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RARE PLANT SURVEYS FOR *HELIANTHUS* SP.

**RIVER VILLAGE AND
WATER RECLAMATION PLANT**

LOS ANGELES COUNTY, CA

Submitted to:

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1. INTRODUCTION

This report documents the results of rare plant surveys conducted at the River Village and Water Reclamation Plant sites within the Newhall Ranch project area in Los Angeles County, California. The River Village site is located on the north side of the Santa Clara River, between Chiquito Canyon in the west and Castaic Creek in the east. The Water Reclamation Plant site also is located on the north side of the Santa Clara River, just east of the Los Angeles County line.

A team of two consultants from FLx (Dr. Anuja Parikh and Dr. Nathan Gale) conducted the rare plant surveys on October 16 and 17, 2002. The focus of the surveys was the Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*), which is found in wetland habitats; the surveys, therefore, concentrated on the wetter areas of the two sites. Upland areas of the River Village and Water Reclamation sites were not examined in detail, since they already had been surveyed for rare plants in Spring 2001. During the current surveys, wetland vegetation types and plant species associations were noted and their dominant species were recorded. A list of observed plant species, including rare and commonly occurring plants, was compiled. Plant community descriptions in this report follow Holland (1986) where applicable; species nomenclature follows Hickman (1993).

2. VEGETATION TYPES AND PLANT SPECIES ASSOCIATIONS

The River Village and Water Reclamation Plant sites lie on flat terraces above the Santa Clara River. The terraces are used primarily for agriculture. The wetter areas of the project sites, where the surveys were conducted, occur in and along the edges of the river floodplain, and are composed of relatively flat terrain in the main and secondary channels of the river, as well as the slopes of the riverbanks.

Riverwash. In areas where scouring has occurred, the main channel of the Santa Clara River is relatively sparsely vegetated. The soils in these scoured areas are sandy riverwash and gravel, and in places form sand bars and low terraces within the channel. No well-defined plant community is found here, although scattered elements of riparian scrub were observed. Shrub species found in and adjacent to the channel include mule fat (*Baccharis salicifolia*), sandbar willow (*Salix exigua*), tamarisk (*Tamarix* sp.), scale-broom (*Lepidospartum squamatum*), sandwash groundsel (*Senecio flaccidus* var. *douglasii*), big saltbush (*Atriplex lentiformis* ssp. *lentiformis*), and Great Basin sagebrush (*Artemisia tridentata*). Other plants growing in these areas include white sweetclover (*Melilotus albus*), annual bur-sage (*Ambrosia acanthicarpa*), cocklebur (*Xanthium strumarium*), California croton (*Croton californicus*), buckwheat (*Eriogonum baileyi*), California evening primrose (*Oenothera californica* ssp. *californica*), Mediterranean schismus (*Schismus barbatus*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

Freshwater Marsh. Small patches of wet areas in the main and secondary channels of the Santa Clara River in the River Village and Water Reclamation Plant sites have freshwater marsh vegetation. This community typically is dominated by emergent perennial monocots, often up to 5 m tall and forming closed canopies. Marshes are found on relatively deep organic soils on sites permanently flooded with fresh water (Holland, 1986). Species found in the wettest parts of the channels are cattails (*Typha latifolia*, *T. domingensis*),

smartweeds (*Polygonum hydropiperoides*, *P. punctatum*), bulrushes (*Scirpus acutus* var. *occidentalis*, *S. pungens*), nutsedge (*Cyperus odoratus*), water primrose (*Ludwigia peploides* ssp. *peploides*), water cress (*Rorippa nasturtium-aquaticum*), sticky willowweed (*Epilobium ciliatum* ssp. *ciliatum*), and water speedwell (*Veronica anagallis-aquatica*). With respect to sensitivity status, freshwater marsh has been state-ranked as S2.1 (2,000 to 10,000 acres, very threatened) by the California Natural Diversity Database (CNDDB).

Mule Fat Scrub. Mule fat scrub is found in linear patches along the main and secondary channels of the Santa Clara River. Mule fat scrub typically is a tall, semi-woody and herbaceous riparian scrub, and is relatively species-poor. An early seral community, it often grades to riparian woodland or forest (Holland, 1986). The dominant species in this community is mule fat (*Baccharis salicifolia*); arrow weed (*Pluchea sericea*), tree tobacco (*Nicotiana glauca*), tamarisk (*Tamarix* sp.), and giant reed (*Arundo donax*) also are common. The understory is sparse or absent, but sometimes includes species such as Mexican rush (*Juncus mexicanus*), salt heliotrope (*Heliotropium curassavicum*), and grasses. With respect to sensitivity status, mule fat scrub has been state-ranked as S4 (apparently secure) by the CNDDB.

Southern Cottonwood-Willow Riparian Forest. This community occurs on low terraces above the main channel of the Santa Clara River. It consists of tall, open, broadleaved, winter-deciduous trees, and is dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and willows (*Salix laevigata*, *S. exigua*, *S. lasiolepis*). These species require moist, bare mineral soil for germination and establishment, provided after floodwaters recede; this forest type therefore is found mostly along perennially wet streams (Holland, 1996). Understory plants include mule fat (*Baccharis salicifolia*), arrow weed (*Pluchea sericea*), Mexican elderberry (*Sambucus mexicana*), southern California black walnut (*Juglans californica* var. *californica*), mugwort (*Artemisia douglasiana*), hoary nettle (*Urtica dioica* ssp. *holosericea*), ripgut grass (*Bromus diandrus*), and alkali rye (*Leymus triticoides*). With respect to sensitivity status, southern cottonwood-willow riparian forest has been state-ranked as S3.2 (10,000 to 50,000 acres, threatened) by the CNDDB.

3. RARE PLANT SPECIES

In June 2002, a sunflower species was found in a marsh on Newhall Ranch property on the south bank of the Santa Clara River, and was thought possibly to be the Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*), presumed extinct. Following later field visits in August and September when the plants were flowering, samples were sent for identification to Rancho Santa Ana Botanic Garden, University of California, Berkeley, and to Indiana University. The plants have not been identified conclusively to date as the rare taxon, and may be Nuttall's sunflower (*Helianthus nuttallii* ssp. *nuttallii*) or California sunflower (*Helianthus californicus*). Since the rare plant blooms from August to October, the current surveys were conducted in October 2002 to search specifically for the Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*) before the end of its blooming period. The surveys concentrated on wetland habitats, and other target species potentially occurring in wetlands also were included in the search.

A list of target species for the current surveys at the River Village and Water Reclamation Plant sites is presented in Table 1. In addition to the Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*), the species included in the table are those that occur in wetland habitats and are late-blooming species or potentially are

identifiable late in the year.

TABLE 1: SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING IN WET AREAS ON THE NEWHALL RANCH PROPERTY

Scientific Name	Common Name	Family	Status* Federal/State/CNPS
<i>Arenaria paludicola</i>	Marsh sandwort	Caryophyllaceae	FE/SE/1B
<i>Berberis nevinii</i>	Nevin's barberry	Berberidaceae	FE/SE/1B
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	Asteraceae	-/-1A
<i>Juglans californica</i> var. <i>californica</i>	Southern California black walnut	Juglandaceae	-/-4
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern spiny rush	Juncaceae	-/-4
<i>Malacothammus davidsonii</i>	Davidson's bush mallow	Malvaceae	-/-1B
<i>Muhlenbergia californica</i>	California muhly	Poaceae	-/-4
<i>Rorippa gambelii</i>	Gambel's watercress	Brassicaceae	FE/ST/1B
<i>Sidalcea neomexicana</i>	Salt spring checkerbloom	Malvaceae	-/-2
<i>Thelypteris puberula</i> var. <i>sonorensis</i>	Sonoran maiden fern	Thelypteridaceae	-/-2

- * FE = Federal endangered
 SE = State/California endangered
 ST = State/California threatened
 1A = CNPS List 1A, presumed extinct in California
 1B = CNPS List 1B, rare or endangered in California and elsewhere
 2 = CNPS List 2, rare or endangered in California, more common elsewhere
 4 = CNPS List 4, plants of limited distribution

The Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*) was not found at the River Village and Water Reclamation Plant sites during the October 2002 surveys. A few scattered plants of common sunflower (*Helianthus annuus*) and slender sunflower (*Helianthus gracilentus*) were observed.

At the River Village site, one new (i.e., in addition to those found in Spring 2001) location each was found of the CNPS List 4 sensitive species **southern California black walnut (*Juglans californica* var. *californica*)** and **southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)**. Two southern California black walnut (*Juglans californica* var. *californica*) trees were found in the willow-cottonwood riparian forest of the Santa Clara River on relatively flat terrain at an elevation of about 940 feet. About ten clumps of southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*) were found with *Baccharis salicifolia* and *Scirpus microcarpus* on a low terrace in the riverbed at 925 feet.

At the Water Reclamation Plant site, four additional populations of **southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)** were found in secondary channels and on a low terrace on flat terrain, at about 850 feet. The plants occurred on alluvial soils, and were associated mostly with wetland species. A summary of these populations is provided below, and their locations have been marked on the accompanying map.

1. ~25 clumps, with *Pluchea sericea*, *Baccharis salicifolia*, and *Tamarix* sp.
2. 5 clumps, with *Arundo donax*, *Tamarix* sp., and *Baccharis salicifolia*.
3. 6 clumps, with *Tamarix* sp., *Scirpus americanus*, and *Heliotropium curassavicum*.

4. ~50 clumps, scattered over a relatively large area, with *Populus fremontii* ssp. *fremontii*, *Baccharis salicifolia*, and *Tamarix* sp.

4. PLANT SPECIES LIST

Plant species observed at the River Village and Water Reclamation Plant sites are listed below.

FERNS AND FERN-ALLIES

Azollaceae

Azolla filiculoides

Equisetaceae

Equisetum laevigatum

ANGIOSPERMS

DICOTYLEDONS

Asteraceae

Ambrosia acanthicarpa

Ambrosia psilostachya

Artemisia californica

Artemisia douglasiana

Artemisia tridentata

Baccharis emoryi

Baccharis pilularis

Baccharis salicifolia

Coryza canadensis

Euthamia occidentalis

*Gnaphalium luteo-album**

Gnaphalium stramineum

Helianthus annuus

Helianthus gracilentus

Heterotheca grandiflora

Heterotheca sessiliflora ssp. *fastigiata*

Lepidospartum squamatum

Pluchea odorata

Pluchea sericea

*Pulicaria paludosa**

Senecio flaccidus var. *douglasii*

Xanthium strumarium

Boraginaceae

Heliotropium curassavicum

Brassicaceae

*Brassica nigra**

*Hirschfeldia incana**

*Lepidium latifolium**

Rorippa nasturtium-aquaticum

Cactaceae

Opuntia littoralis

Opuntia prolifera

Capparaceae

Isomeris arborea

Caprifoliaceae

Sambucus mexicana

Chenopodiaceae

Atriplex lentiformis

*Salsola tragus**

Euphorbiaceae

Croton californicus

Fabaceae

Lotus scoparius

*Melilotus albus**

Fagaceae

Quercus agrifolia var. *agrifolia*

Hydrophyllaceae

Eriodictyon crassifolium var. *nigrescens*

Juglandaceae

Juglans californica var. *californica*[†]

Lamiaceae

*Marrubium vulgare**

Onagraceae

Epilobium canum

Epilobium ciliatum ssp. *ciliatum*

Ludwigia peploides ssp. *peploides*

Oenothera californica ssp. *californica*

Oenothera elata ssp. *hirsutissima*

Plantaginaceae

*Plantago major**

Platanaceae

Platanus racemosa

Polygonaceae

Eriogonum baileyi

Eriogonum brachyanthum

Eriogonum fasciculatum var. *foliolosum*

Eriogonum gracile

Polygonum hydropiperoides

Polygonum punctatum

*Rumex crispus**

Rosaceae

Rosa californica

Rubus ursinus

Salicaceae

Populus fremontii ssp. *fremontii*

Salix exigua

Salix laevigata

Salix lasiolepis

Saururaceae

Anemopsis californica

Scrophulariaceae

*Veronica anagallis-aquatica**

Solanaceae

Datura wrightii

*Nicotiana glauca**

Solanum douglasii

Tamaricaceae

Tamarix sp.*

Urticaceae

Urtica dioica ssp. *holosericea*

ANGIOSPERMS

MONOCOTYLEDONS

Cyperaceae

Cyperus odoratus

Eleocharis parishii

Scirpus acutus var. *occidentalis*

Scirpus americanus

Scirpus californicus

Scirpus microcarpus

Scirpus pungens

Juncaceae

Juncus acutus ssp. *leopoldii*[†]

Juncus mexicanus

Juncus textilis

Lemnaceae

Lemna minuscula

Poaceae

*Arundo donax**

*Avena barbata**

*Avena fatua**

*Bromus diandrus**

*Bromus hordeaceus**

Bromus madritensis ssp. *rubens**

Distichlis spicata

Leymus triticoides

*Polypogon monspeliensis**

*Schismus barbatus**

*Vulpia myuros**

Typhaceae

Typha domingensis

Typha latifolia

* Non-native plant species

** Possible non-native plant species

† Sensitive plant species

5. REFERENCES

Hickman, J.C. (Editor). 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley, California.

Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Unpublished Report. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

SEA 23 (River Corridor SMA) Stats
Draft - 5/8/03

Description	A		B		C		D		B-A	C-A	A-D	D-C
	Existing	1999 FEIR	2001 DAA	2003 RDAA	2001 DAA	2003 RDAA						
Sensitive Habitat in Original SEA 23	380	380	380	380								
Redesignated		(117)						(117)				
Development			(28)	(1)					(28)	(1)		27
SEA 20 HC			(19)						(19)			19
OA			(70)	(8)					(70)	(8)		62
Added		14	14	14				14	14	14		
Resultant Sensitive Habitat in SEA 23	380	277	277	385				(103)	(103)	5		108
Non-Sensitive Habitat in SEA 23	444	411	411	411				(33)	(33)	(33)		
Non&Ag				48						48		48
Ag/Disturbed in SEA 23	466	131	131	131				(335)	(335)	(335)		
Total	1,290	819	819	975				(471)	(471)	(315)		156

SEA 23 (River Corridor SMA) Stats
Draft - 5/8/03

Description	A	B	C	D	B-A	C-A	A-D	D-C
	Existing	1999 FEIR	2001 DAA	2003 RDAA				
Sensitive Habitat in Original SEA 23	380	380	380	380	-	-	-	-
Redesignated		(117)			(117)	-	-	-
Development			(28)	(1)	-	(28)	(1)	27
SEA 20 HC			(19)	-	-	(19)	-	19
OA			(70)	(8)	-	(70)	(8)	62
Added		14	14	14	14	14	14	-
Resultant Sensitive Habitat in SEA 23	380	277	277	385	(103)	(103)	5	108
Non-Sensitive Habitat in SEA 23	444	411	411	411	(33)	(33)	(33)	-
Non&Ag				48	-	-	48	48
Ag/Disturbed in SEA 23	466	131	131	131	(335)	(335)	(335)	-
Total	1,290	819	819	975	(471)	(471)	(315)	156

SEA 23 (River Corridor SMA) Stats
Draft - 5/8/03

Description	A	B	C	D	B-A	C-A	A-D	D-C
	Existing	1999 FEIR	2001 DAA	2003 RDAA				
Sensitive Habitat in Original SEA 23	380	380	380	380	-	-	-	-
Redesignated		(117)			(117)	-	-	-
Development			(28)	(1)	-	(28)	(1)	27
SEA 20 HC			(19)	-	-	(19)	-	19
OA			(70)	(8)	-	(70)	(8)	62
Added		14	14	14	14	14	14	-
Resultant Sensitive Habitat in SEA 23	380	277	277	385	(103)	(103)	5	108
Non-Sensitive Habitat in SEA 23	444	411	411	411	(33)	(33)	(33)	-
Non&Ag				48	-	-	48	48
Ag/Disturbed in SEA 23	466	131	131	131	(335)	(335)	(335)	-
					-	-	-	-
Total	1,290	819	819	975	(471)	(471)	(315)	156