

**Botanical Resource Investigation  
Conducted for the Proposed  
“Bidwell Reach-2 Restoration Project”,  
Chico, Butte County, CA**

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**Background**

At the request of Streaminders, a botanical resource investigation was conducted in support of the proposed “Bidwell Reach-2 Restoration Project”, located along Big Chico Creek, in the City of Chico, Butte County, California. The proposed project is intended to improve riparian habitat for anadromous fish and the Valley Elderberry Longhorn Beetle. Streaminders proposes to enhance the lateral floodplain, stabilize the bank with biotechnical controls, and restore native vegetation. Removal of non-native vegetation will also enhance regeneration of the Valley Oak canopy. Planting willows will provide streamside cover and enhance quality of the aquatic community.

**Project Site**

The project area is located within the city limits of Chico. The study site is defined by the channel, banks and north and south lateral terrace edges along the riparian corridor of Big Chico Creek. The upstream end of the project area is Bidwell River Park, and the lower end is the Rose Avenue Bridge.

**Methods**

This botanical resource investigation included a pre-field review of existing information and a protocol-level field survey for special-status vascular plant species. For the pre-field component, a query was made of the California Natural Diversity Database for the Chico USGS 7.5’ quadrangle and adjacent eight quadrangles (Nord, Richardson Springs, Paradise West, Hamlin Canyon, Shippee, Nelson, Llana Seco and Ord Ferry; CDFG 2005). The California Native Plant Society’s Inventory of Rare and Endangered Plants of California (CNPS 2001) was also reviewed, and a query made of the CSUC Biological Sciences Herbarium database. Based on this information and on an assessment of the habitat types encompassed by the project area, a list was compiled of special-status plants that may have potential to occur at the site; these are indicated in **Table 1**.

Botanist Josephine Guardino conducted the field survey on June 18, 2007. For the field survey, transects were walked along both upper edges of the riparian corridor, and another was walked down the center of the creek. In this manner a visual assessment was made of the entire riparian vegetation assemblage. All vascular plant species were identified to the level necessary to determine legal status and scientific significance.

Blue Elderberry bushes (habitat for the Valley Elderberry Longhorn Beetle) have been surveyed and mapped by a different consultant under a separate contract.

**Results**

The pre-field investigation did not reveal records of any previously known occurrences of special-status vascular plant species in the study area, nor along Big Chico Creek between Lower Bidwell Park and the Sacramento River. No special-status vascular plant species were encountered during the field surveys. Implementation of the proposed project will not result in impacts to special-status vascular plant species.

Evaluation of the habitat conditions present indicates low potential for supporting any of the special-status vascular species identified in the pre-field investigation. The riparian corridor of this reach of Big Chico Creek is densely vegetated by a varied mix of native riparian woody and herbaceous species, native and non-native vines and non-native escaped ornamentals. The upper terrace edges are disturbed and the vegetation highly ruderal in nature. All vascular plant species encountered and identified during the field survey are listed in **Table 2**.

**Table 1. Special-Status Plants Species With Potential To Occur at the Proposed Bidwell Reach-2 Restoration Site, Chico, Butte County, California**

<b>Common Name <i>Scientific Name</i></b>	<b>Federal</b>	<b>State</b>	<b>CNPS List</b>
California Hibiscus <i>Hibiscus lasiocarpus</i>	---	---	2
Columbian (Brazilian) Watermeal <i>Wolffia brasiliensis</i>	---	---	2
Four-Angled Spikerush <i>Eleocharis quadrangulata</i>	---	---	2
Fox Sedge <i>Carex vulpinoidea</i>	---	---	2
Sanford’s Arrowhead <i>Sagittaria sanfordii</i>	---	---	1B
Shield-Bracted Monkey-Flower <i>Mimulus glaucescens</i>	---	---	4
Silky Cryptantha <i>Cryptantha crinita</i>	---	---	1B
Wright’s Trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	---	---	2

1B-plants that are rare, threatened, or endangered in California and elsewhere; 2-plants that are rare and endangered in California, but more common elsewhere; 4-plants of limited distribution-a watch list;

**Table 2. Vascular Plant Species Identified at the Proposed “Bidwell Reach-2 Restoration Project” Area on the Date of the Field Survey (June 18, 2007)**

<b>Scientific Name</b>	<b>Common Name(s)</b>
<i>Acer negundo</i> var. <i>californicum</i>	Box elder
<i>Acer saccharinum</i> *	Silver maple

Scientific Name	Common Name(s)
<i>Ailanthus altissima</i> *	Tree-of-heaven
<i>Albizia julibrissin</i> *	Silktree
<i>Alnus rhombifolia</i>	White alder
<i>Anagallis arvensis</i>	Scarlet pimpernel
<i>Anthemis sp.</i> * (ornamental)	Mayweed
<i>Anthriscus caucalis</i> *	Bur chervil
<i>Aristolochia californica</i>	California pipevine
<i>Artemisia douglasiana</i>	Common mugwort
<i>Arum italicum</i> *	Italian arum
<i>Avena fatua</i> *	Wild oats
<i>Baccharis salicifolia</i>	Mule-fat
<i>Bidens frondosa</i>	Sticktight
<i>Bromus diandrus</i> *	Ripgut brome
<i>Bromus hordeaceus</i> *	Soft chess
<i>Calycanthus occidentalis</i>	Spicebush
<i>Carex barbarae</i>	Santa Barbara sedge
<i>Catalpa speciosa</i> *	Northern catalpa
<i>Celtis sp. (occidentalis</i> *)	Hackberry
<i>Centaurea solstitialis</i> *	Yellow star-thistle
<i>Cephalanthus occidentalis</i> var. <i>californicus</i>	California buttonbush
<i>Cercis occidentalis</i>	Western redbud
<i>Chamaesyce serpyllifolia</i> ssp. <i>serpyllifolia</i>	Thyme-leaved spurge
<i>Chenopodium album</i> *	White goosefoot (lamb's-quarters)
<i>Chenopodium ambrosioides</i> *	Mexican tea
<i>Chenopodium strictum</i> var. <i>glaucophyllum</i> *	Glaucus-leaved goosefoot
<i>Citrus paradisi</i>	Grapefruit
<i>Convolvulus arvensis</i> *	Bindweed
<i>Conyza canadensis</i>	Canada horseweed
<i>Conyza floribunda</i> *	Many-flowered horseweed
<i>Crataegus laevigata</i> *	Smooth hawthorn
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Cynosurus echinatus</i> *	Hedgehog dogtail-grass
<i>Cyperus eragrostis</i>	Tall cyperus
<i>Digitaria sanguinalis</i> *	Hairy crabgrass
<i>Eremocarpus setigerus</i>	Doveweed, turkey-mullein
<i>Eriobotrya japonica</i>	Loquat
<i>Eucalyptus sp.</i> *	Eucalyptus
<i>Euphorbia spathulata</i> *	Warty spurge
<i>Ficus carica</i> *	Edible fig
<i>Fraxinus latifolia</i>	Oregon ash
<i>Galium aparine</i> *	Common bedstraw

Scientific Name	Common Name(s)
<i>Geranium dissectum</i> *	Cut-leaved geranium
<i>Geranium molle</i> *	Dove's-foot geranium
<i>Gnaphalium luteo-album</i> *	Weedy cudweed
<i>Hedera helix</i> *	English ivy
<i>Hirschfeldia incana</i> *	Hoary mustard
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	Barley
<i>Hydrangea</i> sp. (ornamental)	Hydrangea
<i>Hypericum</i> sp. (ornamental)	St. John's-wort
<i>Iris</i> sp. *	iris
<i>Juglans californica</i> varieties* (Varieties <i>californica</i> , <i>hindsii</i> , <i>californica</i> x <i>hindsii</i> hybrids, and/or hybrids with <i>J. regia</i> .)	California black walnut (orchard rootstock or hybrids)
<i>Juglans regia</i>	English walnut
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Leersia oryzoides</i>	Rice grass
<i>Ligustrum japonicum</i> *	Japanese privet
<i>Ligustrum lucidum</i> *	Glossy privet
<i>Lolium multiflorum</i> *	Italian rye-grass
<i>Lonicera</i> sp. (ornamental)	Honeysuckle
<i>Lunaria annua</i>	Moonwort
<i>Marah fabaceus</i>	California manroot
<i>Marrubium vulgare</i> *	Horehound
<i>Medicago polymorpha</i> *	Common bur-clover
<i>Melilotus alba</i> *	White sweet-clover
<i>Melilotus indicus</i> *	Indian sweet clover
<i>Mentha arvensis</i>	Wild mint
<i>Morus alba</i> *	White mulberry
<i>Oleander</i> sp. (ornamental) *	Oleander
<i>Panicum acuminatum</i> var. <i>acuminatum</i>	Western panicgrass
<i>Paspalum dilatatum</i> *	Dallisgrass
<i>Phytolacca americana</i> *	American pokeweed
<i>Pinus</i> sp. *	Pine
<i>Piptatherum miliaceum</i> *	Smilgrass
<i>Plantago major</i> *	Common plantain
<i>Platanus racemosa</i>	California sycamore
<i>Platanus</i> x <i>acerifolia</i> *	London plane tree
<i>Poa annua</i> *	Annual bluegrass
<i>Polygonum arenastrum</i> *	Common knotweed
<i>Polygonum hydropiperoides</i>	Mild water-pepper
<i>Polypogon monspeliensis</i> *	Annual beardgrass
<i>Prunella vulgaris</i> var. <i>lanceolata</i>	Mountain selfheal

Scientific Name	Common Name(s)
<i>Populus fremontii ssp. fremontii</i>	Fremont cottonwood
<i>Prunus cerastifera</i> *	Cherry plum
<i>Prunus dulcis</i> *	Almond
<i>Pyracantha koidzumii</i> *	firethorn
<i>Quercus lobata</i>	Valley oak
<i>Robinia pseudoacacia</i> *	Black locust
<i>Rosa californica</i>	California wild rose
<i>Rubus discolor</i> *	Himalayan blackberry
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i> *	Curly dock
<i>Salix exigua</i>	Sandbar willow
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus mexicana</i>	Blue elderberry
<i>Solanum americanum</i> *	American nightshade
<i>Sorghum halepense</i> *	Johnson grass
<i>Stellaria media</i> *	Common chickweed
<i>Torilis arvensis</i> *	Hedge-parsley
<i>Toxicodendron diversilobum</i>	Poison oak
<i>Tribulus terrestris</i> *	Puncture vine
<i>Trifolium glomeratum</i> *	Sessile-headed clover
<i>Trifolium repens</i> *	White clover
<i>Urtica dioica ssp. holosericea</i>	Stinging nettle
<i>Verbascum thapsus</i> *	Woolly mullein
<i>Verbena hastata</i>	Halberd-leaved vervain
<i>Vinca major</i> *	Periwinkle
<i>Vitis californica</i>	California wild grape
<i>Woodwardia fimbriata</i>	Giant Chain Fern
<i>Xanthium strumarium</i>	Cocklebur

Asterisk indicates non-native species