ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME

Aizoaceae

- * Carpobrotus edulis
- * Mesembryanthemum crystallinum

Anacardiaceae

* Malosma laurina * Schinus terebinthifolius

Asteraceae

- Arctotis stoechadifolia Baccharis pilularis Baccharis salicifolia
- * Chrysanthemum coronarium
- Cynara cardunculus Encelia californica Hemizonia parryi ssp. australis

Boraginaceae Heliotropium curassavicum

Brassicaceae

- * Hirschfeldia incana Raphanus raphanistrum
- * Sisymbrium irio

Chenopodiaceae

- Atriplex semibaccata Salicornia virginica
- * Salsola tragus

Convolvulaceae Cressa truxillensis

Euphorbiaceae

Ricinus communis

Fabaceae

- é Medicago polymorpha
- * Melilotus albus

Malvaceae Malvella leprosa

Myoporaceae

- * Myoporum laetum
- * Eucalyptus sp.

*=Non-native Species

COMMON NAME

Fig-Marigold Family hottentot fig common iceplant

Sumac Family laurel sumac Brazilian peppertree

Aster Family

African daisy coyotebrush mule fat garland daisy artichoke thistle California encelia southern tarplant

Borage Family

saltmarsh heliotrope

Mustard Family

shortpod mustard wild radish London rocket

Goosefoot Family

Australian saltbush common pickleweed Russian thistle

Morning-Glory Family alkali weed

Spurge Family castor bean

Legume Family bur clover white sweetclover

Mallow Family alkali-mallow

Myoporum Family lollypop tree gum tree

ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME

Olea	ceae	Olive Family
*	Olea europaea	olive
Onag	graceae	Evening Primrose Family
	Camissonia sp.	suncup
Oxal	idaceae	Oxalis Family
*	Oxalis pes-caprae	Bermuda buttercup
Poly	gonaceae	Buckwheat Family
	Eriogonum parvifolium	bluff buckwheat
*	Rumex crispus	curly dock
Solar	naceae	Nightshade Family
*	Nicotiana glauca	tree tobacco
Arec	caceae	Palm Family
*	Washingtonia robusta	Mexican fan palm
	Yucca elephantipes	giant yucca
Poa	ceae	Grass Family
*	Arundo donax	giant reed
	Avena sp.	oat
*	Bromus diandrus	ripgut grass
*	Bromus madritensis	foxtail chess
	Distichlis spicata	saltgrass
	Hordeum sp.	barley

BIRDS

SCIENTIFIC NAME

Charadriidae Charadrius vociferus

Columbidae Zenaida macroura

Trochilidae Calypte anna

Corvidae Corvus brachyrhynchos

Polioptilidae Polioptila caerulea

Turdidae Sialia mexicana

*=Non-native Species

COMMON NAME

COMMON NAME

Plovers killdeer

Pigeons and Doves mourning dove

Hummingbirds Anna's hummingbird

Jays and Crows American crow

Gnatcatchers blue-gray gnatcatcher

Thrushes western bluebird

BIRDS

SCIENTIFIC NAME

Mimidae

Mimus polyglottos

Emberizidae Zonotrichia leucophrys

Fringillidae Carpodacus mexicanus

MAMMALS

SCIENTIFIC NAME

Didelphidae Didelphis virginiana

Leporidae Sylvilagus audubonii

Sciuridae Spermophilus beecheyi

COMMON NAME

Thrashers northern mockingbird

Emberizine Sparrows and Allies white-crowned sparrow

Finches house finch

COMMON NAME

Opossums Virginia opossum

Hares and Rabbits cottontail

Squirrels and Chipmunks California ground squirrel

*=Non-native Species

From: Tony Bomkamp [mailto:tbomkamp@wetlandpermitting.com]
Sent: Wednesday, August 05, 2009 12:35 PM
To: Crysta Dickson
Subject: RE: Southern Tarplant

Crysta,

I think Fred's update is fairly accurate with the addition of a population of over 5,000 in Long Beach and a population of over 5,000 in Seal Beach that is part of a restoration project. His take on potential threats seems reasonable, though I would note that any meaningful populations within the Coastal Zone will be protected either through full avoidance (e.g., ESHA determination) or mitigation such as we have done for Boeing in Seal Beach. I believe your biggest challenge will be to find suitable receptor sites that function biologically while also allowing for long-term preservation.

Tony

From: Crysta Dickson [mailto:c.dickson@pcrnet.com]
Sent: Wednesday, August 05, 2009 11:18 AM
To: tbomkamp@wetlandpermitting.com
Cc: Steve Nelson
Subject: FW: Southern Tarplant

Hi Tony – Thank you again for your help yesterday - not only confirming the species I.D. for us, but your insight on regulating and mitigating the species has really helped us.

I'd also like to pick your brain on your knowledge of the distribution/threats/impacts of the species regionally. We are trying to make a determination of cumulative impacts. The information we have re: species occurrence so far has been limited to the CNDDB and what Fred provided to us. Can you expand on this form us? We'd like to make sure we've exhausted all resources to determine the true distribution and population numbers on this species in the region. I know you mentioned a population you recently found in Long Beach. Also your thoughts on the known populations and their potential future threats or any future projects that will impacts a known population. I've included Fred's email that I let you read yesterday below.

Kind Regards, Crysta Dickson Senior Biologist II



From: Maile Tanaka [mailto:smaile2602@yahoo.com] Sent: Tuesday, July 28, 2009 7:33 PM To: Crysta Dickson; Stephanie Gasca; Steve Nelson Subject: Southern Tarplant

Here's what Fred said.

From: Fred Roberts [mailto:antshrike@cox.net] Sent: Tuesday, July 28, 2009 12:20 PM To: Maile Tanaka Subject: Re: Plant Question

Hi Maile,

I am familiar with southern tarplant. Some of the CNDDB records need to be re-examined. A few are duplicates reported by different parties but overall it presents a reasonable picture on tarplant status. Southern tarplant is an interesting contradiction in conservation since it is a fairly tough plant and can persist in pretty disturbed habitat but some how we have lost a lot of it (most of it probably). Historically it was fairly widespread and probably was found in virtually every mesic coastal grassland and along every alkaline ditch or estuary border in the southern LA Basin.. It was most abundant in the SE Los Angeles Basin between the Palos Verde Peninsula and Newport Beach and Irvine. Many of the Los Angeles Co. populations have been extirpated. The majority of the remaining populations are in Orange County.

According to a Status Review I wrote up (Roberts 2000, Southern Tarplant (Hemizonia parryi ssp. australis) Priliminary Status and Distribution Summary of U.S. Populations) and a study on Bolsa Chica (Roberts 2007, Southern Tarplant: West Lower Bench, Bolsa Chica Mesa, Orange Co., California, prepared for the Bolsa Chica Land Trust), t about thirty percent of the known populations are extirpated and an additional 40 percent have clearly identifiable threats. This is comparable with the level of extirpation and threat with many State and Federal species.

Orange County has about 26 populations, or over one third of all reported populations. These account for about 85 percent of all individuals ever reported for the plant and represent the highest number of remaining populations anywhere in southern California. There are only three very large populations that have over 5,000 plants and all three are from Orange Co. (UCI, Talbert Park, and Canada Chiquita). There were at least six medium-sized populations with 1,000-5,000 individuals with 4 of the 6 in Orange Co. (Hellman Ranch, Mile Square Park [although this population has potentially been moved?], Newport Bay Regional Park, and Mason Regional Park [this site once had tens of thousands of plants but restoration to willow woodland has apparently created a population crash so it may be much smaller today].

In 2006, I had the opportunity to do a more comprehensive survey of Bolsa Chica and we found about 2,500 plants, about 5 times the size previously reported, so this site is now considered one of the larger populations. Some additional populations have been found recently in Orange Co. in fairly fragmented habitat and the whole thing could use an updated review. However I think

the trend has not changed. Populations are generally declining due to lose of habitat. The UCI population especially needs review. It once had thousands of plants SE of the main campus but I suspect that based on the present habitat impacts, that plants are still there but could probably be counted in the hundreds, not thousands. I don't know the scale of your population, but generally I consider populations with 400 plants or less as being very small. Populations of 400-1,000 plants are small, 1,000-4,999 are moderate in size, and 5,000 or larger are either large (or huge in the case of Canada Chiquita). However, due to the overall loses rangewide even small populations have conservation value. Definitely populations with over 1,000 plants should be considered significant at a regional scale.

Hopefully that helps.

On Jul 28, 2009, at 9:20 AM, Maile Tanaka wrote: Hi Fred,

I have a plant question for you. Are you somewhat familiar with southern tarplant? Do you know how the population trends are doing in Orange County region and within the distribution for the plant? On the CNPS site, it says it's State Rank is S2 (6-20 occurrences OR 1,000-3,000 individuals OR 2,000-10,000 acres) and based on that and CNDDB occurrences, I'm trying to figure out roughly what the regional populations may be and how this species is doing so I can determine how significant a population on one of our sites is.

Any information you can provide is appreciated!

Thanks, Maile

Maile Tanaka Biologist PCR Services Corporation One Venture, Suite 150 Irvine, California 92618-3328 Tel: 949.753.7001 Fax: 949.753.7002 m.tanaka@pcrnet.com

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WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	Ascon			City/County:	Orang	ge	Samplin	g Date:	8-11-09
Applicant/Owner:]	DTSC				State:CA	Samplin	g Point:	1
Investigator(s):	Tanaka/Di	ckson		Section, Towns	ship, Range:				
Landform (hillslope	e, terrace, etc.):	Flat		Local relief (co	oncave, conve	k, none):	None	Slope	e (%): <1%
Subregion (LRR):	Lat:		Long	Long: Datum:					
Soil Map Unit Nam	ne: Bol	sa silty loam				NWI cla	assification:		
Are climatic / hydro	ologic conditions	s on the site typical fo	or this time of	year? Yes 💽	No	(If no, explai	n in Remarks.)		
Are Vegetation X	Soil 🗙	or Hydrology 🗙	significant	ly disturbed? Are "Normal Circumstances" present? Yes 🔿 No 💿					No 💽
Are Vegetation	Soil	or Hydrology	naturally p	problematic?	(If needed,	explain any a	answers in Rem	ıarks.)	
SUMMARY OF	FINDINGS	- Attach site m	ap showin	g sampling p	oint locatio	ons, trans	ects, impor	tant feat	tures, etc.

Hydrophytic Vegetation Present?	Yes 💽	No 🔘			
Hydric Soil Present?	Yes 🕥	No 💽	Is the Sampled Area		
Wetland Hydrology Present?	Yes 💿	No 💮	within a Wetland?	Yes 🔿	No 💿
Remarks:					

VEGETATION

	Absolute	Dominant	Indicator	Dominance Test w	orkshee	t:		
<u>Tree Stratum</u> (Use scientific names.) 1. <i>none</i>	% Cover	Species?	Status	Number of Dominan That Are OBL, FAC	it Specie W, or FA	s .C: 1		(A)
23				Total Number of Do	minant Strata:	1		(B)
Total Cove	r: %			 Percent of Dominan That Are OBL, FAC¹ 	t Species W, or FA	s .C: 100	.0 %	(A/B)
1. none				Prevalence Index v	vorkshe	et:		
2.				Total % Cover of	of:	Multiply	v by:	
3.				OBL species	70	x 1 =	70	
4.				FACW species	10	x 2 =	20	
5.				FAC species	15	x 3 =	45	
Total Cover	. %			FACU species		x 4 =	0	
Herb Stratum				UPL species		x 5 =	0	
1. Salicornia virginica	70	Yes	OBL	Column Totals:	95	(A)	135	(B)
2. Distichlis spicata	10	No	FACW					
3. Atriplex sembiaccata	15	No	FAC	Prevalence Inc	dex = B/	A =	1.42	
4. Hordeum sp.	<1			Hydrophytic Veget	ation Inc	dicators:		
5.				X Dominance Tes	it is >50%	6		
6.				× Prevalence Inde	ex is ≤3.0	D_1		
7				Morphological A	Adaptatio	ons ¹ (Provide s	supporti sheet)	ng
8.					drophytic	Vegetation ¹	(Evolain	<u>،</u>
Total Cover Woody Vine Stratum	95 %				aropriyac	vegetation	(Explain	,
1. none				¹ Indicators of hydric	soil and	d wetland hyd	trology r	nust
2.				be present.				
Total Cover	%			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum 5 % % Cover	of Biotic C	Crust () %	Present?	Yes 💿	No 🔿		
Remarks:								

SOIL

Profile Des	cription: (Describe t	o the de	pth needed to document the inc	dicator o	or confirm	m the absence of indicators.)				
Depth	Matrix		Redox Features							
(inches)	Color (moist)	%	Color (moist) %	Type ¹	Loc ²	Texture ³ Remarks				
0-12	10YR 4/2	_100	7.5YR 4/6 1 C]	M	Silty loam				
13-20	10YR 3/2	100	none			Silty loam				
							—			
¹ Type: C=C	Concentration, D=Deple	etion, RN	I=Reduced Matrix. ² Location: F	PL=Pore	Lining, F	RC=Root Channel, M=Matrix.				
³ Soil Texture	es: Clay, Silty Clay, S	andy Cla	y, Loam, Sandy Clay Loam, Sand	dy Loam,	Clay Loa	am, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sar	۱d.			
Hydric Soil	Indicators: (Applicable	e to all LF	Rs, unless otherwise noted.)			Indicators for Problematic Hydric Soils:				
Histoso	l (A1)		Sandy Redox (S5)			1 cm Muck (A9) (LRR C)				
Histic E	pipedon (A2)		Stripped Matrix (S6)			2 cm Muck (A10) (LRR B)				
Black H	listic (A3)		Loamy Mucky Mineral (I	[⊢1) 		Reduced Vertic (F18)				
Hydrog	en Sulfide (A4)	、 、	Loamy Gleyed Matrix (F	-2)		Red Parent Material (TF2)				
Stratifie	ed Layers (A5) (LRR C)		\sim		Other (Explain in Remarks)				
	UCK (A9) (LRR D)	(11)		0) (E7)						
	ork Surface (A12)	(ATT)	Bedey Depressions (E	(<i>Г1)</i>						
	Mucky Minoral (S1))		⁴ Indicators of hydrophytic vogotation and				
Sandy (Gleved Matrix (S4)					wetland hydrology must be present				
Restrictive	Laver (if present):									
Type.										
Depth (ir	iches):					Hydric Soil Present? Yes No				
Remarks: N	Jo reduced odor: litt	le to no	reday features observed (how	vever m	iled out	t as F3 due to absence of soft iron-manganese				
n n	hasses and/or nore li	nings)	redox reatures observed (now	vever, 10	iicu out	as i 5 que to absence of soft non-manganese				
11	hasses and or pore n									

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		Water Marks (B1) (Riverine)
Surface Water (A1)	Salt Crust (B11)	Sediment Deposits (B2) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Drift Deposits (B3) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	Drainage Patterns (B10)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living Roots	(C3) Thin Muck Surface (C7)
Drift Deposits (B3) (Nonriverine)	X Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowed Soils (C6	Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)		X FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 🖲	Depth (inches):	
Water Table Present? Yes O No 💽	Depth (inches):	
Saturation Present? Yes No (includes capillary fringe)	Depth (inches): Wetlan	d Hydrology Present? Yes 💿 No 🔿
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous inspections), if a	available:
Remarks: The area is severed from the histor	ic coastal wetland to the west by the floor	d control channel. The area no longer receives
tidal flows and is no longer part of t	the historic system.	

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	Ascon			City/County:	Orang	ge	Samplir	ng Date:	8-11-09
Applicant/Owner:	Ι	DTSC				State:CA	Samplir	ng Point:	2
Investigator(s):	Tanaka/Di	ekson		Section, Town	ship, Range:				
Landform (hillslope	, terrace, etc.):	Flat		Local relief (co	oncave, conve	(, none):	None	Slope	e (%):<1%
Subregion (LRR):C - Mediterranean California					Long	j:		Datum	:
Soil Map Unit Name	e: Bols	sa silty loam				NWI cla	ssification:		
Are climatic / hydro	logic conditions	on the site typical fo	or this time of	year?Yes 💿	No	(If no, explain	in Remarks.))	
Are Vegetation X	Soil 🗙	or Hydrology 🗙	significant	ly disturbed?	ed? Are "Normal Circumstances" present?			Yes 🔿	No 💿
Are Vegetation	Soil	or Hydrology	naturally p	problematic?	(If needed,	explain any ar	nswers in Rer	narks.)	
SUMMARY OF	FINDINGS	- Attach site m	ap showin	g sampling p	oint locatio	ons, transe	cts, impor	tant feat	tures, etc.
		_	_						

Hydrophytic Vegetation Present?	Yes 💿	No 🔘			
Hydric Soil Present?	Yes 🔘	No 💿	Is the Sampled Area		
Wetland Hydrology Present?	Yes 🔘	No 💿	within a Wetland?	Yes 🔿	No 💿
Remarks:					

VEGETATION

	Absolute	Dominant	Indicator	Dominance Test w	/orkshee	t:		
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Dominar	nt Specie	S		
1. none				That Are OBL, FAC	W, or FA	C: 1		(A)
2.	_			Total Number of De	minont			
3.				Species Across All	Strata:	1		(B)
4				-		1		(-)
	-			Percent of Dominar	nt Species	s		
Sapling/Shrub Stratum	r: %			That Are OBL, FAC	W, or ⊢A	C: 100	.0%	(A/B)
1. none				Prevalence Index	workshe	et:		
2		·		Total % Cover	of:	Multiply	bv:	
3					75	x 1 =	75	
		·			20	x 2 =	40	
4. 5				FAC species	20	x 3 =	40	
5						× 1 =	0	
Herb Stratum	r: %			FACO species		x 4 =	0	
		X 7		UPL species		x 5 =	0	
1. Salicornia virginica	- 15	Yes	OBL	Column Totals:	95	(A)	115	(B)
2. Distichlis spicata	20	No	FACW	Brovelence In	dov - Dí	~ -	1 0 1	
3						A -	1.21	
4.				Hydrophytic Veget	tation Inc	dicators:		
5.				Dominance Tes	st is >50%	6		
6.				Prevalence Ind	ex is ≤3.(D^1		
7				Morphological /	Adaptatio	ons ¹ (Provide s	supportii sheet)	ng
8.					drophytic		(Evolain	`
Total Cover	r: 95 %				uropriyuc	vegetation	(слріані)
Woody Vine Stratum				1				
1. none				Indicators of hydric	c soil and	d wetland hyc	Irology r	nust
2.				be present.				
Total Cover	r: %			Hydrophytic Vegetation				
% Bare Ground in Herb Stratum 5 % % Cover	r of Biotic (Crust 0	%	Present?	Yes 🖲	No 🔿		
Remarks:				_				

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features (inches) Color (moist) % Color (moist) % Type ¹ Loc ² Texture ³ Remarks 0-20 10YR 4/2 100 none Silty loam Silty loam Silty loam	-										
Depth (inches) Matrix Redox Features 0-20 IOYR 4/2 100 none Silty loam 0-20 IOYR 4/2 100 none Silty loam	Profile Desc	ription: (Describe t	o the de	oth needed to document t	ne indicator	or confirn	n the absence of indica	ators.)			
Color (moist) % Color (moist) % Type1 Loc2 Texture3 Remarks 0-20 10YR 4/2 100 none Silty loam Silty loam	Depth	Matrix		Redox Feat	ires						
0-20 10YR 4/2 100 none Silty loam	(inches)	Color (moist)	%	Color (moist) %	Type ¹	Loc ²	Texture ³	Remarks			
Image: Solid Textures: Classical Content	0-20	10YR 4/2	100	none			Silty loam				
Image:											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sandy Stapes otherwise noted.) Indicators for Problematic Hydric Soils ⁴ : Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ⁴ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Dalek Surface (F7) Thick Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Vernal Pools (F9) Sandy Gleyed Matrix (S4) Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:											
**Type: C=Concentration, D=Depletion, RM=Reduced Matrix. *2Location: PL=Pore Lining, RC=Root Channel, M=Matrix. *Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) *Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ⁴ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) I cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A11) Depleted Dark Surface (F7) Hidicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sandy, Sandy Clay, Loam, Sandy Clay, Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ⁴ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A11) Depleted Dark Surface (F7) *Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) 4 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No (•											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Depressions (F8) 4 Sandy Mucky Mineral (S1) Vernal Pools (F9) 4 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No (•)											
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=Root Channel, M=Matrix. ³ Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt, Loamy Sand, S Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils. Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Depressions (F8) 4 ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Yes No (•					_						
"Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, E Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils: Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrigen Sulfide (A4) Loamy Gleyed Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Gleyed Matrix (S4) Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes No (•)	$\frac{1}{1}$ Type: C=Cc		- etion RM	=Reduced Matrix ² Loca	tion: PI =Pore	Lining R	C=Root Channel M=Ma	atrix			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils ⁴ : Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) * Thick Dark Surface (A12) Redox Depressions (F8) * Sandy Gleyed Matrix (S4) Vernal Pools (F9) * Restrictive Layer (if present): Type:	³ Soil Texture	s: Clav. Silty Clav. S	andv Cla	. Loam. Sandy Clay Loam.	Sandy Loam	. Clav Loa	am. Silty Clay Loam. Silt	Loam, Silt, Loamv Sa	nd. San		
Histosol (A1) Sandy Redox (S5) 1 cm Muck (A9) (LRR C) Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:	Hvdric Soil In	dicators: (Applicable	e to all LF	Rs. unless otherwise noted	.)	, ,	Indicators for Proble	ematic Hydric Soils			
Histic Epipedon (A2) Stripped Matrix (S6) 2 cm Muck (A10) (LRR B) Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Andre (A12) Thick Dark Surface (A12) Redox Depressions (F8) 4 Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:	Histosol	(A1)		Sandy Redox (S5)	,		1 cm Muck (A9)) (LRR C)			
Black Histic (A3) Loamy Mucky Mineral (F1) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:	Histic Ep	pipedon (A2)		Stripped Matrix (S	6)		2 cm Muck (A10	D) (LRR B)			
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Red Parent Material (TF2) Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:	Black His	stic (A3)		Loamy Mucky Mir	eral (F1)		Reduced Vertic	(F18)			
Stratified Layers (A5) (LRR C) Depleted Matrix (F3) Other (Explain in Remarks) 1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) Vernal Pools (F9) Type:	Hydroge	n Sulfide (A4)		Loamy Gleyed Ma	Loamy Gleyed Matrix (F2)			Red Parent Material (TF2)			
1 cm Muck (A9) (LRR D) Redox Dark Surface (F6) Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Redox Depressions (F8) Sandy Mucky Mineral (S1) Vernal Pools (F9) Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type:	Stratified	Layers (A5) (LRR C)	Depleted Matrix (F	3)		Other (Explain i	n Remarks)			
 Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type:	1 cm Mu	ick (A9) (LRR D)		Redox Dark Surfa	ce (F6)						
□ Thick Dark Surface (A12) □ Redox Depressions (F8) □ Sandy Mucky Mineral (S1) □ Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present):	Depleted	Below Dark Surface	(A11)	Depleted Dark Su	face (F7)						
Sandy Mucky Mineral (S1) Vernal Pools (F9) ⁴ Indicators of hydrophytic vegetation and wetland hydrology must be present. Restrictive Layer (if present): Type: Hydric Soil Present? Yes No (•)	Thick Da	ark Surface (A12)		Redox Depression	is (F8)						
Sandy Gleyed Matrix (S4) wetland hydrology must be present. Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes O No (•)	Sandy M	lucky Mineral (S1)		Vernal Pools (F9)			⁴ Indicators of hydrop	phytic vegetation and			
Restrictive Layer (if present): Type: Depth (inches): Hydric Soil Present? Yes	Sandy G	ileyed Matrix (S4)					wetland hydrolog	y must be present.			
Type:	Restrictive L	_ayer (if present):									
Depth (inches): Hydric Soil Present? Yes () No ()	Type:										
	Depth (inc	ches):					Hydric Soil Present	? Yes 🔿 No			
Remarks: No reduced odor: no redox features observed	Remarks: No	o reduced odor: no	redox f	eatures observed				~	~		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)		Water Marks (B1) (Riverine)
Surface Water (A1)	Salt Crust (B11)	Sediment Deposits (B2) (Riverine)
High Water Table (A2)	Biotic Crust (B12)	Drift Deposits (B3) (Riverine)
Saturation (A3)	Aquatic Invertebrates (B13)	Drainage Patterns (B10)
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living Roots	(C3) Thin Muck Surface (C7)
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowed Soils (C6) Saturation Visible on Aerial Imagery (C9)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	_	X FAC-Neutral Test (D5)
Field Observations:		
Surface Water Present? Yes O No 💿	Depth (inches):	
Water Table Present? Yes O No (•)	Depth (inches):	
Saturation Present? Yes No (Depth (inches):	
(includes capillary fringe)	Wetlan	d Hydrology Present? Yes () No (•
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previous inspections), if	available:
Remarks: The area is severed from the historic	coastal wetland to the west by the floor	control channel. The area no longer receives
tidal flows and is no longer part of a f	functioning system.	

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site:	Ascon			City/County:	Orang	ge	Sampli	ng Date:	8-11-09	
Applicant/Owner:		DTSC				State:CA	Sampli	ng Point:	3	
Investigator(s):	Tanaka/Di	ckson		Section, Town	ship, Range:	-				
Landform (hillslope	e, terrace, etc.):	Flat		Local relief (co	oncave, convex	, none):	None	Slop	e (%):<1%	
Subregion (LRR):C - Mediterranean California					Long	Long: Datum:				
Soil Map Unit Nam	e: Bol				NWI cla	assification:				
Are climatic / hydro	ologic condition	s on the site typical fo	or this time of y	/ear?Yes 💽	No	(If no, explai	n in Remarks.)		
Are Vegetation X	Soil 🗙	or Hydrology 🗙	significant	ly disturbed?	turbed? Are "Normal Circumstances" present? Yes O No 💿				No 💽	
Are Vegetation	Soil	or Hydrology	naturally p	roblematic?	(If needed,	explain any a	inswers in Re	marks.)		
SUMMARY OF	FINDINGS	- Attach site m	ap showing	g sampling p	oint locatio	ons, trans	ects, impo	rtant fea	tures, etc.	

Hydrophytic Vegetation Present?	Yes 🔘	No 💿			
Hydric Soil Present?	Yes 🔘	No 💿	Is the Sampled Area		
Wetland Hydrology Present?	Yes 🔘	No 💿	within a Wetland?	Yes 🔿	No 💿
Remarks:					

VEGETATION

	Absolute	Dominant	Indicator	Dominance Test w	orksheet	::		
Tree Stratum (Use scientific names.)	% Cover	Species?	Status	Number of Dominar	nt Species	3		
1. none				That Are OBL, FAC	W, or FAC	C: 1		(A)
2.				Total Number of Do	minant			
3.				Species Across All	Strata:	2		(B)
4.								
Total Cove				That Are OBL FAC	W or FA	; C: 50 () 04	(A/R)
Sapling/Shrub Stratum					,	50.0) 70	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
1. none				Prevalence Index v	workshee	et:		
2.	_			Total % Cover of: Multiply by:		_		
3.				OBL species		x 1 =	0	
4.		·		FACW species		x 2 =	0	
5.				FAC species	20	x 3 =	60	
Total Cove	r: %			FACU species		x 4 =	0	
Herb Stratum	,.			UPL species	75	x 5 =	375	
1. Bromus diandrus	5	No	Not Listed	Column Totals:	95	(A)	435	(B)
2. Atriplex semibaccata	20	Yes	FAC		15	()		. ,
3. Mesembryanthemum crystallinum	70	Yes	Not Listed	Prevalence In	dex = B/A	4 =	4.58	
4.				Hydrophytic Veget	ation Ind	licators:		
5.	_			Dominance Tes	st is >50%	0		
6.				Prevalence Ind	ex is ≤3.0	1		
7.				Morphological /	Adaptation	ns ¹ (Provide s	upporti	ng
8.	_			data in Rem	arks or or	n a separate s	sneet)	
Total Cove	r: 05 %			Problematic Hy	drophytic	Vegetation' (Explain)
Woody Vine Stratum	95 %							
1. none				¹ Indicators of hydric	soil and	wetland hyd	rology i	must
2.				be present.				
Total Cove	r: %			Hydrophytic				
% Bare Ground in Herb Stratum 5 % % Cove	Present?	Yes 🔿	No 🖲					
Remarks:								

SOIL								Sampling Point:	3
Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix Redox Features								
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture ³	Remarks	
0-20	10YR 4/2	100	none				Silty loam		
				·					
¹ Type: C=0	Concentration, D=Depl	etion, RM	I=Reduced Matrix.	² Location	n: PL=Pore	Lining, R	C=Root Channel, M	=Matrix.	
³ Soil Textu	res: Clay, Silty Clay, S	andy Cla	y, Loam, Sandy Clay	Loam, Sa	indy Loam	, Clay Loa	am, Silty Clay Loam,	Silt Loam, Silt, Loamy Sa	and, Sand.
Hydric Soil	Indicators: (Applicabl	e to all Li	RRs, unless otherwise	e noted.)			Indicators for Pr	oblematic Hydric Soils ⁴ :	
Histos	ol (A1)		Sandy Redo	x (S5)			1 cm Muck	(A9) (LRR C)	
Histic I	Histic Epipedon (A2) Stripped Matrix (S6)				2 cm Muck	(A10) (LRR B)			
Black I	3lack Histic (A3) Loamy Mucky Mineral (F1)								
Hydrog	Hydrogen Sulfide (A4)			Red Parent Material (TF2)					
Stratified Layers (A5) (LRR C) Depleted Matrix (F3)			Other (Expl	ain in Remarks)					
1 cm N	Muck (A9) (LRR D)		Redox Dark	Surface	(F6)				
Depleted Below Dark Surface (A11) Depleted Dark Surface (F7)									
Thick Dark Surface (A12) Redox Depressions (F8)									
Sandy Mucky Mineral (S1) Vernal Pools (F9)					Indicators of hydrophytic vegetation and				
Sandy Gleyed Matrix (S4)					wetland hydrology must be present.				
Restrictive	e Layer (if present):								
Type:									
Depth (inches):					Hydric Soil Pres	sent? Yes 🔿 🛛 No	\bullet		
Remarks: No reduced odor; no redox features observed.									

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)						
Primary Indicators (any one indicator is sufficient)	Water Marks (B1) (Riverine)						
Surface Water (A1)	Salt Crust (B11)	Sediment Deposits (B2) (Riverine)					
High Water Table (A2)	Biotic Crust (B12)	Drift Deposits (B3) (Riverine)					
Saturation (A3)	Aquatic Invertebrates (B13)	Drainage Patterns (B10)					
Water Marks (B1) (Nonriverine)	Hydrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)					
Sediment Deposits (B2) (Nonriverine)	Oxidized Rhizospheres along Living Roots	(C3) Thin Muck Surface (C7)					
Drift Deposits (B3) (Nonriverine)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)					
Surface Soil Cracks (B6)	Recent Iron Reduction in Plowed Soils (C6)	Saturation Visible on Aerial Imagery (C9)					
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Shallow Aquitard (D3)					
Water-Stained Leaves (B9)	FAC-Neutral Test (D5)						
Field Observations:							
Surface Water Present? Yes O No 💿	Depth (inches):						
ater Table Present? Yes O No O Depth (inches):							
Saturation Present? Yes No (nt? Yes No Depth (inches):						
(includes capillary fringe)	Hydrology Present? Yes () No (•)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks: The area is severed from the historic coastal wetland to the west by the flood control channel. The area no longer receives							
tidal flows and is no longer part of a functioning system.							