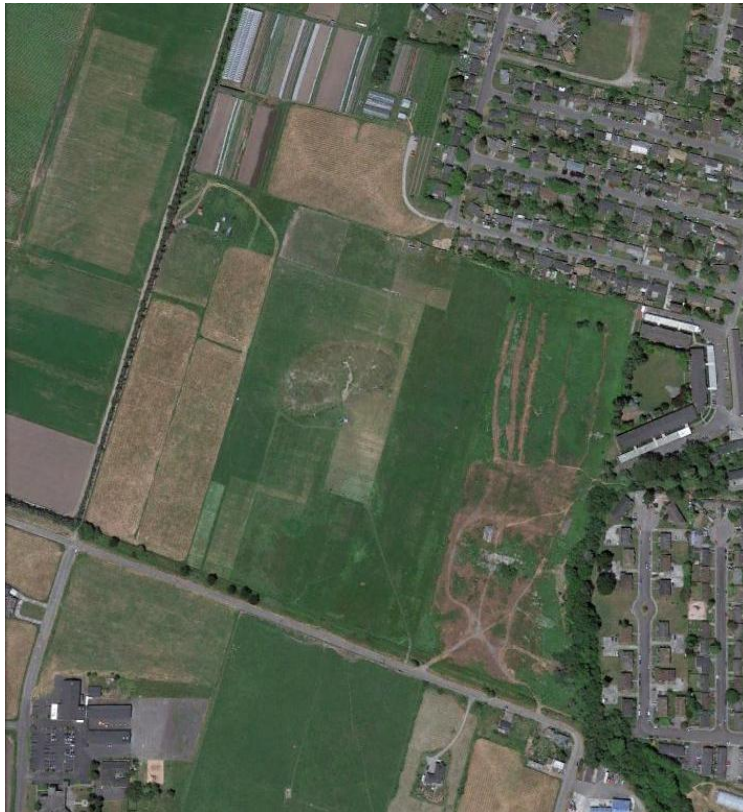




Streamline
Planning Consultants

● PLANNING ● PERMITTING ● ENVIRONMENTAL CONSULTING

Biological Report
for
Foster Avenue, Arcata, CA
APN: 505-161-011, 505-151-001, and 505-151-009



Photograph of the study area in Arcata, California.
Photograph taken in 2015.

May 17, 2016

for
Danco Communities
5251 Ericson Way
Arcata, CA 95521

Foster Avenue Biological Report

May 17, 2016

Summary:

A biological survey was performed by Streamline Planning Consultants (SPC) on approximately 21 acres in Humboldt County to assess the property for sensitive flora and fauna, and to characterize the vegetation found on-site and in the adjacent Janes Creek riparian area. The field work for the study was conducted on 07/15/15, 08/24/15, 02/15/16, 04/21/16, and 05/9/16. This report includes data from numerous site visits; however, the majority of the observations were completed on 04/21/16.

A Biological Assessment report was completed for parcel 505-161-011 in 2000 by Mad River Biologists (MRB 2000). However in the 16 years since the report was completed much can change. Site conditions vary from year to year, and plant communities shift. In addition to this, many species formerly on the Rare Threatened or Endangered (RTE) species list have been delisted, while other species have been added, reflecting new research and additional information on sensitive species. The original report was referred to and reviewed, however this report was completed independent of the findings of the 2000 report.

Site Description:

The study area (Assessor Parcel Numbers (APNs) 505-161-011, 505-151-001, and 505-151-009) is located within the Arcata North United States Geological Survey (USGS) 7.5' quadrangle within the northwest quarter of section 29 and the southwest quarter of section 20 of Township 6 North and Range 1 East. The study area occupies approximately 21 acres of bottomlands northwest of the center of Arcata. The majority of the site is more or less flat, sloping gradually toward Janes Creek, a small third order stream on the southeast side of parcel 505-161-011. Residential housing is located on the north and east side of the study area and agricultural fields, including parcel 505-151-001, lie to the west. A few scattered residences and Foster Avenue occur to the south of the study area.

Parcel 505-161-011 is approximately 16 acres and was historically used as a lumber mill (Van De Nor Mill). Although the site has been vacant since 1986, the past use has influenced the sites present environmental setting and plant communities. Fill (compacted river run gravel, gravelly silt, and wood debris) covers the parcel to varying depths and with differing degrees of compaction. Parcel 505-161-011 is characterized by non-native upland plants characteristic of degraded upland habitat. Sweet Vernal Grass (*Anthoxanthum odoratum*), Himalayan Blackberry (*Rubus armeniacus*), California Blackberry (*Rubus ursinus*), Italian Ryegrass (*Festuca perennis*), Poison Hemlock (*Conium maculatum*), Wild Teasel (*Dipsacus fullonum*), Small Fescue (*Festuca microstachys*), and Wild Oat (*Avena fatua*) were the most commonly observed plant species within the parcel. Depressions were characterized by Himalayan Blackberry (*Rubus armeniacus*), California Blackberry (*Rubus ursinus*), Wild Teasel, Spring Vetch (*Vicia sativa*), Canary Reedgrass (*Phalaris arundinacea*), Pennyroyal (*Mentha pulegium*), and Common Rush (*Juncus effuses*).

The small area of parcel 505-151-001 that was assessed in this study (0.14 acres in the northeastern corner of the parcel), is and has been historically used for agriculture. The area was heavily grazed and contained many domestic animals during the time of the survey. The site was dusty with large areas of bare soil. Vegetation found here primarily consisted of non-native species such as Sweet Vernal Grass (*Anthoxanthum odoratum*) and Orchard grass (*Dactylis glomerata*).

Parcel 505-151-009 is approximately 4.2 acres and has been historically used for agriculture. The parcel is currently vacant but contains a driveway access that is used for an adjacent community supported agriculture (CSA) operation on parcel 505-151-008. Parcel 505-151-009 has been planned to be developed as a park by the City of Arcata for several decades. Vegetation found here primarily consisted of non-native species such as Sweet Vernal Grass, Orchard grass, Italian Wildrye (*Festuca perennis*), Soft Chess (*Bromus hordeaceus*), and Wild Radish (*Raphanis sativum*) among others.

Methods:

Potential RTE species were determined prior to site visits of the study area using the following sources of information: 1) all those listed as rare or endangered by the U.S. Fish and Wildlife Service, or which are candidates for listing; 2) all species designated as rare, threatened, or endangered by the California Fish and Wildlife Department and listed in the California Natural Diversity Database (CNDDDB); and 3) all plants listed in the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California (2016).

Site visits of the study area were conducted on 07/15/15, 08/24/15, 02/15/16, 04/21/16, and 05/9/16. Multiple site visits were conducted in order to detect rare species at the time when they are most observable. Site visits included traversing the entire study area, with greater attention given to wet pockets, depressions, and the Janes Creek riparian area. Several of the site visits included detailed wetland observations including sample pits (See Foster Avenue Wetland Delineation SPC 2016) in addition to increased scrutiny of the vegetation within each wet area. The survey on 04/21/16 included additional scrutiny for bird species and flower blooms on site. All plant and animal species observed on site were recorded if possible to species (See Attachment 2). The Janes Creek riparian habitat was more intensely scrutinized for this report, which included traversing both sides of the stream channel and crossing the creek in numerous locations. Instream surveys for aquatic organisms were not conducted as part of this report.

Limitations:

While every attempt was made to identify vegetation down to species during the site visits in July, August, February, April, and May, there were still some species that were dormant, or simply vegetative making it difficult to identify definitively. Due to the low quality of habitat on site, and the overwhelming dominance by non-native species it is unlikely that any RTE species were missed, or miss-identified.

Results:

Species found on parcel 505-161-011 reflect the former industrial use of the parcel and the continued disturbed nature of the site. The majority of the site is characterized by non-native vegetation, over areas of compacted gravel, and uneven fill. The entire northern portion of the parcel, the former log deck, is covered by an extensive Himalayan Blackberry (*Rubus armeniacus*) thicket. The dense cover precludes the existence of many other species. A small stand of Arroyo Willow (*Salix lasiolepis*), within the center of this thicket, was visited during one of the site visits. While this small willow stand does offer varied bird habitat, English Ivy (*Hedera helix*) was found growing under the canopy preventing the growth of other species.

The central and southern portion of parcel 505-161-011 was dominated by a mosaic of disturbed grassland, Rubus thickets, and small willow stands over compacted gravel, with randomly located water retaining depressions resulting from uneven compaction of fill. Numerous grass species were observed within this portion of the parcel in addition to large stands of Poison Hemlock (*Conium maculatum*), Wild Teasel (*Dipsacus fulonum*), and Blackberry species (*Rubus ursinus* and *Rubus armeniacus*). Depressions often had higher proportions of wetland plants such as Pennyroyal (*Mentha pulegium*) and Juncus species. Both Red-tailed Hawk (*Buteo jamaicensis*) and the White-tailed Hawk (*Elanus leucurus*) were observed hunting within the more open southern portion of the parcel. Barn Swallows (*Hirundo rustica*) and Vaux's Swifts (*Chaetura vauxi*) were seen foraging above the parcel and over the adjacent agricultural fields. The House Wren (*Troglodytes aedon*), Yellow Warbler (*Setophaga petechia*), and Bushtit (*Psaltriparus minimus*) were observed in the brush along the edge of the parcel and Wilson's Snipe (*Gallinago delicata*) was seen flying out of one of the wet pockets in the center of the parcel.

The portion of parcel 505-161-011 along Janes Creek was characterized by a fairly well developed canopy and well defined stream channel. The current condition of this section of Janes Creek is significantly influenced by a riparian restoration project conducted by Redwood Community Action Agency (RCAA) in 1995 which included the following components: 1) cutting back of the creek banks and terracing the slope to increase flood capacity; 2) placement of in-stream structures to improve channel complexity for fish habitat; and 3) removal of non-native species and replacement with native species (Mad River Biologists 2000). It appeared during the site visits that maintenance of the restoration area had not been performed for some time. Many of the species observed within the Janes Creek riparian corridor were planted as part of the restoration project including Red Alder (*Alnus rubra*), Bigleaf Maple (*Acer macrophyllum*), Sitka Spruce (*Picea sitchensis*), and Black Cottonwood (*Populus trichocarpa*) among others. Prior to the restoration project, the area was covered by Himalayan Blackberry and Canary Reedgrass (*Phalaris arundinaceae*). These invasive species still exist on site, but have been greatly reduced by the expanding canopy. Other species observed along Janes Creek include English Ivy, Cleaver Plant (*Galium aparine*), Poison Hemlock, Creeping Buttercup (*Ranunculus repens*) and Pacific and Sitka Willows (*Salix lasiandra* and *Salix lasiolepis*). Wildlife observed within the riparian area included the Barred Owl (*Strix varia*) (observed roosting within a Mayten tree within the creek channel), the American Robin (*Turdus migratorius*), and numerous water-dependent insect species. No fish species were observed

during the site visits conducted for this report. As noted in the Methods section above, in-stream surveys for aquatic organisms were not conducted. Previous in-stream surveys (e.g. McDaniel Slough draft EIR 2006) have determined that fish species are present within Janes Creek.

Parcels 505-151-001, and 505-151-009 were characterized by weedy non-native species typical of agricultural fields within the Arcata Bottoms. Species observed include Sweet Vernal Grass, Orchard Grass, Italian Wildrye, Soft Chess, Blessed Milk Thistle (*Silybum marianum*) and Wild Radish among others. Parcel 505-151-009 was densely vegetated with grasses and forbs reaching up to 2 feet in height. The portion of parcel 505-151-001 included within the study area was overgrazed, showing many areas of bare dirt.

Conclusion:

No rare, threatened, or sensitive plant or animal species were observed within the study area on any of the site visits. A complete list of the plant and animal species observed in the study area are listed in Attachments 2 and 3. Species observed on-site were characteristic of a disturbed landscape. Of the 110 plant species observed within the project area, 37 were native species and 73 were non-native species. This is the equivalent of 34% native and 66% non-native plant cover. Animal species observed were those more adapted to open disturbed areas. Many of the bird species observed prefer open fields in which to hunt or thickets where they can seek shelter. Both of these habitat types were exhibited on-site. State or Federally Listed species or species of special concern are not expected to exist in the study area due to the lack of habitat and the disturbed nature of the area.

Although, no RTE wildlife species were observed during the site visits conducted for this report, portions of the study area such as the Janes Creek riparian corridor do contain habitat for some of these species. As such it is recommended that a focused survey for wildlife species be conducted by a qualified biologist prior to ground disturbing activities for any future development within the study area.

Attachments:

Attachment 1: Site Map

Attachment 2: Plant Species Observed in the Study Area

Attachment 3: Animal Species Observed in the Study Area

Attachment 4: CNDDDB Listed Species for the Arcata North and surrounding Quadrants

Attachment 5: CNPS Listed Species

References:

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Mad River Biologists. 2000. *Biological Assessment. North Coast Export Foster Avenue Property. Arcata, CA. Parcel # 505-161-11. June 7, 2000.*

U.S. Fish and Wildlife Service. (Accessed May 2016). Environmental Conservation Online System. Accessed at: <http://ecos.fws.gov/ecp/>

Attachment 1:

Site Map



Attachment 2:

Plant Species Observed

PLANTS OBSERVED ON-SITE (FOSTER AVENUE ANNEX)					
Listing	Scientific Name	Common Name	Native	WtInd Stat.	Location*
	TREES				
	<i>Acer macrophylla</i>	Bigleaf Maple	Y	FACU	R
	<i>Alnus rubra</i>	Red Alder	Y	FAC	R
	<i>Crataegus monogyna</i>	English Hawthorne	N	FAC	U,P
	<i>Ilex aquifolium</i>	English Holly	N	FACU	R
	<i>Malus sp.</i>	Cultivated Apple	N	NI	U
	<i>Maytenus boaria</i>	Mayten Tree	N	NL	R
	<i>Picea sitchensis</i>	Sitka Spruce	Y	FAC	R
	<i>Pinus contorta ssp. contorta</i>	Shore Pine	Y	NL	R
	<i>Populus nigra</i>	Lombardy Poplar	N	NL	U
	<i>Populus trichocarpa</i>	Black Cottonwood	Y	NL	R
	<i>Prunus sp.</i>	Cultivated Plum	N	NI	U
	<i>Prunus sp.</i>	Cultivated Cherry	N	NI	U
	<i>Prunus cerasifera var. pissardii</i>	Flowering Plum	N	FACU	U
	<i>Pseudotsuga menziesii</i>	Douglas Fir	Y	FACU	R
	<i>Salix lasiolepis</i>	Arroyo Willow	Y	FACW	R,U
	<i>Salix lasiandra</i>	Pacific Willow	Y	FACW	R
	<i>Sambucus nigra</i>	Black Elderberry	Y	FAC	P
	<i>Sambucus racemosa</i>	Red Elderberry	Y	FACU	R
	<i>Sequoia Sempervirens</i>	Coast Redwood	Y	UPL	R
	<i>Thuja plicata</i>	Western Redcedar	Y	FAC	R
	SHRUBS/VINES				
	<i>Cotoneaster franchetii</i>	Cotoneaster	N	UPL	U
	<i>Genista monspessulana</i>	French Broom	N	UPL	U
	<i>Hedera helix</i>	English Ivy	N	FACU	R,U
	<i>Lupinus rivularis</i>	Riverbank Lupine	Y	FAC	U

Listing	Scientific Name	Common Name	Native	WtInd Stat.	
	<i>Rubus armeniacus</i>	Himalayan Blackberry	N	FACU	R,U,P
	<i>Rubus ursinus</i>	Pacific Bramble; California Blackberry	Y	FACU	R,U
	<i>Rosa nutkana</i>	Nootka Rose	Y	FAC	R,U
	HERBS				
	<i>Allium triquetrum</i>	Wild Onion	N	NL	R,U
	<i>Bellis perennis</i>	English Daisy	N	NL	P
	<i>Borago officinalis</i>	Common Borage	N	NL	P
	<i>Brassica rapa</i>	Mustard	N	FACU	P
	<i>Carthamus lanatus</i>	Distaff Thistle	N	UPL	U
	<i>Chamerion angustifolium</i>	Fireweed	Y	FACU	U
	<i>Cirsium vulgare</i>	Bull Thistle	N	FACU	R,U,P
	<i>Conium maculatum</i>	Poison Hemlock	N	FAC	R,U,P
	<i>Convolvulus arvensis</i>	Field Bindweed	N	FACU	U,P
	<i>Cortaderia selloana</i>	Pampus Grass	N	FACU	R
	<i>Daucus carota</i>	Wild Carrot or Queen Anne's Lace	N	FACU	U,P
	<i>Dipsacus fullonum</i>	Wild Teasal	N	FAC	U
	<i>Epilobium ciliatum</i>	Fringed Willow Herb	Y	NI	U
	<i>Euphorbia lathyris</i>	Gopher Plant	N	UPL	U
	<i>Euphorbia virgata</i>	Leafy Spurge	N	UPL	U
	<i>Foeniculum vulgare</i>	Fennel	N	NI	U
	<i>Galium aparine</i>	Cleavers	Y	FACU	R,U
	<i>Geranium dissectum</i>	Cut-leaved Geranium	N	FACU	U,P
	<i>Helminthotheca echioides</i>	Bristly Oxe-tongue	N	FAC	U
	<i>Hemizonia congesta</i>	Hayfield Tarweed	Y	NI	U
	<i>Hypochaeris radicata</i>	Hairy Cats-ear	N	FACU	U
	<i>Juncus bufonius</i>	Common Toad Rush	Y	FACW	U,P
	<i>Juncus effuses</i>	Common Rush	Y	FACW	U
	<i>Juncus patens</i>	Spreading Rush	Y	FACW	U

Listing	Scientific Name	Common Name	Native	WtInd Stat.	
	<i>Lamium purpureum</i>	Henbit	N	NL	U
	<i>Leucanthemum vulgare</i>	Oxeye Daisy	N	FACU	U
	<i>Linum bienne</i>	Narrow Leaved Flax	N	UPL	U,P
	<i>Lotus corniculatus</i>	Birds Foot Trefoil	N	FAC	U
	<i>Lysimachia arvensis</i>	Scarlet Pimpernel	N	FAC	U
	<i>Malva parviflora</i>	Cheeseweed Mallow	N	UPL	P
	<i>Matricaria discoidea</i>	Pineapple Weed	Y	FACU	P
	<i>Medicago polymorpha</i>	Bur-clover	N	FACU	P
	<i>Mentha pulegium</i>	Pennyroyal	N	OBL	U
	<i>Mentha spicata</i>	Spearmint	N	FACW	P
	<i>Myosotis latifolia</i>	Forget-me-not	N	UPL	R
	<i>Plantago lanceolata</i>	English Plantain	N	FACU	U,P
	<i>Plantago major</i>	Broadleaf Plantain	N	FAC	P
	<i>Ranunculus repens</i>	Creeping Buttercup	N	FAC	R,U,P
	<i>Raphanus sativus</i>	Wild Radish	N	UPL	R,U,P
	<i>Rumex acetosella</i>	Sheep Sorrel	N	FACU	R,P
	<i>Rumex crispus</i>	Curly Dock	N	FAC	R,U,P
	<i>Rumex pulcher</i>	Fiddle Dock	N	FAC	P
	<i>Scrophularia californica</i>	Bee Plant	Y	FAC	R,U
	<i>Silybum marianum</i>	Blessed Milk-thistle	N	NL	P
	<i>Sonchus oleraceus</i>	Common Sow Thistle	N	UPL	U,P
	<i>Symphyotrichum chilense</i>	Pacific Aster	Y	FAC	U
	<i>Taraxacum officinale</i>	Dandelion	N	FACU	U,P
	<i>Tragopogon porrifolius</i>	Purple Salsify	N	NI	U
	<i>Trifolium dubium</i>	Suckling Clover	N	FACU	U
	<i>Trifolium hybridum</i>	Alsike Clover	N	FAC	U,P
	<i>Trifolium pratense</i>	Red Clover	N	FACU	U
	<i>Trifolium repens</i>	White Clover	N	FAC	P

Listing	Scientific Name	Common Name	Native	WtInd Stat.	
	<i>Typha latifolia</i>	Cattails	Y	OBL	U
	<i>Veronica beccabunga</i>	European Speedwell	N	OBL	R
	<i>Vicia hirsuta</i>	Tiny Vetch	N	UPL	U
	<i>Vicia sativa</i>	Spring Vetch	N	UPL	U,P
	<i>Viola odorata</i>	English Violet	N	NL	R
	FERNS and Allies				
	<i>Athyrium filix-femina</i>	Lady Fern	Y	FAC	R,U
	<i>Equisetum arvense</i>	Horse Tail	Y	FACW	R,U
	<i>Equisetum telmateia</i>	Giant Horse Tail	Y	FACW	U
	<i>Polystichum munitum</i>	Swordfern	Y	FACU	R
	GRASSES				
	<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass	N	FACU	U,P
	<i>Avena fatua</i>	Wild Oat	N	UPL	U
	<i>Briza major</i>	Rattlesnake Grass	N	UPL	U
	<i>Briza minor</i>	Little Quacking Grass	N	FAC	U
	<i>Bromus carinatus</i>	California Bromegrass	Y	UPL	U,P
	<i>Bromus diandrus</i>	Ripgut Brome	N	UPL	U
	<i>Bromus hordeaceus</i>	Soft Chess	N	FACU	R,U,P
	<i>Bromus racemosus</i>	Smooth Brome	N	UPL	U
	<i>Dactylis glomerata</i>	Orchard Grass	N	FACU	U,P
	<i>Festuca arundinaceae</i>	Tall Fescue	N	NI	U
	<i>Festuca microstachys</i>	Small Fescue	Y	NI	U
	<i>Festuca perennis</i>	Italian Ryegrass	N	FAC	U,P
	<i>Holcus lanatus</i>	Common Velvet Grass	N	FAC	U,P
	<i>Hordeum brachyantherum</i>	Meadow Barley	Y	FACW	U
	<i>Glyceria declinata</i>	Waxy Mannagrass	N	FACW	U
	<i>Phalaris arundinacea</i>	Canary Reed Grass	N	FACW	R,U
	<i>Poa annua</i>	Annual Grass	N	FAC	U

Listing	Scientific Name	Common Name	Native	WtInd Stat.	
	<i>Poa pratensis</i>	Kentucky Bluegrass	N	FAC	U,P
	SEDGES				
	<i>Carex leptopoda</i>	Slender-footed Sedge	Y	FAC	R
	<i>Carex pachystachya</i>	Chamisso Sedge	Y	FAC	U
	<i>Cyperus eragrostis</i>	Flat sedge	Y	FACW	R,U
	<i>Scirpus microcarpus</i>	Panicled Bulrush	Y	OBL	R

*Location: R=Riparian
U=Upland/fill area
P=Park Site

Attachment 3:

Animal Species Observed

Listing	Scientific Name	Common Name	Native
	INSECTS		
	<i>Aphrophora sp.</i>	Spittlebug Species	Y
	<i>Armadillidum vulgare</i>	Sow Bugs	N
	<i>Culicidae sp.</i>	Mosquito species	Y
	<i>Gerris remigis</i>	Water Strider	Y
	<i>Helophilus fasciatus</i>	Solitary Bee	Y
	<i>Musca domestica</i>	Common House Fly	Y
	<i>Vanessa annabella</i>	West Coast Lady	Y
	BIRDS		
	<i>Buteo jamaicensis</i>	Red-tailed Hawk	Y
	<i>Cathartes aura</i>	Turkey Vulture	Y
	<i>Chaetura vauxi</i>	Vaux's Swift	Y
	<i>Corvus brachyrhynchos</i>	Crow	Y
	<i>Elanus leucurus</i>	White-tailed Kite	Y
	<i>Gallinago delicata</i>	Wilson's Snipe	Y
	<i>Hirundo rustica</i>	Barn Swallow	Y
	<i>Psaltriparus minimus</i>	Bushtit	Y
	<i>Setophaga petechia</i>	Yellow Warbler	Y
	<i>Strix varia</i>	Barred Owl	N
	<i>Troglodytes aedon.</i>	House Wren	Y
	<i>Turdus migratorius</i>	American Robin	Y
	REPTILES/AMPHIBIANS		
	<i>Plestiodon skiltonianus</i>	Western Skink	Y
	<i>Pseudacris triseriata</i>	Western Chorus Frog	Y
	MAMMELS		
	<i>Thomomys bottare</i>	Pocket Gopher	Y

Attachment 4:

CNDDDB Listed Species for the Arcata North and Surrounding Quadrants

SciName	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Acipenser medirostris</i>	green sturgeon	Threatened	None	S1S2		Aquatic Klamath/North coast flowing waters Sacramento/San Joaquin flowing waters	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, & Trinity Rivers.	Spawns at temps between 8-14 C. Preferred spawning substrate is large cobble, but can range from clean sand to bedrock.
<i>Arborimus albipes</i>	white-footed vole	None	None	S2S3		North coast coniferous forest Redwood Riparian forest	Mature coastal forests in Humboldt & Del Norte counties. Prefers areas near small, clear streams with dense alder & shrubs.	Occupies the habitat from the ground surface to the canopy. Feeds in all layers & nests on the ground under logs or rock.
<i>Ardea alba</i>	great egret	None	None	S4		Brackish marsh Estuary Freshwater marsh Marsh & swamp Riparian forest Wetland	Colonial nester in large trees.	Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.
<i>Ardea herodias</i>	great blue heron	None	None	S4		Brackish marsh Estuary Freshwater marsh Marsh & swamp Riparian forest Wetland	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes.	Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.
<i>Bryoria spiralifera</i>	twisted horsehair lichen	None	None	S1S2	1B.1	North coast coniferous forest	North coast coniferous forest.	Usually on conifers. 0-30 m.

SciName	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Carex lenticularis</i> <i>var. limnophila</i>	lagoon sedge	None	None	S1	2B.2	Bog & fen Marsh & swamp North coast coniferous forest	Bogs and fens, marshes and swamps, north coast coniferous forest.	Lakeshores, beaches. Often in gravelly substrates. 0-6 m.
<i>Carex leptalea</i>	bristle-stalked sedge	None	None	S1	2B.2	Bog & fen Freshwater marsh Marsh & swamp Meadow & seep Wetland	Bogs and fens, meadows, marshes and swamps, meadows and seeps.	Mostly known from bogs and wet meadows. 0-700 m.
<i>Carex lyngbyei</i>	Lyngbye's sedge	None	None	S3	2B.2	Marsh & swamp Wetland	Marshes and swamps (brackish or freshwater).	0-200 m.
<i>Carex viridula</i> <i>ssp. viridula</i>	green yellow sedge	None	None	S2	2B.3	Bog & fen Marsh & swamp North coast coniferous forest Wetland	Bogs and fens, marshes and swamps (freshwater), North Coast coniferous forest.	Mesic sites. 0-1600 m.
<i>Castilleja ambigua</i> <i>var. humboldtiensis</i>	Humboldt Bay owl's-clover	None	None	S2	1B.2	Marsh & swamp Salt marsh Wetland	Coastal salt marsh.	In coastal saltmarsh with <i>Spartina</i> , <i>Distichlis</i> , <i>Salicornia</i> , <i>Jaumea</i> . 0-3 m.
<i>Castilleja mendocinensis</i>	Mendocino Coast paintbrush	None	None	S2	1B.2	Closed-cone coniferous forest Coastal bluff scrub Coastal dunes Coastal prairie Coastal scrub	Coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, coastal dunes.	Often on sea bluffs or cliffs in coastal bluff scrub or prairie. 0-160 m.
<i>Charadrius alexandrinus</i> <i>nivosus</i>	western snowy plover	Threatened	None	S2		Great Basin standing waters Sand shore Wetland	Sandy beaches, salt pond levees, & shores of large alkali lakes.	Needs sandy, gravelly, or friable soils for nesting.
<i>Chloropyron maritimum</i> <i>ssp. palustre</i>	Point Reyes salty bird's-beak	None	None	S2	1B.2	Marsh & swamp Salt marsh Wetland	Coastal salt marsh.	Coastal salt marsh <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> 0-10 m.

SciName	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None	Candidate Threatened	S2		Broadleaved upland forest Chaparral Chenopod scrub Great Basin grassland Great Basin scrub Joshua tree woodland Lower montane coniferous forest Meadow & seep Mojavean desert scrub Riparian forest Riparian woodland Sonoran desert scrub Sonoran thorn woodland Upper montane coniferous forest Valley & foothill grassland	Throughout California in a wide variety of habitats. Most common in mesic sites.	Roosts in the open, hanging from walls & ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.
<i>Egretta thula</i>	snowy egret	None	None	S4		Marsh & swamp Meadow & seep Riparian forest Riparian woodland Wetland	Colonial nester, with nest sites situated in protected beds of dense tules.	Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.
<i>Empetrum nigrum</i>	black crowberry	None	None	S1?	2B.2	Coastal bluff scrub Coastal prairie	Coastal bluff scrub, coastal prairie.	3-15 m.

<i>SciName</i>	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Emys marmorata</i>	western pond turtle	None	None	S3		Aquatic Artificial flowing waters Klamath/North coast flowing waters Klamath/North coast standing waters Marsh & swamp Sacramento/San Joaquin flowing waters Sacramento/San Joaquin standing waters South coast flowing waters South coast standing waters Wetland	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
<i>Eucyclogobius newberryi</i>	tidewater goby	Endangered	None	S3		Aquatic Klamath/North coast flowing waters Sacramento/San Joaquin flowing waters South coast flowing waters	Brackish water habitats along the Calif coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River.	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.
<i>Fissidens pauperculus</i>	minute pocket moss	None	None	S2	1B.2	North coast coniferous forest Redwood	North coast coniferous forest.	Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 10-1024 m.
<i>Gilia capitata ssp. pacifica</i>	Pacific gilia	None	None	S2	1B.2	Chaparral Coastal bluff scrub Coastal prairie Valley & foothill grassland	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland.	5-1330 m.

SciName	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	None	None	S2	1B.2	Coastal bluff scrub Coastal dunes Coastal prairie	Coastal bluff scrub, coastal dunes, coastal prairie.	Sandy bluffs and flats. 0-215 m.
<i>Juncus nevadensis</i> var. <i>inventus</i>	Sierra rush	None	None	S1	2B.2	Bog & fen Wetland	Bogs and fens.	0-10 m.
<i>Lathyrus palustris</i>	marsh pea	None	None	S2	2B.2	Bog & fen Coastal prairie Coastal scrub Lower montane coniferous forest Marsh & swamp North coast coniferous forest Wetland	Bogs & fens, lower montane coniferous forest, marshes and swamps, north coast coniferous forest, coastal prairie, and coastal scrub.	Moist coastal areas. 1-100 m.
<i>Lilium occidentale</i>	western lily	Endangered	Endangered	S1	1B.1	Bog & fen Coastal bluff scrub Coastal prairie Coastal scrub Freshwater marsh Marsh & swamp North coast coniferous forest Wetland	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, North Coast coniferous forest, marshes and swamps.	Well-drained, old beach washes overlain with wind-blown alluvium and organic topsoil; usually near margins of Sitka spruce. 2-185 m.
<i>Lycopodiella inundata</i>	inundated bog-clubmoss	None	None	S1?	2B.2	Bog & fen Lower montane coniferous forest Marsh & swamp Wetland	Bogs and fens, lower montane coniferous forest, marshes and swamps.	Peat bogs, muddy depressions, pond margins. 5-1000 m.
<i>Monotropa uniflora</i>	ghost-pipe	None	None	S2	2B.2	Broadleaved upland forest North coast coniferous forest	Broadleaved upland forest, North coast coniferous forest.	Often under redwoods or western hemlock. 10-550 m.
<i>Montia howellii</i>	Howell's montia	None	None	S3	2B.2	Meadow & seep North coast coniferous forest Vernal pool	Meadows, north coast coniferous forest, vernal pools.	Vernally wet sites; often on compacted soil. 0-835 m.

<i>SciName</i>	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
						Wetland		
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	S4		Marsh & swamp Riparian forest Riparian woodland Wetland	Colonial nester, usually in trees, occasionally in tule patches.	Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.
<i>Oenothera wolfii</i>	Wolf's evening-primrose	None	None	S1	1B.1	Coastal bluff scrub Coastal dunes Coastal prairie	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest.	Sandy substrates; usually mesic sites. 3-800 m.
<i>Oncorhynchus clarkii clarkii</i>	coast cutthroat trout	None	None	S3		Aquatic Klamath/North coast flowing waters	Small coastal streams from the Eel River to the Oregon border.	Small, low gradient coastal streams & estuaries. Need shaded streams with water temps <18C, & small gravel for spawning
<i>Oncorhynchus kisutch</i>	coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	S2?		Aquatic Klamath/North coast flowing waters Sacramento/San Joaquin flowing waters	Federal listing refers to populations between Cape Blanco, Oregon & Punta Gorda, Humboldt County, California.	State listing refers to populations between the Oregon border & Punta Gorda, California.
<i>Pandion haliaetus</i>	osprey	None	None	S4		Riparian forest	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	S4		Riparian forest Riparian scrub Riparian woodland	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state.	Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.
<i>Polemonium</i>	Oregon	None	None	S2	2B.2	Coastal prairie	Coastal prairie, coastal	0-1830 m.

<i>SciName</i>	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>carneum</i>	polemonium					Coastal scrub Lower montane coniferous forest	scrub, lower montane coniferous forest.	
<i>Rana aurora</i>	northern red- legged frog	None	None	S3		Klamath/North coast flowing waters Riparian forest Riparian woodland	Humid forests, woodlands, grasslands, & streamsides in northwestern California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.
<i>Rhyacotriton variegatus</i>	southern torrent salamander	None	None	S2S3		Lower montane coniferous forest Oldgrowth Redwood Riparian forest	Coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats. Old growth forest.	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss- covered rock within trickling water.
<i>Riparia riparia</i>	bank swallow	None	Threatened	S2		Riparian scrub Riparian woodland	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.	Requires vertical banks/cliffs with fine- textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	None	None	S3	4.2	Broadleaved upland forest Coastal prairie Coastal scrub North coast coniferous forest Riparian forest	Broadleaved upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian forest.	Woodlands and clearings near coast; often in disturbed areas. 0-730 m.
<i>Sidalcea malviflora ssp. patula</i>	Siskiyou checkerbloom	None	None	S2	1B.2	Coastal bluff scrub Coastal prairie North coast coniferous forest	Coastal bluff scrub, coastal prairie, north coast coniferous forest.	Open coastal forest; roadcuts. 5-1255 m.

<i>SciName</i>	ComName	FedList	CalList	SRank	RPlantRank	Habitats	GenHab	MicroHab
<i>Sidalcea oregana ssp. eximia</i>	coast sidalcea	None	None	S1	1B.2	Lower montane coniferous forest Meadow & seep North coast coniferous forest Wetland	Meadows and seeps, North Coast coniferous forest, lower montane coniferous forest.	Nears meadows, in gravelly soil. 5-1340 m.
<i>Spergularia canadensis var. occidentalis</i>	western sand-spurrey	None	None	S1	2B.1	Marsh & swamp Wetland	Coastal salt marsh.	0-3 m.
<i>Sphagnum Bog</i>	Sphagnum Bog	None	None	S1.2		Bog & fen Wetland		
<i>Viola palustris</i>	alpine marsh violet	None	None	S1S2	2B.2	Bog & fen Coastal scrub Wetland	Coastal scrub, bogs and fens.	Swampy, shrubby places in coastal scrub or coastal bogs. 0-150 m.

Attachment 5:

CNPS Listed Plant Species for the Arcata North and Surrounding Quadrants

scientific	family	CNPS	R-E-D	STATE	State Rank	FEDERAL	Global Rank
<u>Astragalus pycnostachyus</u> var. <u>pycnostachyus</u>	Fabaceae	List 1B.2	3-2-3	None	S2	None	G2T2
<u>Bryoria pseudocapillaris</u>	Parmeliaceae	List 3.2		None	S2	None	G3
<u>Bryoria spiralis</u>	Parmeliaceae	List 1B.1		None	S1S2	None	G3
<u>Carex arcta</u>	Cyperaceae	List 2B.2	2-2-1	None	S1	None	G5
<u>Carex lenticularis</u> var. <u>limnophila</u>	Cyperaceae	List 2B.2	3-2-1	None	S1	None	G5T5
<u>Carex leptalea</u>	Cyperaceae	List 2B.2	3-2-1	None	S1	None	G5
<u>Carex lyngbyei</u>	Cyperaceae	List 2B.2	2-2-1	None	S3	None	G5
<u>Carex praticola</u>	Cyperaceae	List 2B.2	2-2-1	None	S2	None	G5
<u>Carex viridula</u> ssp. <u>viridula</u>	Cyperaceae	List 2B.3		None	S1.3	None	G5T5
<u>Castilleja ambigua</u> var. <u>humboldtensis</u>	Orobanchaceae	List 1B.2		None	S2	None	G4T2
<u>Castilleja litoralis</u>	Orobanchaceae	List 2B.2		None	S3	None	G4G5T4
<u>Castilleja mendocinensis</u>	Orobanchaceae	List 1B.2	2-2-2	None	S2	None	G2
<u>Chloropyron maritimum</u> ssp. <u>pa-lustre</u>	Orobanchaceae	List 1B.2		None	S2	None	G4?T2
<u>Discelium nudum</u>	Disceliaceae	List 2B.2	3-2-1	None	S1	None	G4G5
<u>Empetrum nigrum</u>	Empetraceae	List 2B.2		None	S1?	None	G5
<u>Erysimum menziesii</u>	Brassicaceae	List 1B.1		Endangered	S1	Endangered	G1
<u>Erythronium oregonum</u>	Liliaceae	List 2B.2		None	S2	None	G5
<u>Erythronium revolutum</u>	Liliaceae	List 2B.2	2-2-1	None	S3	None	G4G5
<u>Fissidens pauperculus</u>	Fissidentaceae	List 1B.2	2-2-3	None	S2	None	G3?
<u>Gilia capitata</u> ssp. <u>pacifica</u>	Polemoniaceae	List 1B.2	2-2-2	None	S2	None	G5T3
<u>Gilia millefoliata</u>	Polemoniaceae	List 1B.2	2-2-2	None	S2	None	G2
<u>Hesperevax sparsiflora</u> var. <u>bre-vifolia</u>	Asteraceae	List 1B.2	2-2-1	None	S2	None	G4T3
<u>Juncus nevadensis</u> var. <u>inventus</u>	Juncaceae	List 2B.2		None	S1	None	G4
<u>Lathyrus palustris</u>	Fabaceae	List 2B.2	2-2-1	None	S2	None	G5
<u>Lilium occidentale</u>	Liliaceae	List 1B.1	3-3-2	Endangered	S1	Endangered	G1
<u>Montia howellii</u>	Montiaceae	List 2B.2	3-2-1	None	S2	None	G3G4
<u>Oenothera wolfii</u>	Onagraceae	List 1B.1	3-3-2	None	S1	None	G2
<u>Piperia candida</u>	Orchidaceae	List 1B.2	1-1-1	None	S3	None	G3
<u>Polemonium carneum</u>	Polemoniaceae	List 2B.2		None	S2	None	G3G4
<u>Romanzoffia tracyi</u>	Boraginaceae	List 2B.3	3-1-1	None	S2	None	G4
<u>Sidalcea malviflora</u> ssp. <u>patula</u>	Malvaceae	List 1B.2	3-2-2	None	S2	None	G5T2
<u>Trichodon cylindricus</u>	Ditrichaceae	List 2B.2	2-2-1	None	S2	None	G4
<u>Viola palustris</u>	Violaceae	List 2B.2	3-2-1	None	S1S2	None	G5