: 0.00 0.00 0.00
% vegetative % flowering % fruiting

Animal Information

Age Structure: # adults # juveniles # unknown
☐ breeding ☐ wintering ☐ burrow site ☐ rookery ☐ nesting ☐ other

Location (please also attach or draw map on back)

Upper Bidwell Park. One plant found adjacent to foot trail approximately 560 ft up slope (west) from Brown's Hole parking area.

County: Butte County Landowner / Mgr.: City of Chico
Quad Name: Paradise West Elevation: 850 ft
T 23N R 2E 1/4 of _____ 1/4 of Section _____ T _____ R _____ 1/4 of _____ 1/4 of Section _____
UTM: Zone: 10 (10, 11) Datum: NAD 27 (NAD 83, NAD 27, WG 84, other)
Source: GPS-Trimble GeoIII (GPS, map & type, etc.) Point Accuracy: 1 Meters
UTM Coordinates See Table

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope)

Live oak, Foothill pine woodland: Quercus wislizenii, Pinus sabiniana, Toxicodendron diversilobum, Umbellularia californica, Ceanothus integriramus, Arctostaphylos manzanita, Rhamnus crocea
Tuscan soils, Slope ~ 6%, Southeastern Aspect, 80% Canopy closure

Other rare species?

Site Information Overall site quality: ☒ Excellent ☐ Good ☐ Fair ☐ Poor

Current / surrounding land use: Plants are in municipal park.

Visible disturbances / possible threats: No visible disturbances.

Comments: Population seems stable and in no immediate threat from surrounding land use.
Photo's may be obtained at <http://clib.cs.berkeley.edu/photos/>

Determination: (check one or more, and fill in blanks)

- ☒ Keyed (cite reference) Jepson Manual, Butte Co. Flora
☐ Compared with specimen housed at: _____
☒ Compared with photo / drawing in: www.CalFlora.org
☐ By another person (name): _____
☐ Other: _____

Photographs: (check one or more)

	Slide	Print
Plant / animal	☐	☐
Habitat	☐	☐
Diagnostic feature	☐	☐

May we obtain duplicates at our expense? ☐ yes ☐ no

[illegible]

Appendix C

Figure 2. Yahi Reroute Survey at Parking Area K (Bear Hole)

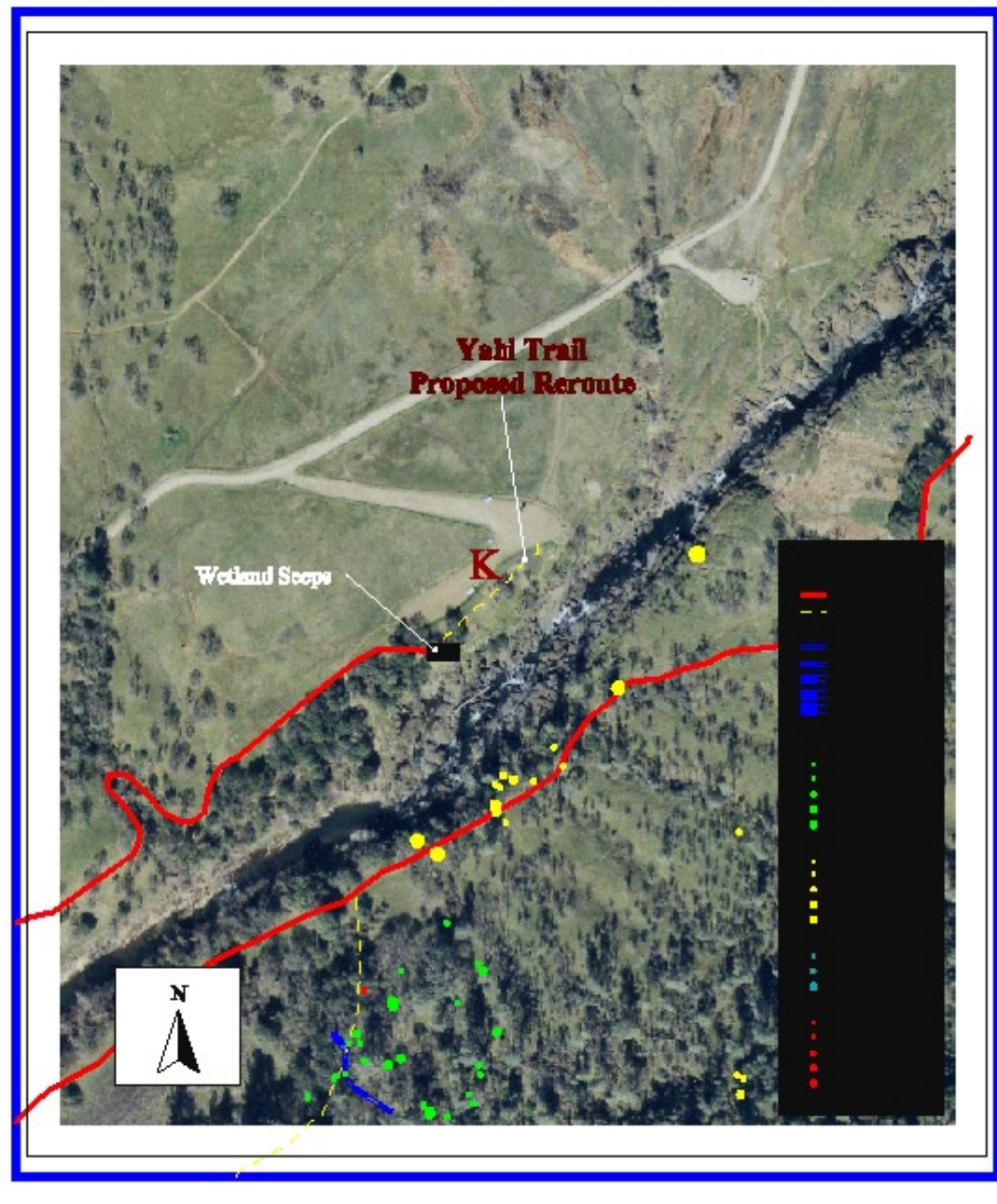


Figure 3. Upper Annie Bidwell Trail Survey Area

